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Drivers of Earnings Management and Conservatism in the German Stock Market

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Effects of IFRS Adoption and Family Governance

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Vollständiger Abdruck der von der Fakultät für Wirtschaftswissenschaften
der Technischen Universität München zur Erlangung des akademischen Grades eines
Doktors der Wirtschaftswissenschaften (Dr. rer. pol.)
genehmigten Dissertation.

Vorsitzender: Univ.-Prof. Dr. Gunther Friedl

Prüfer der Dissertation: 1. Univ.-Prof. Dr. Dr. Ann-Kristin Achleitner

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Die Dissertation wurde am 4.4.2011 bei der Technischen Universität München eingereicht und durch die Fakultät für Wirtschaftswissenschaften am 29.6.2011 angenommen.

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List of Abbreviations

AICPA	American Institute of Certified Public Accountants
AG	Aktiengesellschaft
AktG	Stock Corporation Code (<i>Aktiengesetz</i>)
AnSVG	Investor Protection Improvement Act (<i>Anlegerschutzverbesserungsgesetz</i>)
APAG	Auditor Oversight Law (<i>Abschlussprüferaufsichtsgesetz</i>)
APAK	Auditor Oversight Commission (<i>Abschlussprüferaufsichtskommission</i>)
BaFin	Federal Financial Supervisory Authority (<i>Bundesanstalt für Finanzdienstleistungsaufsicht</i>)
BE	Between Effects
BilKoG	Accounting Enforcement Act (<i>Bilanzrechtskontrollgesetz</i>)
BilMoG	Accounting Law Modernization Act (<i>Bilanzrechtsmodernisierungsgesetz</i>)
BilReG	Accounting Law Reform Act (<i>Bilanzrechtsreformgesetz</i>)
BiRiLiG	Accounting Directives Act (<i>Bilanzrichtliniengesetz</i>)
BIS	Bank for International Settlements
CAPM	Capital Asset Pricing Model
CDAX	German Composite Index
CEO	Chief Executive Officer
Cf.	Confer
COGS	Cost of Goods Sold
CRSP	Center for Research in Security Prices
DRS	German Accounting Standard (<i>Deutscher Rechnungslegungsstandard</i>)
e.g.	<i>Exempli gratia</i>

EC	European Commission
EEC	Issued by the European Commission
F.	<i>Framework to IFRS</i>
FASB	Financial Accounting Standards Board
FMFG	Act on the Promotion of Financial Markets (<i>Finanzmarktförderungsgesetz</i>)
FREP	Financial Reporting Enforcement Panel
GAAP	Generally Accepted Accounting Principles
GASB	German Accounting Standards Board
HGB	German Commercial Code (<i>Handelsgesetzbuch</i>)
i.e.	<i>Id est</i>
IAS	International Accounting Standard(s)
IASB	International Accounting Standards Board
IASC	International Accounting Standards Committee
ICB	Industrial Classification Benchmark
IfM	Institut für Mittelstandsforschung
IFRS	International Financial Reporting Standard(s)
IPO	Initial Public Offering
KapAEG	Raising of Capital Relief Act (<i>Kapitalaufnahmeerleichterungsgesetz</i>)
KapCoRiLiG	Limited Companies and Co-Regulation (<i>Kapitalgesellschaften- und Co-Richtlinie-Gesetz</i>)
KapMUG	Capital Markets Model Case Act (<i>Kapitalanleger-Musterverfahrensgesetz</i>)
KontraG	Act on the Control and Transparency of Corporations (<i>Gesetz zur Kontrolle und Transparenz im Unternehmensbereich</i>)
N.N.	<i>Nomen nescio/Nomen nominatum</i>
OECD	Organisation for Economic Co-operation and Development

OLS	Ordinary Least Squares
PCAOB	Public Company Accounting Oversight Board
RoA	Return on Assets
SE	Societas Europaea
SEC	Securities and Exchange Commission
SEO	Secondary Equity Offering
SFAC	Statement of Financial Accounting Concepts
SFI	Substantial Family Influence
SG&A	Selling, General and Administrative Cost
SIC	Standard Industrial Classification
SOX	Sarbanes Oxley Act
Suppl.	Supplement
TransPuG	Transparency and Disclosure Act (<i>Transparenz- und Publizitätsgesetz</i>)
TUG	Transparency Directive Ratification Act
UK	United Kingdom
US	United States, United States of America
US GAAP	United States Generally Accepted Accounting Principles
VIF	Variance Inflation Factor
VorstOG	Management Compensation Disclosure Act (<i>Vorstandsoffenlegungsgesetz</i>)
WpHG	German Securities Trading Act (<i>Wertpapierhandelsgesetz</i>)
WPK	Chamber of Public Accountants (<i>Wirtschaftsprüferkammer</i>)
WPO	Wirtschaftsprüferordnung
WpÜG	Securities and Acquisition Takeover Act (<i>Wertpapierübernahmegesetz</i>)

1 Introduction

1.1 Background and Motivation

Accounting information¹ aims at facilitating efficient resource allocation in an economy.² Earnings as one element of accounting information serve as performance measure and form part of many contractual agreements. Accounting standards are shaped by economic forces and depend on the way in which standard setters and regulators respond to these forces. To the extent that the application of accounting standards requires estimations and judgment by preparers of financial statements, reported earnings reflect accounting choices.³ Accounting choices by and large depend on managerial incentives and possibilities to interfere in the financial reporting process such as monitoring by outside parties. Together with the set of accounting standards, these factors fundamentally affect earnings characteristics also referred to by the term ‘earnings quality’.

Research on earnings quality has grown significantly over the past decades. An important reason for the growth of this strand of research lies in significant reforms in accounting and corporate governance.⁴ These reforms arose as a consequence to the increasing integration of markets and numerous financial scandals and collapses in the late 1990s.⁵ Financial reporting is considered to be “on a precipice of change”⁶, a development accompanied by a notable number of reviews and commentaries on ac-

¹ Accounting information is referred to in a financial accounting context, not a management accounting context.

² Cf. Kothari et al. (2010), p. 247. This view is expressed in the economics-based accounting literature.

³ Cf. Dechow et al. (2010), p. 348.

⁴ Cf. DeFond (2010), p. 402-403.

⁵ Cf. Ball (2009). In the USA, enhanced regulation culminated in the introduction of the Sarbanes Oxley Act (SOX) in 2002, cf. e.g. Bartov/Cohen (2009); Leuz et al. (2008); Grasso et al. (2009); Hoitash et al. (2009). An overview on and discussion of regulatory accounting and corporate governance reforms in Germany during the last decade is provided e.g. in Naumann (2000); Tuschke/Sanders (2003); Hackethal et al. (2003); Baums/Scott (2005); Moldenhauer (2007), p. 28-42. For a comprehensive description on earlier deliberations regarding accounting harmonization cf. Achleitner (1995). For a survey of theoretical and empirical analyses on economic consequences of financial reporting and disclosure regulation, cf. Leuz/Wysocki (2008).

⁶ Kothari et al. (2010), p. 247.

counting and corporate governance in highly ranked journals that seek to extract implications for future regulation.⁷

The role of accounting information and as a consequence the properties of earnings are determined by the institutional environment of the firm and firm characteristics such as ownership and financing structures. Economics-based accounting theory is strongly shaped by the paradigm of the ‘modern corporation’⁸ characterized by the separation between ownership and control.⁹ The separation of ownership and control leads to information asymmetries between managers and shareholders. Accounting information may lower these information asymmetries and as a result is considered to mitigate agency conflicts such as adverse selection or moral hazard. In most countries other than the USA or the UK ownership structures tend to be more concentrated and families play an important role as shareholders.¹⁰ This implies that conflicts arising from the separation between ownership and control may be mitigated because large shareholders have high monitoring incentives. In family firms, interests between shareholders and managers may even be aligned because the family is frequently involved in the management of the firm. In exchange, agency conflicts could arise between controlling and minority shareholders due to different incentive structures. Large shareholders are presumed to make use of their controlling position to extract private benefits of control.¹¹ While agency theory mainly focuses on financial private benefits of control, non-financial private benefits of control such as the emotional value of owning the firm and transferring it to the next generation are likely to play an even more important role in family firms. Thereby, family managers may act for the interests of the family but not necessarily for shareholders as a whole.¹² While the role of accounting information in reducing agency costs arising from the separation between ownership and control has been intensely studied in accounting research, little is known how account-

⁷ For example, a large number of reviews and commentaries were recently published in the December 2010 issue of the *Journal of Accounting and Economics* (Vol. 50, Issues 2-3).

⁸ Cf. Berle/Means (1932).

⁹ Cf. Fama/Jensen (1983a).

¹⁰ Cf. La Porta et al. (1999); Faccio/Lang (2002); Burkart et al. (2003).

¹¹ Cf. Armstrong et al. (2010), p. 210-212; Bebchuk/Weisbach (2009), p. 948-949.

¹² Cf. Morck/Yeung (2003), p. 367.

ing information may mitigate information asymmetries between controlling and small shareholders because most studies focus on Anglo-Saxon environments.

This thesis aims at contributing to this research gap. It analyzes drivers of earnings characteristics in the German stock market. The focus of the study is on effects of the adoption of International Financial Reporting Standards (IFRS)¹³ and family governance on earnings management and conservatism. The following paragraphs outline why these subjects are of particular interest with regard to the financial reporting behavior in German firms.

Earnings management and conservatism can be regarded as the two earnings characteristics that have been most intensely studied in empirical accounting research since they are presumed to capture effects of managerial incentives on reported earnings.¹⁴ Earnings management refers to the judgment used by managers to alter financial reports to either mislead some stakeholders about the economic performance of the firm or to influence contractual outcomes that are contingent on accounting numbers.¹⁵ Conservatism corresponds to an accountant's tendency to require a higher degree of verification for 'good news' as compared to 'bad news'. This implies that 'bad news' tends to be incorporated in earnings in a timelier manner as compared to gains.¹⁶ Conservatism not only arises from the requirements of accounting standards but also depends on managerial incentives to defer 'bad news' to later periods.

In the context of accounting harmonization, one of the most powerful directives issued by the European Commission was regulation 1606/2002.¹⁷ It obliged capital market oriented companies in the European Economic Area to release consolidated financial

¹³ IFRS refers to the set of standards issued by the International Accounting Standards Board (IASB). International Accounting Standards (IASs) were renamed to International Financial Reporting Standards (IFRSs) in 2001. In this thesis, the expression 'IFRS' refers to both sets of standards, IAS and IFRS.

¹⁴ Cf. e.g. Christensen et al. (2008), p. 2.

¹⁵ Cf. Healy/Wahlen (1999), p. 368. In this sense, earnings management refers to legal earnings management not illegal earnings manipulation or accounting fraud.

¹⁶ Cf. Basu (1997), p. 4.

¹⁷ Cf. Regulation (EC) No 1606/2002 of the European Parliament and of the Council of July 19th 2002 on the application of international accounting standards, Official Journal of the European Communities, L 243/1. Before EC regulation became effective, the 4th and 7th EC directive aimed to harmonize financial reporting across European countries.

statements under IFRS for fiscal years starting from January 1st 2005 onwards.¹⁸ This regulation is one of the milestones that turned IFRS into the most widely accepted set of accounting standards in the world. The introduction of IFRS is commonly presumed to result in comparable financial statements across countries and to lower information asymmetries between managers and shareholders through ‘high quality’ accounting standards and comprehensive disclosure. In the light of these attributes, IFRS are considered to contribute to the efficiency and cost effectiveness of capital markets across Europe.¹⁹ However, a uniform set of financial statements does not necessarily produce uniform financial reporting.²⁰ Firstly, financial reporting is fundamentally shaped by the prevalent institutional and economic factors. Secondly, there are many drivers that shape financial reporting such as governance structures and firm characteristics that lead to firm-level differences in reported earnings. Consistent with these arguments accounting research suggests that accounting standards need to be regarded as but one driver of reported earnings.²¹ Therefore, it is not only interesting to compare domestic standards and IFRS from a de jure perspective but to also analyze actual reporting behavior from a de facto perspective.²²

Germany provides an appealing research setting to investigate changes in earnings quality under domestic accounting standards²³ as compared to IFRS for several reasons. First of all, it is interesting to observe effects of IFRS adoption, a set of accounting standards derived from common law regimes, in a code law regime. In addition, Germany held the highest number of voluntary IFRS adopters in the European Union before EC regulation became effective.²⁴ This leads to the research question which

¹⁸ German companies that are publicly traded both in the European Union and on a regulated third-country market and therefore apply another internationally accepted accounting standard (i.e. US GAAP) in their consolidated accounts were allowed to defer the application of IFRS until fiscal years starting from January 1st 2007 onwards.

¹⁹ Cf. Regulation (EC) No 1606/2002 of the European Parliament and of the Council of July 19th 2002 on the application of international accounting standards, Official Journal of the European Communities, L 243/1, par. 2-4.

²⁰ Cf. for a detailed discussion on this issue Ball (2006).

²¹ Cf. Holthausen (2009), p. 447-448.

²² Cf. Nobes (2009), p. 149.

²³ In the following German domestic accounting standards, the German Commercial Code (HGB) are referred to as German Generally Accepted Accounting Principles, i.e. German GAAP.

²⁴ Cf. Van Tendeloo/Vanstraelen (2005), p. 156-158.

firm characteristics influenced IFRS adoption among German firms. Since prior work only provides limited insight on drivers of voluntary IFRS adoption,²⁵ this thesis extends extant evidence by analyzing the role ownership structures as a determinant of voluntary IFRS adoption. Mandatory IFRS adoption was described in earlier studies as a unique research setting to compare earnings quality among voluntary as compared to mandatory IFRS adopters.²⁶

It is a common paradigm that voluntary IFRS adoption may result in superior earnings quality as compared to mandatory IFRS adoption because the decision to adopt IFRS is actively taken. Thereby, voluntary IFRS adopters could have a higher commitment to ‘high quality’ financial reporting than mandatory adopters.²⁷ The research in this thesis aims at developing a better understanding on how IFRS adoption affected earnings characteristics among German firms. Following previous studies it analyzes how IFRS affected earnings characteristics among voluntary as compared to mandatory adopters. Difficulties in directly comparing changes in earnings quality between the two groups of adopters arise because the period of voluntary IFRS adoption is marked by a different capital market and regulatory environment as compared to mandatory IFRS adoption. Market timing is likely to affect results on IFRS adoption and earnings characteristics and is hence considered in the analysis.

Since accounting standards are only one of the forces driving earnings characteristics, it is interesting to analyze how firm-level differences affect earnings characteristics. Shareholders are considered to be the main constituency of financial reporting according to IFRS. However, shareholders are not a homogeneous group. Differences in ownership structures have been found to strongly influence reporting outcomes in a considerable number of studies.²⁸ German corporations are by trend characterized by concentrated ownership structures with families and strategic investors acting as main

²⁵ Cf. on earlier work regarding determinants of voluntary IFRS adoption Cuijpers/Buijink (2005); Gassen/Sellhorn (2006); Christensen et al. (2008).

²⁶ Cf. Schipper (2005).

²⁷ Cf. in particular the study by Christensen et al. (2008).

²⁸ Cf. e.g. Warfield et al. (1995); Gabrielsen et al. (2002); Fan/Wong (2002); Ajinkya et al. (2005); Cheng/Warfield (2005); Velury (2006); Wang (2006); Dargenidou et al. (2007); Zhao/Millet-Reyes (2007); LaFond/Roychowdhury (2008); Beuselinck et al. (2009); Bona Sánchez et al. (2009); Jaggi et al. (2009).

shareholder groups.²⁹ While the percentage held by other corporations declined in recent years, family ownership constitutes a rather stable phenomenon.³⁰ Given the high level of family capitalism in the German stock market, family governance is likely to be one of the drivers of earnings characteristics in the German stock market.

Notwithstanding the importance of family firms as a particular firm type and the fact that the presence of concentrated ownership in the hands of a controlling family is likely to strongly affect reporting incentives, accounting in family firms met scant attention up to date.³¹ Family firms are commonly characterized by a long-term investment horizon and emotional ties in the firm. These non-financial private benefits of control are likely to affect earnings characteristics. Long-term orientation may result in lower levels of earnings management because the family firm is less subject to capital market pressure to meet short term earnings but could also lead to higher levels of earnings management because the family seeks to retain control over the firm. In contrast to their privately held counterparts, listed family firms need to meet the goals of family shareholders and other groups of shareholders such as minority shareholders. Thereby, earnings characteristics are likely to be influenced by the level of family ownership. While the interests of shareholders as a whole may be more pronounced when the family holds low percentages of ownership in the firm, incentives to defend private benefits of control are likely to increase with the level of family ownership. At very high levels of family ownership, earnings may play a less important role to enforce the family's goals.

As a whole, incentives to alter reported earnings are likely to take on a different meaning than in non-family firms. While most studies on earnings quality in family firms only build on the common paradigm of agency theory, the analyses in this study are complemented by other theoretical approaches such as stewardship and behavioral theory. Thereby, this is the first analysis on the relation between accruals-based and real earnings management in family firms – an issue addressed in previous studies as a

²⁹ Cf. Franks et al. (2006), p. 537.

³⁰ Cf. Ampenberger (2010), p. 220-230; Franks et al. (2009). According to a study by Achleitner et al. (2009b) family firms represent about one half of all non-financial firms listed in the German regulated capital market.

³¹ Cf. Salvato/Moores (2010), p. 193.

promising research question but unvisited up to date.³² Family firms commonly hold large stake in their firms and could hence be less likely to change operating activities to meet a short-term earnings target. Furthermore, to the best of my knowledge this is the first study on accounting conservatism in family firms. The analysis investigates if earnings management in family firms is systematically associated with conservatism as risk aversion and long-term orientation in family firms could create incentives to keep internal funds in the firm.

Evidence on accounting practices by family firms found in this study aims at contributing to a better understanding for this particular firm type and may be transferable to other countries characterized by a similar institutional environment and high degrees of family capitalism such as France, Italy or Japan. Evidence on financial reporting practices in family firms and effects of IFRS adoption in Germany is likely to distill interesting implications in the context of current deliberations on accounting harmonization and capital market regulation.

1.2 Organization of the Thesis

The remainder of this thesis is organized in eight chapters. *Chapters 2* and *3* embed the empirical analysis in *chapters 5-8* into a theoretical and methodological framework. *Chapter 4* provides an overview on empirical evidence from related research and highlights the contribution of the empirical analysis in this study. The chapters are organized as follows.

Chapter 2 focuses on theories that explain the relationship between accounting and corporate governance (section 2.1). These theories mainly build on the theory of the firm. Accounting information is analyzed with regard to its role in the corporate governance process. Emphasis is put on the role of accounting information concerning the agency conflicts arising from the separation between ownership and control, agency conflicts between controlling and minority shareholders as well as between equity and debtholders. Chapter 2.2 focuses on particularities of the German financial system and discusses these particularities with regard to the arguments on the relationship between accounting and corporate governance developed in chapter 2.1. This chapter highlights central elements of the German accounting and corporate governance system and pro-

³² Cf. Hutton (2007), p. 289; Salvato/Moores (2010), p. 198.

vides an overview on the process of accounting internationalization in Germany. Given the particularities regarding goal and incentive structure in listed family firms, it provides an interesting field of research how these particularities affect the role of accounting information. Building on the deliberations in chapters 2.1 and 2.2, effects of family governance are discussed from a theoretical perspective in chapter 2.3.

Based on accounting theory, accounting literature has developed a large variety of metrics to capture desirable properties of reported earnings also referred to as *earnings quality*. *Chapter 3* provides an overview on the concept of earnings quality as an approach to empirically examine how the relationship between accounting standards and incentives is expressed in reported earnings. The chapter also describes some main measurement approaches focusing on the metrics applied in the empirical analysis in *chapters 6-8* of this thesis. Earnings management and conservatism are in the center of the analysis because these dimensions are directly linked to corporate governance and can be regarded as most intensely researched statistical properties of earnings in accounting research.

Chapter 4 reviews extant research on drivers of earnings quality. Thereby, this chapter connects chapters 2 and 3 and embeds the empirical analyses in chapters 6-8 into related research. Therefore, the focus of the literature review lays on effects of the institutional framework (4.2), IFRS adoption (4.3.) and family governance on earnings characteristics (4.4). Effects of firm characteristics such as performance, size, growth, firm age, capital structure and industry on earnings management and conservatism are summarized in chapter 5. These firm characteristics are considered as control variables in the empirical analysis.

Chapters 5 to 8 form the empirical analysis of this thesis. A description of the data and research design as well as the definition of the variables used in the analysis is provided in *chapter 5*. This chapter builds the basis for the empirical study on IFRS adoption (*chapter 6*) and family governance (*chapters 7 and 8*) as drivers of earnings management and conservatism in the German stock market. All parts of the analysis ground on a main sample that is modified according to the requirements of the respective analyses (two sub-samples). The main sample is based on all German non-financial firms listed in the CDAX between 1998 and 2008 (5,145 firm year observations).

The research questions covered in the analyses on IFRS adoption and earnings quality (*chapter 6*) are as follows:

- Which firm characteristics increased the likelihood of voluntary IFRS adoption in Germany? What was the particular role of ownership structures in this context?
- Did IFRS adoption lead to superior earnings quality among German firms as compared to earnings derived under German GAAP?
- Did voluntary IFRS adoption lead to superior earnings quality as compared to mandatory IFRS adoption?

The second part of the empirical analyses in the thesis focuses on effects of family governance (family ownership, management and control) on earnings management and conservatism (*chapters 7 and 8*). *Chapter 7* addresses the following research questions:

- How do differences in the incentive structures between family firms and non-family firms affect the level of accruals-based earnings management?
- How do differences in the incentive structures between family firms and non-family firms affect the level of accruals-based earnings management?
- How does the level of family ownership influence earnings management?

The research questions covered in *chapter 8* are as follows:

- Is family governance systematically associated with conditional conservatism?
- How does the level of family ownership influence conditional conservatism?

Chapter 9 summarizes the main findings from the analyses, discusses limitations and outlines implications and points out to avenues for futures research. Figure 1 illustrates the structure of the thesis.

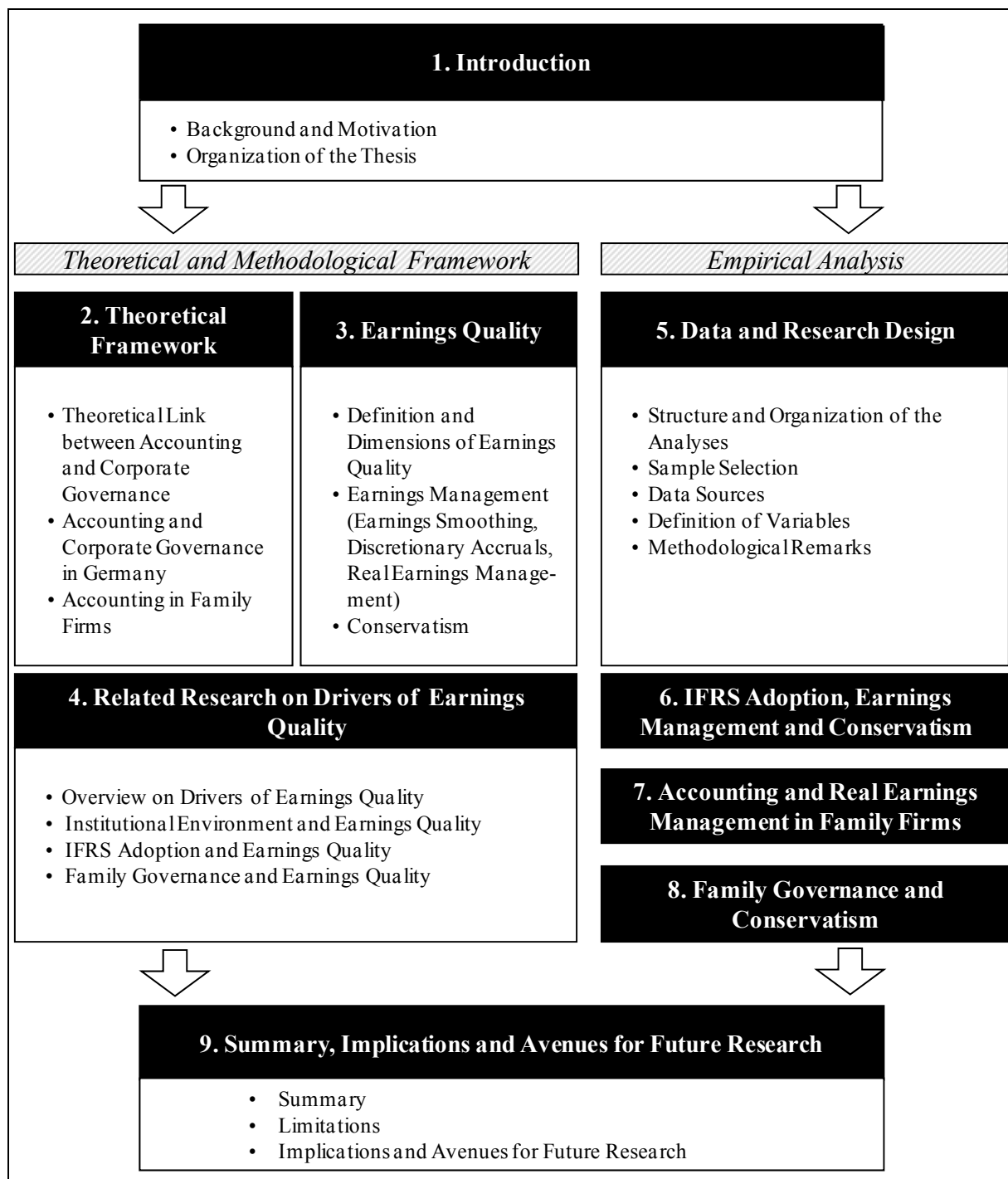


Figure 1: Structure of the Thesis³³

³³ Source: Author's illustration.

2 Theoretical Framework

2.1 Theoretical Link between Accounting and Corporate Governance

2.1.1 Definition of Accounting and Corporate Governance

The individual parts of financial statements including balance sheets, income statements, and cash-flow statements as well as supporting disclosure form a distinct information set.³⁴ As such, financial reporting documents the temporal financial history of the organization or entity under consideration.³⁵ However, the recording of past events and transactions is not the only purpose of financial reporting. Accounting also involves judgment and estimations on future developments. This chapter analyzes why the field of accounting is complex and challenging and which roles accounting information may play in a corporate governance context.

Economic theory describes the ideal of a perfect market as one in which assets are “tradable without restriction under known, constant terms of trade.”³⁶ In this context, the market value of the firm corresponds to the present value of the stream of future cash flows. Net income is equal to the change in the firm’s present value. Firms are important actors in the market but treated like a “black box”.³⁷ The underlying finance theory is the framework shaped by Modigliani/Miller (1958) and the capital asset pricing model (CAPM).³⁸ In this framework, information is costless and there are no information asymmetries or transaction costs. Under such ideal or *first best* conditions accounting numbers correspond to the expected present value of future cash flows and financial statements are completely reliable. However, in such a setting accounting is

³⁴ Bushman/Smith (2003), p. 65.

³⁵ Christensen/Demski (2003), p. 2. Accounting comprises financial and management accounting. The focus of the arguments in this thesis is on financial accounting. Financial reporting as “product” of financial accounting not only comprises the set of financial reports but also public filings and mandatory other disclosure about the company addressed to external parties, cf. Armstrong et al. (2009), p. 4.

³⁶ Cf. Demski (2003), p. 9.

³⁷ Cf. Jensen/Meckling (1976), p. 306-307.

³⁸ Cf. Sharpe (1964); Lintner (1965); Mossin (1966).

unable to affect firm value and becomes irrelevant because all relevant information is incorporated in stock prices.³⁹

In practice ideal conditions do not prevail. Markets are imperfect and incomplete and only allow for *second best* solutions. Net income is no longer a well-defined economic construct when conditions are real⁴⁰ and the preparation of financial statements requires trade-offs. Earnings as one element of accounting information can take on different roles including valuation and stewardship.⁴¹ Earnings may also serve as metric to calculate the basis for payouts (e.g. dividend payout or calculation of taxable income) and can be used for managerial self-information. The different roles of earnings arise because there are various constituencies of financial reporting characterized by different needs. However, these needs do not only differ among the various parties to the firm but also within particular groups of constituencies. This particularly holds to be true for shareholders.⁴² Different types of shareholders require different types and levels of accounting information.⁴³

The trade-off accounting information needs to meet may be described as a trade-off between relevant and reliable information. There are different ways of accounting to recognise and measure the same business transaction depending on the weight put on relevance or reliability of accounting information. This explains why there is a difficulty of agreeing on accounting policies.⁴⁴

Accounting and corporate governance are inexorably linked. Sloan (2001) argues that attributes of financial accounting may only be understood when a corporate governance perspective is adopted.⁴⁵ The link between accounting and corporate governance can be analyzed best by taking a look on some main aspects of the theories underlying the development of corporate governance research.

³⁹ Cf. Watts/Zimmerman (1990), p. 132-133; Fields et al. (2001), p. 256.

⁴⁰ This coherence is illustrated based on formal arguments in Beaver/Demski (1979).

⁴¹ Cf. for a survey and discussion Hettich (2006), p. 7-143.

⁴² Cf. Armstrong et al. (2010), p. 211.

⁴³ This aspect will be explored in more detail in chapter 2.3. Furthermore, the demand for accounting information is contingent on the institutional framework in which the firm operates (chapter 2.2).

⁴⁴ Cf. e.g. Scott (2003), p. 41.

⁴⁵ Cf. Sloan (2001), p. 336.

The academic discussion on corporate governance is considered to have its origin in the publication by Berle/Means (1932).⁴⁶ Observing large publicly-held firms in the USA, they found the “modern corporation” to be held by a large number of small shareholders and controlled by the management.⁴⁷ This development is considered to be the result of the industrialization and the development of markets. Increasing capital needs were satisfied by broadening the basis of capital providers, i.e. shareholders.⁴⁸ However, although the separation between ownership and control outlined in Berle/Means (1932) may be applicable to a large number of publicly held firms in the USA or the UK, it is not necessarily transferable to a large proportion of firms with concentrated ownership structures as prevalent in most other countries around the world. Using data on ownership structures of large corporations in 27 economies that were considered to be wealthy, LaPorta et al. (1999) found that except for countries with very high levels of shareholder protection such as the USA or the UK, the main part of firms around the world are controlled by families or the government.⁴⁹

Although the image of the modern corporation may not hold for a large number of firms around the world, the publication by Berle/Means (1932) has enhanced the thinking about the way firms are owned, managed and controlled.⁵⁰ This field of research caught a lot of attention in the academic literature. An important body of work concerns the large number of studies on the theory of the firm. This theory was developed under the framework of the new institutional economy.⁵¹

⁴⁶ Cf. Shleifer/Vishny (1997), p. 737.

⁴⁷ As a consequence this type of firm is described as *widely-held* or *management-controlled*. Cf. Berle and Means (1932), p. 109.

⁴⁸ It should be noted that the phenomenon of separation between ownership and control described in Berle/Means (1932) was already identified about a century ago by Smith (1838).

⁴⁹ Cf. also Faccio/Lang (2002); Burkart et al. (2003). La Porta et al. (1999) also highlight several studies that question the image of the “modern corporation” among US firms including Eisenberg (1976), Demsetz (1983), Demsetz/Lehn (1985), Shleifer/Vishny (1986) and Morck et al. (1988). These studies point out that there is also a modest concentration of ownership among the largest American firms. Holderness/Sheehan (1988) identify a considerable number of listed firms in the USA that even have majority shareholders (i.e. holding more than 51 percent of shares). Furthermore, Holderness et al. (1999) find that the percentage held by managers of the firm is higher than at the time of the study by Berle/Means (1932). Cf. La Porta et al. (1999), p. 471-472.

⁵⁰ Cf. Mallin (2007), p. 14.

⁵¹ The new institutional economy comprises the property rights theory, the transaction cost theory, the principal agent theory and the incomplete contracts approach, cf. for fundamental studies

Accounting theory was most deeply influenced by contracting and agency theory.⁵² Both theories form part of the theory of the firm. Based on the publications by Coase (1937) and Alchian/Demsetz (1972) firms are depicted by the image of a nexus of contracts.⁵³ Viewing the firm as a nexus of contracting relationships means that the firm needs to be regarded as a legal fiction in which the diverse interests of the parties to the firm are brought into equilibrium via contracts that specify how costs and rewards are allocated.⁵⁴ Nevertheless, this equilibrium is always accompanied by an efficiency loss given that it is impossible to perfectly align interests between all parties.⁵⁵ Conflicts between the parties to the firm create demand for monitoring and bonding mechanisms that may be incorporated via explicit or implicit contracts.⁵⁶ Explicit contracts include any type of formally written contract such as compensation, debt or supply contracts. In contrast, implicit contracts are represented by any informal contract that serves as monitoring or bonding mechanism. While explicit contracts mostly refer to a limited time period and are rather limited in scope, implicit contracts encompass multi-period relationships and allow for activities in areas where explicit contracts are not efficient or possible.⁵⁷

It is useful to think about organizations as a nexus of contracts to understand the role of financial reporting. Since complete contracts to align interests among all contracting parties cannot be written and enforced,⁵⁸ accounting information can be used to make contracts less incomplete because it assists in recording and monitoring the contribu-

Coase (1937); Coase (1960); Alchian/Demsetz (1972); Ross (1973); Williamson (1975); Jensen/Meckling (1976); Holmström (1979); Fama/Jensen (1983a); Fama/Jensen (1983b); Hart/Holmström (1985); Hart/Moore (1990); For an overview on the new institutional economy, cf. e.g. Shleifer/Vishny (1997); Zingales (2008); Bebchuk/Weisbach (2010).

⁵² Cf. Lambert (2001), p. 5.

⁵³ There is a large body of theoretical literature on contractual relations between the firm and its parties, in particular on the relationship between the firm and its investors. These financial contracting models build on economic principles such as costly-state verification, adverse selection, moral hazard, allocation of control rights and risk sharing. This strand of literature is summarized and discussed in a number of surveys including e.g. Smith (1980); Harris/Raviv (1995); Hart (2001); Lambert (2001); Christensen et al. (2005); Roberts/Sufi (2009).

⁵⁴ Cf. Jensen/Meckling (1976), p. 308-311.

⁵⁵ Cf. Jensen (1986), p. 323.

⁵⁶ Cf. Sloan (2001), p. 342; Armstrong et al. (2009), p. 182-183.

⁵⁷ Cf. Sloan (2001), p. 343.

⁵⁸ Cf. Hart/Holmström (1985).

tions and rewards by each party.⁵⁹ Accounting information represents an externally reported metric that can be accessed by all parties to the firm. It is observable and enforceable by an outsider to the contract such as the court. These characteristics make accounting information suitable in the context of both explicit and implicit contractual agreements.⁶⁰ Accounting information may be incorporated in mechanisms to mitigate conflicts between the parties to the firm⁶¹ and hence takes a central role in the corporate governance process.

However, an important aspect that needs to be considered is that accounting information does not only serve as an input factor to the corporate governance process. Financial accounting in itself can also be regarded as an output or a product of the governance process.⁶² For example, accounting numbers are presumed to be fundamentally affected by managerial incentives. From a theoretical perspective, managers are commonly viewed as rational and self-interest pursuing individuals. The preparation of financial statements is commonly exercised by the management and commonly involves judgment and estimations. This implies that to a certain extent financial reporting is subject to discretion.

Managers know that accounting information will be incorporated in different governance mechanisms that will personally affect them. Therefore, they seek to influence accounting information accordingly. These activities can be thought of as earnings management. For instance, given the limited time-horizon of managers, managers may be tempted to defer 'bad news' to later periods or invest in projects with negative net

⁵⁹ Cf. Sunder (2002), p. 174.

⁶⁰ Accounting information may for example form part of the following explicit contractual agreements: executive compensation schemes, cf. e.g. Healy (1985); for a survey cf. Bushman/Smith (2001); debt covenants, cf. e.g. DeFond/Jiambalvo (1994); taxation, cf. e.g. Boynton et al. (1992); Guenther (1994); Guenther et al. (1997); regulation, c.f. e.g. Jones (1991); accounting information may form part of the following implicit contracts: dividend payout, cf. e.g. Kasanen et al. (1996); labor union contracts, c.f. e.g. Liberty/Zimmerman (1986); management buyouts, c.f. DeAngelo (1986); Perry/Williams (1994); auditing contracts, c.f. e.g. Antle (1984); DeFond/Subramanyam (1998); Chaney et al. (2004); executive changes, c.f. e.g. Pourciau (1993), equity offerings, c.f. e.g. Teoh et al. (1998); Shivakumar (2000); Ball/Shivakumar (2008) or general stakeholder relationships, c.f. e.g. Bowen et al. (1995).

⁶¹ Cf. Armstrong et al. (2010), p. 179.

⁶² Cf. Sloan (2001), p. 341.

present values.⁶³ Therefore, accounting research does not only focus on the use of accounting information in governance mechanisms but also on how accounting information is affected by managerial incentives and internal as well as external governance mechanisms. This implies that there is an endogenous relation between accounting and corporate governance. As a consequence, as the demand for governance mechanisms varies between firms, so does the demand for accounting information and financial reporting.

Although there are various parties to a firm, the economics-based accounting and corporate governance literature mostly concentrates on the relation between capital providers and managers.⁶⁴ Shaped by the image of the modern corporation, agency theory primarily refers to the relationship between shareholders (principals) and managers (agents).⁶⁵ An agency relationship can be defined as “a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some of the decision making authority to the agent.”⁶⁶ Managers possess an information advantage over shareholders and are presumed to be self-interested rational individuals. Conflicts arise because it is assumed that managers have different interests and goal structures as compared to shareholders.⁶⁷ In this context, the role of corporate governance is to create monitoring and bonding mechanisms that help align interests between managers and shareholders and protect shareholders from managerial opportunism.⁶⁸ Armstrong et al. (2010) regard corporate governance as “the subset of a firm’s contracts that help align the actions and choices of managers with the interests of shareholders”⁶⁹ and Larcker et al. (2007)

⁶³ Cf. Basu (1997), p. 9; Watts (2003a), p. 209-214.

⁶⁴ For a comprehensive survey cf. Armstrong et al. (2010).

⁶⁵ Cf. Ross (1973); Jensen/Meckling (1976); Grossman/Hart (1983); Fama/Jensen (1983a); Fama/Jensen (1983b).

⁶⁶ Jensen/Meckling (1976), p. 308.

⁶⁷ An alternative view on the relationship between managers and shareholders is expressed by stewardship theory shaped by Davis et al. (1997); Donaldson/Davis (1991). This theory presumes interests between shareholders and managers to be aligned. It is frequently referred to in the context of family firms and is hence illustrated in more detail in chapter 2.3.

⁶⁸ Consistent with this view, Shleifer/Vishny (1997), p. 737 argue that “corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investments”.

⁶⁹ Armstrong et al. (2010), p. 180.

define corporate governance as the “set of mechanisms that influence the decisions made by managers when ownership and control are separated.”⁷⁰ How accounting information may mitigate conflicts between shareholders and managers arising from the separation between ownership and control is described in chapter 2.1.2.

The presence of large blockholders may influence agency problems in the firm in two ways. Firstly, large blockholders have high monitoring incentives which may reduce conflicts between shareholders and managers since ownership and control become less separated. However, conflicts may arise between different groups of shareholders such as majority and minority shareholders because shareholders may not be regarded as a group with homogeneous interests. In particular, large shareholders may seek to use their power in order to extract private benefits of control.⁷¹ Accounting information may serve as a means to reduce information asymmetries between majority and minority shareholders. However, large shareholders could have incentives to mask “true” economic performance to defend private benefits of control.⁷² This could particularly hold to be true in family firms where families do not only act as large shareholders but also hold positions in the management board. Particularities of family shareholders as compared to other types of blockholders are illustrated in chapter 2.3. The role of accounting information in mitigating agency conflicts between majority and minority shareholders is addressed in chapter 2.1.4.

Financiers in their role as principals may either provide equity or debt capital to the firm. While the first two agency problems refer to equity capital providers, agency conflicts could also arise between shareholders and creditors. It is argued that shareholders may expropriate debtholders by investing in risky projects. While shareholders participate in the reward of risky projects, debt providers only bear the risk since their claim on the firm is capped.⁷³ In this context accounting information may also align interests between shareholders and debtholders (chapter 2.1.4). The main conflicts addressed in agency theory are summarized in figure 2.

⁷⁰ Larcker et al. (2007), p. 946.

⁷¹ Cf. Shleifer/Vishny (1986).

⁷² Cf. Leuz et al. (2003), p. 506.

⁷³ Cf. e.g. Fama/Miller (1972); Jensen/Meckling (1976) ; Smith/Warner (1979); Anderson et al. (2003).

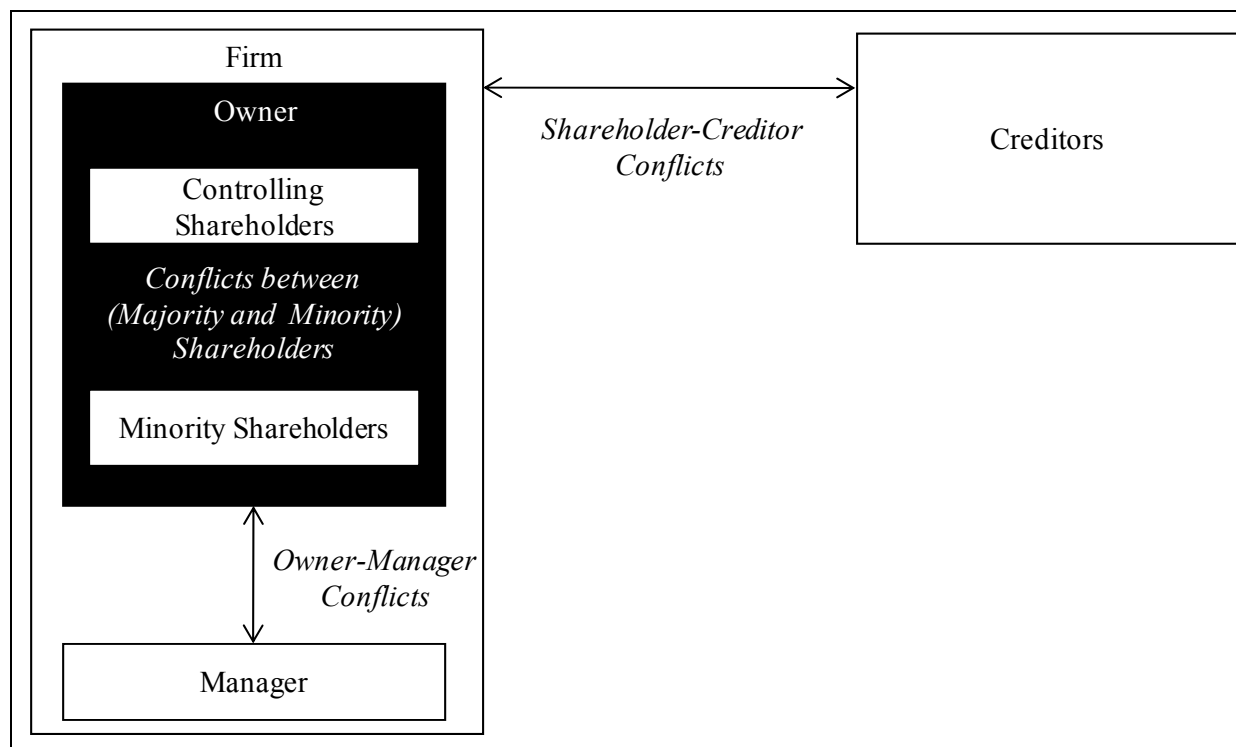


Figure 2: Agency Conflicts⁷⁴

A highly debated aspect that fits into the context of accounting and corporate governance is the philosophical question who owns the firm.⁷⁵ There are two perspectives in the literature that need to be distinguished – the shareholder and the stakeholder perspective.

The first perspective is based on the view that shareholders own the company. This view is reflected in principal agent theory. Although the claims of capital providers are widely acknowledged, some academics call for a broader view that does not only take shareholders' but all stakeholders' interests into account.⁷⁶ According to stakeholder theory, firms can only be successful in the long-run if they do not only focus on share-

⁷⁴ Source: Author's illustration based on Wagenhofer/Ewert (2007), p. 183.

⁷⁵ Cf. Welch/Welch (2006). The shareholder perspective was fundamentally shaped by the thoughts of Milton Friedman and found strong consensus among financial economists. Cf. Friedman (1962); Friedman (1970).

⁷⁶ Cf. Tirole (2001), p. 3-4. This is consistent with Black (1999), p. 2 who states that "[S]hareholders are not the only important residual claimants of a firm's income [...] employees, creditors [...] suppliers, customers [...] also often gain substantially when the firm does well, and suffer when the firm does badly."

holder value but also pay considerable attention to the expectations and needs of the diverse groups of stakeholders.⁷⁷

An important aspect that needs to be considered in the discussion on the relation between accounting and corporate governance is that the demand for accounting and corporate governance is shaped by the institutional environment in which the firm operates. The distinction between shareholder and stakeholder orientation is frequently also used to classify corporate governance systems internationally.⁷⁸ While the German corporate governance system is usually described as a “stakeholder-oriented” system, the Anglo-Saxon governance system is commonly referred to as a “shareholder-oriented” system.⁷⁹ Recent reforms in accounting and corporate governance across Europe can be interpreted as a signal that European countries are converging towards the Anglo-Saxon model. Notwithstanding the large number of reforms in accounting and corporate governance that took place during the last two decades, the German corporate governance system still exhibits fundamental characteristics of a stakeholder-oriented system. Since economic-based accounting theory and the appending concept of earnings quality mainly adopt a shareholder perspective, the applicability of this theoretical approach to the particularities of the German corporate governance system needs to be critically reflected (chapters 2.2 and 2.3).

2.1.2 Accounting Information and the Separation between Ownership and Control

Owners provide capital and other resources to the firm without holding an explicit contractual claim to get a reward. Their claim is limited to the residual resources of the company after contracts with other capital providers have been fulfilled which gives

⁷⁷ Cf. Cornell/Shapiro (1987); Jensen (2001); Freeman (2010).

⁷⁸ Alternative classifications include e.g. the distinction between outsider and insider systems, market based and bank- or corporation based systems, common and code or civil law systems, Anglo-American and Continental European systems. On criteria to classify accounting and corporate governance systems cf. chapter 2.2.1. as well as La Porta et al. (1998); Carlin/Mayer (2000); Leuz et al. (2003); Mallin (2007), p. 49-59, 159-265.

⁷⁹ However, recent developments regarding reforms in accounting and corporate governance that took part during the last two decades were strongly influenced by ideas from the Anglo-Saxon environment. As a consequence there is a controversial debate on the question which corporate governance system is best. On this debate and a comparison between the German and the US corporate governance system, cf. e.g. Hackethal et al. (2003); Baums/Scott (2005); Goergen et al. (2008a).

them the role of residual risk bearers or residual claimants.⁸⁰ The separation between ownership and control is regarded as the most influential agency problem in widely-held firms. According to agency theory, the relationship between managers and shareholders is characterized by information asymmetries as well as different risk and reward profiles. Both parties are presumed to be rational and to maximize their utility. Managers are able to maximize their utility at the expense of shareholders in different ways referred to as managerial myopia, insufficient effort, empire building, entrenchment, consumption on the job and self-dealing in the corporate governance literature.⁸¹

Managerial myopia may result from different time horizons of managers and shareholders. While shareholders are presumed to be long-term oriented, managers may be tempted to maximize pecuniary and non-pecuniary benefits in the short-run at the detriment of long-term benefits for the firm and shareholders. This behavior is referred to as ‘short-termism’.⁸²

Insufficient effort relates to the allocation of work time by managers. Managers fulfill different tasks in order to maximize their own utility. These tasks are nearly unobservable by shareholders.⁸³ Activities that may contribute to the manager’s but not necessarily to shareholders’ benefit are overcommitment with competing activities such as directorships in the boards of other firms, political involvement, investments in alter-

⁸⁰ Cf. Fama/Jensen (1983b), 328.

⁸¹ It should be noted that this view stands in contrast to stewardship theory. Stewardship theory assumes managers not to be self-oriented, opportunistic individuals who aim at maximizing firm value. In contrast, goals between principals and managers are considered to be aligned. “Stewardship theory defines situations in which managers are not motivated by individual goals, but rather are stewards whose motives are aligned with the objectives of their principals.” Davis et al. (1997), p. 21.

⁸² Reasons for short-termism include the limited tenure of managers, avoidance of hostile takeover, short-term orientation of security analysts and trading by institutional investors. Cf. on exemplary studies on this strand of research Stein (1988); Stein (1989); Lavery (1996); Wahal/McConnell (2000); Edmans (2009). Driven by the desire to achieve high share prices managers are for example presumed to have the tendency to inflate current earnings at the expense of long-term benefits. This can be interpreted as further signal for managerial myopia. Cf. Stein (1989), p. 655; Healy/Wahlen (1999), p. 371.

⁸³ Cf. Jensen/Meckling (1976); Levinthal (1988).

native ventures and other activities that are only weakly related or even totally unrelated to the management of the firm.⁸⁴

Managers are considered to regard their status to be contingent on firm size. As a consequence, they may engage in ‘empire building’. Therefore, managers could be tempted to conduct projects that increase firm size regardless of the fact whether these projects also increase firm or shareholder value.⁸⁵

To secure their position managers have incentives to take actions that make them ostensibly valuable and indispensable for shareholders, though these actions are unfavorable to shareholders. One way of entrenchment concerns the fact that managers choose manager-specific investments to become indispensable for running the firm.⁸⁶ Another way of entrenchment is that managers may blame deteriorating performance on factors beyond their control or alter reported earnings to make the company appear in a more favorable light.⁸⁷

Consumption on the job and self-dealing refer to the fact that managers may convert corporate wealth into personal wealth.⁸⁸ This means that they may use earnings to maximize their private benefits from running the firm at the expense of the shareholders and the firm. Examples range from choosing a huge office to insider trading activities or thievery. While consumption on the job commonly relates to selfish but legal actions, self-dealing is frequently referenced in an illegal context.⁸⁹

⁸⁴ Cf. Tirole (2006), p. 16.

⁸⁵ Cf. on managerial overinvestment in pursuit of growth, Jensen (1986). Jensen/Warner (1988) illustrate empire building based on the heavy spending by managers in the oil and gas industry during the late 1970s. This period was characterized by high interest rates, increased exploration costs and buying oil externally was cheaper as compared to own oil production. Some oil industry managers even invested large amounts of money in non-core industries. Based on event studies some researchers have shown that announcements of acquisitions often raise concerns among shareholders. These concerns are expressed by a drop in the share price. Cf. Shleifer/Vishny (1997); Andrade et al. (2001).

⁸⁶ Cf. Shleifer/Vishny (1989).

⁸⁷ Cf. Leuz et al. (2003), p. 510. This behaviour is consistent with studies on CEO turnover and earnings management. Cf. e.g. Murphy/Zimmerman (1993); Engel et al. (2003); Reitenga/Tearney (2003).

⁸⁸ Cf. Djankov et al. (2008), p. 430.

⁸⁹ Cf. Jensen/Meckling (1976); Shleifer/Vishny (1997); Djankov et al. (2008) for surveys on consumption on the job and self-dealing. A prominent case of self-dealing is the Tyco scandal where

Given that interests between shareholders and managers are conflicting, managers are presumed to have the tendency and ability to maximize their own utility at the expense of shareholders.⁹⁰ This tendency leads to a transfer of wealth from shareholders to the manager and results in sub-optimal resource allocation.⁹¹ As a consequence, a demand for monitoring and bonding mechanisms arises in order to align interests between the two parties.⁹² Accounting information and the information environment of the firm play an important role in mitigating agency conflicts arising from the separation between ownership and control because the main reason for these conflicts lies in incomplete information and information asymmetries between managers and shareholders.

Regarding incomplete information, financial reporting may lower the uncertainty about current and future business conditions and hence allows for more efficient contracts.⁹³ Information asymmetries arise because shareholders are commonly not involved in the day-to-day business activities of the firm but rather delegate responsibilities to a management team.⁹⁴ As a result, managers have an information advantage over shareholders.

Shareholders demand accounting information to overcome information asymmetries between themselves and the management. They may also use accounting information to incent managers as will be explored later in this chapter. Referring to information asymmetries between principals and agents, accounting information may deal with the problem of *adverse selection* and *moral hazard*.⁹⁵ The principal aims at inducing the

the CEO and his collaborators are deemed to have abstracted over 100 million US dollars, cf. Tirole (2006), p. 17.

⁹⁰ Cf. Dye (2008), p. 1144.

⁹¹ Cf. Sloan (2001), p. 340.

⁹² Cf. for surveys e.g. Eisenhardt (1989); Jensen/Meckling (1976); Shleifer/Vishny (1997); Laffont/Martimort (2002).

⁹³ Cf. Armstrong et al. (2010), p. 179.

⁹⁴ This argument grounds on the view of the widely-held firm depicted by agency theory. To alleviate conflicts of interests between shareholders and managers shareholders transfer control rights to the board. The role of the board in the governance process and its use of accounting information are discussed in chapter 2.1.3.

⁹⁵ Cf. Lambert (2001) for a comprehensive survey on agency theoretical models and the role of accounting information. For the pioneer article on moral hazard, cf. Arrow (1963).

manager to reveal private information to prevent adverse selection and tries to incent him to take an unobservable action to alleviate moral hazard. While models of adverse selection refer to the problem of *hidden information*, models on moral hazard address the problem of *hidden intention*.⁹⁶ These models mainly deal with the problem that interests between managers and shareholders are divergent and reflect the different attitudes of managers and shareholders towards risk. Agency theoretical models commonly consider principals to be risk neutral given that they may diversify their portfolio and hence have lower systematic risk whereas managers are presumed to be risk averse. Risk aversion by managers is considered to arise from the fact that managers have their human capital invested in the firm, are threatened to lose their job and in some cases hold an equity stake in the firm via stock based compensation.⁹⁷

Adverse selection can be defined as “a type of information asymmetry whereby one or more parties to a business transaction, or potential transaction, have an informational advantage over other parties.”⁹⁸ This creates a demand for informative accounting numbers that lower information asymmetries between managers and shareholders.⁹⁹ Managers or other insiders are presumed to possess superior knowledge about the current position of the firm and its future prospects. This superior knowledge or private information can be communicated to shareholders by credibly converting inside into outside information.¹⁰⁰ Since “true” or theoretically correct earnings are unobservable, this goal is optimally accomplished by earnings that express the fundamental value of the firm as closely as possible. In this context, accounting is meant to provide information “using the language and algebra of valuation but for the purpose of conveying information.”¹⁰¹ The *valuation role* of accounting information is to provide investors with information on risk and return of their investment and to facilitate capital allocation. This role would still prevail absent from agency problems, i.e. when interests be-

⁹⁶ Cf. Armstrong et al. (2010), p. 199.

⁹⁷ Cf. Fama (1980), p. 291-292. This assumption is stressed in chapter 2.3 since families are considered to be risk-averse investors. As a consequence, family owners are presumed to have different demand for accounting information as compared to minority shareholders or even other types of controlling shareholders.

⁹⁸ Scott (2003), p. 8.

⁹⁹ Cf. Ronen/Yaari (2008), p. 17.

¹⁰⁰ Cf. Scott (2003), p. 7-8.

¹⁰¹ Christensen/Demski (2003), p. 4.

tween managers and shareholders were perfectly aligned, because shareholders would still require information about the firm to assure liquid markets.¹⁰²

Accounting information as an input factor to equity valuation was already acknowledged in early accounting research.¹⁰³ Empirical accounting research started blooming in the 1960s when empirical finance methods were introduced into accounting research by the pioneer work by, among others Ball/Brown (1968) and Beaver (1968).¹⁰⁴ This early strand of empirical accounting research focuses on accounting numbers as information used for security market investment decisions. The study of the market's use of accounting numbers and the relationship between accounting numbers and stock prices became also known as the *decision usefulness approach*.¹⁰⁵ Following Watts and Zimmerman (1990) this approach “views accounting data (usually earnings, dividends, and cash flows) as providing information on inputs to valuation models (e.g. discounted cash flows) and tests for associations between accounting disclosure and stock prices or returns.”¹⁰⁶ Given an adequately information efficient capital market,¹⁰⁷ accounting information should be useful to support market participant's decisions. Under this perspective, the decision usefulness approach can be regarded as a reaction to the fact that correct financial statements cannot be prepared. Since the first best solution cannot be achieved, it serves as benchmark for the second best solution which means that financial reporting should be as informative as possible. However, it is difficult to assess which kind of information is needed to support investors' decisions and which features and characteristics make financial statements more “useful”.¹⁰⁸

¹⁰² Cf. Armstrong et al. (2010), p. 181, Fn.5. This is why the valuation role of accounting information is frequently put aside in surveys on accounting and corporate governance.

¹⁰³ Cf. Kothari (2001) for a survey on the role of accounting information in capital markets research.

¹⁰⁴ Cf. Watts/Zimmerman (1990), p. 132.

¹⁰⁵ For a survey, cf. Christensen/Demski (2003). Alternative expressions for this stream of research relate to the “valuation role of accounting” and the “information content perspective”.

¹⁰⁶ Watts/Zimmerman (1990), p. 132. Studies on value relevance try to draw inferences on the question which information is priced-based on the correlation between earnings, earnings components, balance sheet items or disclosure and stock market information. Cf. for a controverse discussion on the inferences drawn from value relevance studies Barth et al. (2001) and Holthausen/Watts (2001).

¹⁰⁷ Cf. Fama (1970).

¹⁰⁸ Cf. Scott (2003), p. 52-53.

Embedded in game theory, the decision usefulness approach assumes that there are various decision makers whose respective preferences are summarized by a utility function. Consistent with the theory of the firm, decision makers are presumed to maximize their utility function by endogenously settling their relationships via contracts. This idea can be formally expressed in a single-person decision model where an individual needs to make a decision under uncertainty. The decision maker is characterized by certain preferences that are ranked according to alternative outcomes. These preferences are summarized in his utility function that may be expressed as follows:¹⁰⁹

$$d_i^* \in \arg \max_{d_i \in D_i} E_{s_i} U_i(s_i | d_i, d_{-i}^*), d_i \in D_i$$

For the decision maker i , decision d_i^* appears to be optimal if it maximizes his expected utility EU_i , given the range of feasible decisions d_i from the decision set D_i and knowing that the combination of the decision maker's choice d_i and other related decision maker's decisions d_{-i} will result in granting him his share of the outcome, s_i . The model entails that the decision maker's share s_i is partly dependent on actions taken by other decision makers. Transferred to the case of a manager, this means for example, that the manager knows that the reported earnings number which can be affected through his action will affect stock prices. Stock prices cannot be determined by the manager himself but are influenced by the decisions of other parties such as investors or financial analysts. From an investor's perspective an accounting number is valuable if it provides *relevant* information in making buying or selling decisions. In contrast, an accounting number which has no incremental information content is not considered to be relevant. Although information overload is on principle not desirable from a decision usefulness perspective, a higher degree of information never leads to a lower utility for investors as long as there are no information costs.¹¹⁰

Demand for accounting information is created by the fact that decision makers are not fully informed. Furthermore, implicit contracting is necessary to bring the utility functions of various decision makers into equilibrium where no player wishes to deviate unilaterally. Implicit contracts can also be considered as relational contracts that repre-

¹⁰⁹ In the following cf. Ronen/Yaari (2008), p. 16. Game theory builds the theoretical framework to this model assuming that players can form exact expectations and for this reason act optimally.

¹¹⁰ This phenomenon is addressed by Blackwell's comparison of experiments also known as "Blackwell-theorem". Cf. Blackwell (1951); Blackwell/Girshik (1954).

sent expected behavior based on the behavior experienced in past dealings.¹¹¹ Transferred to incentives to alter financial reporting and to engage in earnings management, this implies that investors may punish managers for providing untruthful information. Furthermore, earnings management is innocuous if decisions based on managed earnings are the same as based on unmanaged earnings. Therefore, it is one of the central assumptions of the decision usefulness approach that investors have the ability to discover underlying performance from accounting numbers.¹¹²

Although there is a large strand of literature that examines investor's demands for financial information to serve valuation purposes,¹¹³ some scholars criticize that the decision usefulness approach fails to generate hypotheses that help to explain and predict accounting choices.¹¹⁴ Furthermore, since there are various constituencies of financial statements, opponents disapprove that the decision usefulness approach only focuses on the information needs of investor's and leaves main judgment to the market but does not take interests of other parties to the firm into account.¹¹⁵

The decision usefulness approach is opposed by the scholarly stream of positive accounting theory that focuses on the contracting role of accounting information and puts emphasis on its *stewardship role*.¹¹⁶ In line with positive accounting theory, Holthausen/Leftwich (1983) emphasize that market frictions cause accounting rules to have

¹¹¹ Cf. Scott (2003), p. 378.

¹¹² Cf. Ronen/Yaari (2008), p. 18. When the revelation principle holds, i.e. there are no limitations to communication, commitment and contracts ("the three Cs"), earnings management confers no advantage for managers, cf. Dye (1988); Arya et al. (1998); Arya et al. (2003).

¹¹³ For a survey cf. Kothari (2001). Some studies in accounting even state explicitly that they adopt the perspective of equity valuation, cf. e.g. Schipper/Vincent (2003); Francis et al. (2006); Barth et al. (2001).

¹¹⁴ Cf. Foster (1980); Ricks (1982); Holthausen/Leftwich (1983); Bernard (1989); Watts/Supreme (1986); Watts/Zimmerman (1990).

¹¹⁵ Cf. Watts/Zimmerman (1990), p. 132.

¹¹⁶ This scholarly stream was fundamentally shaped by the academic school of thoughts by Ross Watts and Jerold Zimmermann. Positive accounting theory was partly derived from empirical accounting studies in the late 1960s, cf. the survey in Watts/Zimmerman (1990), p. 133-134. In contrast to "normative" accounting which seeks to derive and prescribe optimal accounting standards, "positive" accounting seeks to explain and predict actual accounting outcomes Cf. for a detailed overview and pioneer articles on positive accounting theory Watts/Zimmerman (1978), Tinker et al. (1982), Christenson (1983), Watts/Supreme (1986), Watts/Zimmermann (1986), Watts/Zimmerman (1990); Kothari et al. (2010).

economic consequences. Therefore, positive accounting theory is also known as the ‘theory of economic consequences’. This theory takes all parties of the firm into account and considers shareholders as but one group of constituencies whose claims are incorporated in stock prices.¹¹⁷

In contrast to the decision usefulness approach, positive accounting theory does not presume that shareholders are able to learn the underlying performance of the firm via accounting numbers.¹¹⁸ This theory adopts the view that managers may use private information to either lower information asymmetries between themselves and shareholders or exploit their informational advantage at the expense of shareholders by biasing information. Whether managers use their discretion to exercise judgment and estimations in preparing financial statements in an efficient or an opportunistic manner is one of the central questions in accounting research.¹¹⁹

While the decision usefulness approach focuses on the problem of adverse selection, positive accounting theory is primarily concerned with the problem of moral hazard.¹²⁰ Moral hazard can be defined as “a type of information asymmetry whereby one or more parties to a business transaction, or potential transaction, can observe their actions in fulfillment of the transaction but other parties cannot.”¹²¹ This implies that moral hazard results from ex-post-information asymmetries between managers and shareholders because it is impossible for capital providers to observe the extent and the quality of managerial effort. In this context the role of accounting information is to motivate managers to maximize firm value instead of personal objectives that diverge from the firm’s interests.¹²²

¹¹⁷ Cf. Watts/Zimmerman (1990), p. 132. This implies that stock prices are considered to represent the value of stockholder’s claims.

¹¹⁸ Cf. Ronen/Yaari (2008), p. 8-10.

¹¹⁹ Cf. Christie/Zimmerman (1994); Watts/Zimmerman (1978); Bowen et al. (2008). This implies that earnings management does not always need to be bad for shareholders.

¹²⁰ Cf. Scott (2003), p. 10-13. Moral hazard models constitute the major part of studies in accounting theory. They commonly assume homogeneous information for principals and agents at the beginning of the contract.

¹²¹ Scott (2003), p. 8.

¹²² There are several theoretical models on the role of accounting information in preventing moral hazard between managers and shareholders including among others Holmström (1979); Kwon

Opportunistic earnings management is presumed to occur given the conflict of interests between managers and shareholders. Managers may use private information at the expense of other parties to the firm. This creates demand for timely, reliable and verifiable information that assists shareholders in evaluating managerial performance (stewardship). Managers are presumed to have incentives to communicate positive information but to conceal information that puts them in a less favorable light. As a consequence shareholders demand timelier information on ‘bad news’ as compared to ‘good news’.¹²³ Conservatism in accounting defers earnings and generates lower net assets. From a corporate governance perspective, conservatism produces accounting numbers that can be used in contracts to reduce moral hazard and protect claims of the firm’s contracting parties against managerial opportunism.¹²⁴

(1989); Dutta/Reichelstein (1999); Kirschenheiter (1999); Kwon et al. (2001); Dutta/Zhang (2002); Dye/Sridhar (2005); Kwon (2005); Qi et al. (2007).

¹²³ Cf. Watts/Zimmerman (1978), p. 113-114; Watts/Zimmerman (1990), p. 135-136; Watts (2003a), p. 212-213.

¹²⁴ Cf. Watts (2003a), p. 210-214. The concept and measurement of conservatism is described in chapter 3.3.

In this context, conservatism in accounting is presumed to lower information asymmetries between contracting parties,¹²⁵ constrain opportunistic payments by managers to themselves¹²⁶ and lower the propensity of overinvestment.¹²⁷

Examples that illustrate that conservatism forms a fundamental part of accounting are that accounting standards commonly defer revenue recognition until managers have exerted substantial effort and demand to immediately expense costs such as research expenditures when the benefits are still uncertain.¹²⁸

Net income may serve as a measure to assess managerial performance or stewardship and form the basis for executive compensation. The model in Holmström (1979) addresses moral hazard problems between owners and managers and is among the earliest agency models referenced in an accounting context. It assumes that the first best solution, the pareto-optimal risk sharing, cannot be achieved and that instead only a second best solution can be accomplished that trades off the risk-sharing benefits for the provision of incentives. The model assumes that the manager's (agent's) effort is unobservable, but that there is an outcome (payoff) observable to both parties. Accounting theory assumes that this outcome could be net income.

Compensation aims at preventing agency conflicts *ex ante* rather than to discipline agents when compensation cannot be called back. Since the principal acknowledges his incapacity to obtain perfect information about the agent's action, he aims at identifying performance measures that are observable and may be used to incent managers.

¹²⁵ Cf. LaFond/Roychowdhury (2008); García Lara et al. (2010).

¹²⁶ Managers have incentives to report high earnings numbers to maximize their income. In case of managerial compensation contracts, performance measures should reflect effects of managerial action on firm value on a timely basis and help to avoid dysfunctional outcomes due to limited time horizons of managers. Conservatism may limit the possibilities of managers to report excessive earnings numbers and as a consequence obtain too much compensation. Using a limited liability setting, the model by Kwon et al. (2001) suggests that the principal will always design a conservative reporting system because conservatism lowers executive compensation. A similar model is provided by Kim (1995).

¹²⁷ Managers may be tempted to choose projects regardless of their net present value as long as these projects increase the business empire under the manager's control and thereby managerial compensation and non-pecuniary benefits. Conservatism may mitigate this issue by lowering the attractiveness of negative net present value projects. Consistent with this prediction, several studies suggest that conservatism mitigates overinvestment, cf. Lara et al. (2010); Francis/Martin (2010); Bushman et al. (2010).

¹²⁸ Cf. Skinner (2008); Kothari et al. (2010), p. 250

Earnings such as net income are considered to be useful in compensation contracts as they represent a performance measure reported to outside parties. However, managers as preparers of financial statements could try to alter reported earnings to favorably influence compensation. This thought is also known as bonus hypothesis in positive accounting theory.¹²⁹

There is a large strand of literature that examines the role of financial accounting in compensation contracts.¹³⁰ While some studies analyze why earnings are incorporated in compensation contracts, others address the question if executives strategically manage accruals to alter bonus income.¹³¹ Healy (1985) analyzes the format of typical bonus contracts in the US. He finds that managers choose income increasing or decreasing reporting policies depending on reporting incentives from their bonus contracts and are likely to change accounting procedures when bonus contracts are modified. Evidence in Healy (1985) is supported by Holthausen et al. (1995). Results from their study suggest that executives manage earnings to maximize the present value of bonus plan payments.¹³² Besides pecuniary benefits such as compensation, managers are also likely to maximize non-pecuniary benefits. Reputation plays an important role in this

¹²⁹ Cf. Watts/Zimmerman (1978); Watts/Zimmermann (1986); Watts/Zimmerman (1990).

¹³⁰ For a survey and research implications, cf. Bushman/Smith (2001).

¹³¹ Sloan (1993) suggests that earnings-based incentives play a fundamental role in executive compensation contracts since earnings avoid that compensation depends on fluctuations in firm value that are beyond the control of executives. Based on Forbes annual survey data on CEO compensation in the US, Natarajan (1996) examines if earnings components, i.e. cash flows and accruals serve as additional performance measures since they reveal information about managerial discretion. Consistent with this hypothesis, he finds that when accruals and cash flows from operations are considered together, earnings components show a closer relation with CEO cash compensation than aggregate earnings. Further studies on earnings as component of executive compensation plans include Baber et al. (1998) and Duru et al. (2005).

¹³² Similarly, Gaver et al. (1995) find that the use of earnings in compensation contracts creates incentives to smooth earnings. Further supporting evidence on the fact that managers use discretionary accruals to maximize short-term bonuses is presented in Guidry et al. (1999). Earnings are associated with stock prices. Further studies on accounting earnings and compensation suggest that the management is tempted to inflate stock prices via earnings management when manager's wealth is tied to the share price, most notably via stock options. For example, Bergstresser/Philippon (2006) find the use of discretionary accruals to be particularly pronounced in firms where the CEO's potential total compensation is closely tied to the value of stock and option holdings. CEOs are found to exercise higher numbers of options and sell larger quantities of shares in years with high accruals than in years with low accruals. Similar evidence on earnings management and stock compensation is provided by Cheng/Warfield (2005) and Burns/Kedia (2006).

context and may lead managers to alter reported earnings since records of their firm's performance affects future job contracts.¹³³

Although the valuation and stewardship roles of accounting result from incomplete information and information asymmetries between owners and managers, it turns out that the most useful measure to inform investors is not necessarily the best measure to motivate managers, i.e. to control moral hazard.¹³⁴ Stock prices correspond to the trading decisions made by managers based on information which they obtain about the value of the firm. However, instead of building managerial compensation solely on stock prices, agency theory shows that the way information is aggregated for valuation purposes is not identical with the way information is aggregated for compensation purposes.¹³⁵

IFRS and US GAAP are primarily concerned with the role of accounting information in mitigating agency conflicts arising from the separation of ownership and control. In this context, accounting research focuses on the role of accounting information in providing information to shareholders with the purpose of mitigating the problem of adverse selection and the use of accounting information in explicit and implicit contracts between the management and the shareholders with the purpose of preventing moral hazard. The problems of adverse selection and moral hazard are associated with different requirements regarding characteristics of accounting information and financial reporting. Since accounting takes on a dual role, the main challenge for standard set-

¹³³ Cf. Gjesdal (1981); Gibbons/Murphy (1992); Baber et al. (1998); Brickley et al. (1999); Holmström (1999). Although it is well acknowledged that managers aim at maximizing pecuniary and non-pecuniary benefits, accounting theory primarily focuses on pecuniary benefits, cf. Watts/Zimmerman (1978), p. 114.

¹³⁴ Cf. Scott (2003), p. 8.

¹³⁵ This coherence is demonstrated in Lambert, Richard A. (2001) based on a simple model. The outcome, i.e. the stock price at the end of the period corresponds to the value of x . From a compensation perspective, in contrast to a valuation perspective, other information besides x is relevant. In particular, it is interesting to know which proportion of x is indeed due to managerial effort and which component is due to other factors, e.g. the economic situation of the industry in which the firm operates. This implies that the outcome function on x can be expressed by the following equation, where a corresponds to the manager's effort or action and ε stands for the effect of "other factors" on the outcome x : $x = a + \varepsilon$. This implies that there is a role for additional performance variables in compensation contracts besides stock prices. These variables need to be informative about the actual action of the manager not the total outcome x . Cf. Lambert (2001), p. 41-42.

ters is to create standards that find a trade-off in mitigating adverse selection and moral hazard.¹³⁶ This challenge is illustrated in figure 3.

The dual role of accounting is also reflected in the actual framework to IFRS and US GAAP.¹³⁷ The decision usefulness approach is expressed as “objective of general purpose of financial statements” that “is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders, and other creditors in making decisions about providing resources to the entity.”¹³⁸ It is controversially debated in accounting literature if the valuation role of accounting is compatible with or alternative to the stewardship role as an accounting concept.¹³⁹ This debate was enhanced by recent deliberations of the standard setters IASB and FASB to eliminate stewardship as an objective of financial accounting.

Since deliberations to eliminate stewardship from the conceptual frameworks faced considerable criticism¹⁴⁰, the principle of stewardship was implicitly reincluded¹⁴¹ in the form that users of financial statements need “information about the resources of the entity, claims against the entity, and how efficiently and effectively the entity’s man-

¹³⁶ Cf. e.g. Scott (2003), p. 9-13.

¹³⁷ The standard setters are currently engaged in a joint project to develop a common conceptual framework. The conceptual part of the new framework launched in September 2010 builds on both extant frameworks and aims at providing a consistent basis for the development of future accounting standards. While the IASB revised some paragraphs of its existing framework, the FASB replaced SFAC 1 and 2 by SFAC 8. Cf. on the project <http://www.iasplus.com> and <http://www.fasb.org/cs> (last accessed 03/31/2011).

¹³⁸ SFAC 8, Conceptual Framework for Financial Reporting (IASB, 2010), OB 2.

¹³⁹ Cf. on this debate e.g. Barth et al. (2001); Holthausen/Watts (2001); Gassen (2008); Kothari et al. (2010); Lambert (2010).

¹⁴⁰ Cf. e.g. Kothari et al. (2010) reasoning on the basis of positive accounting theory and the necessity of stewardship as a principle after the financial crisis. This opinion was also supported by one of the board members, <http://www.iasplus.com/agenda/framework.htm> (last accessed 03/31/2011).

¹⁴¹ The stewardship role of accounting as pronounced by positive accounting theory used to be explicitly acknowledged in both frameworks. SFAC 1, CON 1-2 (1978) stated that financial reporting did not only intend to provide information about the financial performance of the company but also about “how management of an enterprise has discharged its *stewardship* responsibility to owners.” Similarly, it was written in the former framework to IFRS (Framework, 1989, F. 14) that “financial statements also show the results of the *stewardship* of management, or the accountability of management for the resources entrusted to it.”

agement and governing board have discharged their responsibilities to use the entity's resources.¹⁴²

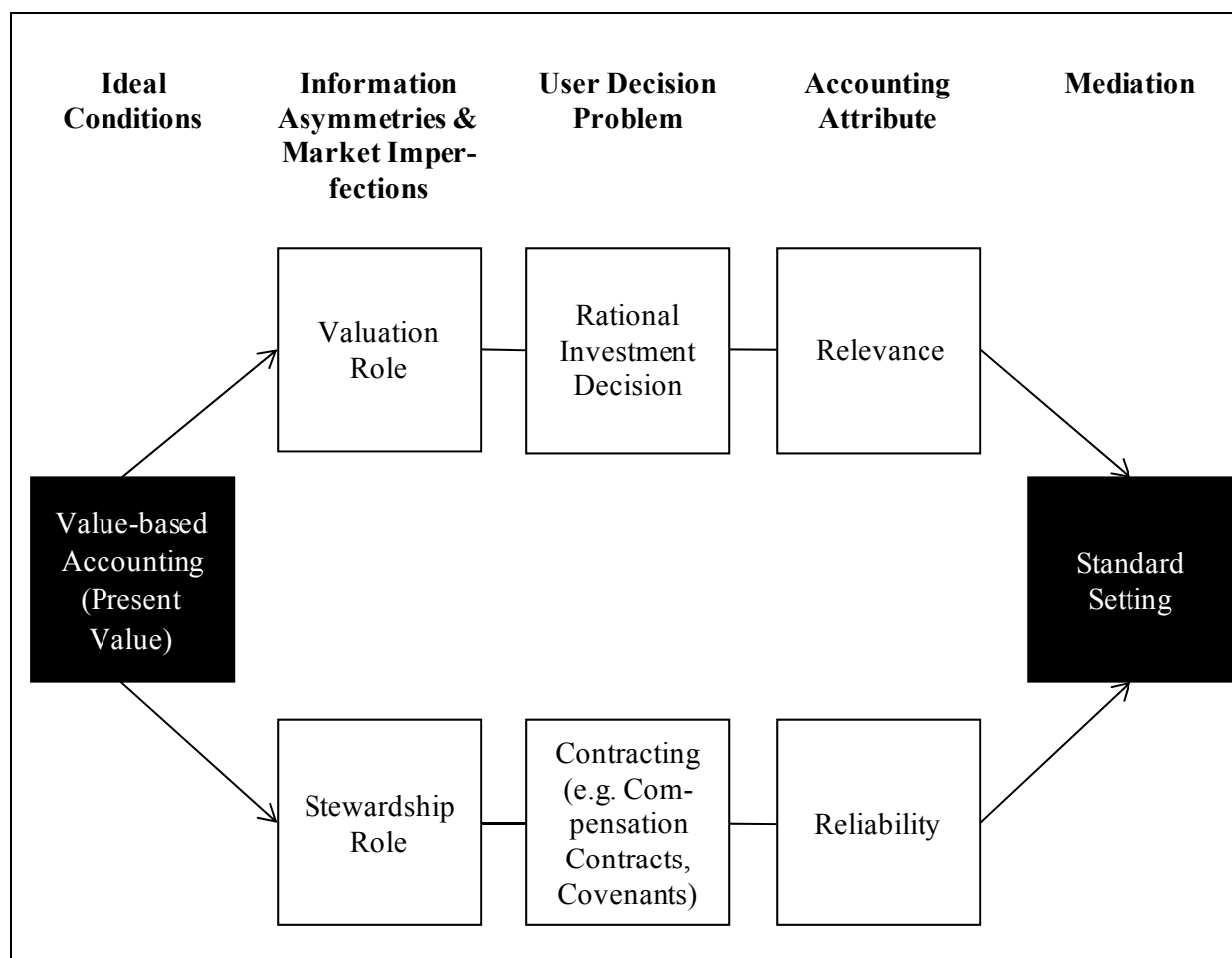


Figure 3: Information Asymmetries and the Dual Role of Accounting¹⁴³

Based on accounting theory, it becomes obvious that investors are best served by accounting information that forms a trade-off between relevant and reliable information. Since there are various ways to incorporate this trade-off in accounting standards, standard setting becomes a difficult task. This is illustrated by the controversial discussions on accounting standards and the numerous adjustments made to accounting standards on a regular basis. One of the best-known controversies concerns fair value accounting – a debate that was enhanced subsequent to the financial crisis.¹⁴⁴

¹⁴² SFAC 8, Conceptual Framework for Financial Reporting (IASB, 2011), OB 4.

¹⁴³ Source: Author's illustration based on Scott (2003), p. 10.

¹⁴⁴ Cf. e.g. Laux/Leuz (2009); Laux/Leuz (2010) on this debate.

Kothari et al. (2010) argue that the circumstance under which fair value accounting is useful depends on how severe market frictions are assessed. If market frictions are presumed to be of second order importance, fair values can be regarded as appropriate measurement basis for a large number of accounting items. The inherent difficulty with fair value accounting is that active markets to assess fair values are only available for a small number of assets and liabilities. Proponents of positive accounting theory argue that established characteristics of financial reporting such as verifiability and conservatism are consistent with an efficient contracting perspective but not a valuation perspective.¹⁴⁵ Kothari et al. (2010) suggest that some core principles of accounting such as i) the focus on the measurement of separable assets, ii) the way revenues are recognized under most sets of accounting standards including IFRS and US GAAP as well as iii) the difficulty to assess managers' contribution to firm performance are important indicators that indicate that accounting rather focuses on the role of earnings in efficient contracting rather than valuation.¹⁴⁶

2.1.3 Accounting Information and the Board of Directors

Although shareholders supply equity capital and are in the possession of ultimate control rights, small shareholders are considered reluctant to put pressure on the management. This phenomenon is referred to as the so-called free-rider problem.¹⁴⁷ As a response to the separation of ownership and control, shareholders delegate internal control to expert boards, also referred to as the board of directors but retain certain approval rights.¹⁴⁸ Thereby, the purpose of the board of directors is to align interests between the firm and its parties, particularly between shareholders and managers.¹⁴⁹

Although this equilibrium solution presumes that boards act in the shareholders' interest, managers may also try to 'capture' the board. As a consequence, interests may be

¹⁴⁵ Cf. Kothari et al. (2010), p. 249.

¹⁴⁶ Cf. Kothari et al. (2010), p. 254. Cf. Pellens et al. (2009), p. 109-110 for a discussion why fair value accounting has several negative aspects from a governance perspective.

¹⁴⁷ Cf. Grossman/Hart (1980); Easterbrook/Fischel (1983); Shleifer/Vishny (1986).

¹⁴⁸ Cf. Fama/Jensen (1983a), p. 313.

¹⁴⁹ Fama and Jensen (1983a), p. 311 argue that boards are "the common apex of the decision control systems of organizations in which decision agents do not bear a major share of the wealth effects of their decisions". The deliberations in this chapter largely follow the idea of a general board model as referred to in the economics-based accounting literature. Particularities of the German board system are described in chapter 2.2.

aligned between the management and the board but not necessarily among shareholders.¹⁵⁰ This implies that there are two layers of agency problems regarding the relationship between shareholders, managers and boards. Given that the level of agency problems differs across firms, the structure and the functioning of the board of directors equally varies across companies. There is a large body of literature on the endogeneity of board structures, decision-making in boards and effects of board characteristics on economic outcomes such as corporate performance.¹⁵¹ The focus of the review in this chapter is on the demand for accounting information by the board of directors and how accounting information may facilitate the functioning of the board.

Board structures vary between different countries. One major difference relates to the use of a unitary versus a dual board structure. Firms in Germany,¹⁵² the Netherlands and Denmark are commonly characterized by a dual board structure.¹⁵³ The unitary board system is prevalent in the USA, the UK, Italy, Spain and Portugal, whereas both board types can be found in some European countries such as France, Belgium or Finland.¹⁵⁴

Studies on board structures and accounting information build on the rationale of a one-tier board system, whereas no evidence has been presented on the relationship between board structures and accounting information in a two-tier board system up to date. For this reason, the review in this chapter summarizes the arguments on accounting information brought forward in prior literature in the context of unitary board systems but discusses them with regard to their applicability to the German corporate governance system.

The board of directors is elected by shareholders. It delegates the day-to-day business to managers but retains ultimate control and sets the level of managerial compensa-

¹⁵⁰ Cf. Hermalin/Weisbach (2003), p. 7.

¹⁵¹ For comprehensive surveys cf. e.g. Hermalin/Weisbach (2003); Adams et al. (2010).

¹⁵² Fundamental characteristics of the German board system are briefly summarized in chapter 2.2.3.

¹⁵³ An exemption is the legal form *Societas Europaea* (SE). Cf. „Gesetz zur Einführung der Europäischen Gesellschaft“ effective from 12/29/2004. This legal form is characterized by a unitary board structure.

¹⁵⁴ Cf. Mallin (2007), p. 121-123. For an overview on board models in Europe cf. Hopt/Leyens (2004). For a survey on international corporate governance research, cf. e.g. Denis/McConnell (2003).

tion.¹⁵⁵ Boards have broad authority but the selection, monitoring and the dismissal/retention of managers are regarded as main roles carried out by the board. Furthermore, boards play a significant role in advising the firm and its managers.¹⁵⁶

To fulfill its monitoring and advising role, board members need sufficient expertise and firm specific knowledge. Accounting literature discusses various board characteristics that influence the demand for and characteristics of financial reporting. The most comprehensive body of accounting studies analyzes the role of the percentage of outside versus inside directors on the board on the demand for and the supply of accounting information.¹⁵⁷ Inside directors in contrast to outside directors are members of the board of directors who are also affiliated with the firm through an employment contract and hence are involved in the day-to-day business of the firm. In contrast, outside-directors are commonly not bound to the firm apart from their board membership. This implies that inside-directors are presumed to have an informational advantage over outside-directors but lower monitoring incentives.¹⁵⁸ As a consequence, outside-directors are considered to have a higher demand for public accounting information than inside-directors.

Results from studies on board independence and accounting characteristics are difficult to transfer to the German corporate governance system since the dual board structure clearly distinguishes between board members who are employed with the firm and run the firm (i.e. the management board) and members who supervise the firm and monitor the management (i.e. the supervisory board). Evidence generally suggests that

¹⁵⁵ On the role of accounting information in executive compensation, cf. chapter 2.1.2.

¹⁵⁶ Cf. Fama/Jensen (1983a), p. 313-315; Hermalin (2005), p. 2352.

¹⁵⁷ Cf. on board independence and accounting information Vafeas (2000); Klein (2002); Xie et al. (2003); Beekes et al. (2004); Bushman et al. (2004); Park/Shin (2004); Agrawal/Chadha (2005); Ajinkya et al. (2005); Peasnell et al. (2005); Ahmed/Duellman (2007); Firth et al. (2007); Garcia Lara et al. (2007); Larcker et al. (2007); He et al. (2008); Laux/Laux (2008); Machuga/Teitel (2009); Garcia Lara et al. (2007); Garcia Lara et al. (2009a); Further board characteristics discussed in the context of accounting information and covered in the analyses besides board independence include the frequency of board meetings, board size and the presence of committees, particularly audit committees.

¹⁵⁸ Cf. Fama (1980), p. 293-294; Fama/Jensen (1983a), p. 313-315 on characteristics of inside vs. outside directors.

a higher degree of board independence leads to more conservative earnings and lower levels of earnings management.¹⁵⁹

Given that the rationale of one-tier board systems is not directly transferable to the German board system but that outside-directors exhibit similarities to members of the supervisory board, members of the supervisory board could have similar demand for accounting information than outside-directors. In a two-tier system, the presence of members in the supervisory board with superior financial expertise or higher monitoring incentives could affect earnings characteristics. In the following, outside-directors are referred to as “board members” in the sense of supervisory board members. Financial experts such as individuals that are engaged with financial operating or reporting with other firms are presumed to have superior monitoring and advising abilities regarding financial reporting and disclosure issues. Consistently, the creation of audit committees was found to complement outside directors in monitoring the financial reporting activities carried out by managers. Demand for financial experts in the board of directors increased subsequent to numerous financial collapses associated with accounting fraud.¹⁶⁰ Evidence generally supports the notion that the number of financial experts on the board is negatively associated with earnings management and the propensity of earnings restatements.¹⁶¹

Board members are presumed to demand timely accounting information (earnings timeliness) and timely loss recognition (conservative accounting) consistent with the deliberations on shareholders’ demand for accounting information to prevent moral hazard.¹⁶² As illustrated in chapter 2.1.2 managers possess private information but are considered to not always report information that could harm their interest in the firm such as endanger their job position or lower possibilities to extract private benefits.¹⁶³ Board members are presumed to demand verifiable accounting information and con-

¹⁵⁹ Cf. Armstrong et al. (2010), p. 184-187 for a survey.

¹⁶⁰ Cf. Armstrong et al. (2010), p. 192-193.

¹⁶¹ Cf. e.g. Dechow et al. (1996); Klein (2002); Xie et al. (2003); Agrawal/Chadha (2005).

¹⁶² Cf. Armstrong et al. (2010), p 187.

¹⁶³ Consistently, Ball/Shivakumar (2005), p. 89 point out: “A primary reason for asymmetric accounting recognition is that managers have an asymmetric incentive to reveal their private information. Timeliness of economic loss incorporation is an important attribute of earnings quality because it makes financial statements more useful in several contexts, for example in corporate governance and loan agreements.”

servatism in accounting to align interests between shareholders and managers. In the accounting-based economics literature conservatism primarily refers to conditional conservatism, i.e. conservatism contingent on ‘bad news’ also referred to as timely loss recognition.¹⁶⁴ Conservatism may best be interpreted in this context as a set of accounting standards and conventions that facilitate timelier and complete disclosure of ‘bad news’ by managers.¹⁶⁵ In this context, monitoring incentives by supervisory board members who also act as shareholders in the firm (insiders) could increase the demand for conservatism. However, no evidence has been presented on this issue up to date.

From a contracting perspective, constituencies including the board of directors demand assurance that accounting standards are applied in accordance with the respective accounting standards.¹⁶⁶ Auditors examine whether financial reports fairly present the economic and financial position of the company. They can question assumptions and forecasts made by management and can demand changes before issuing a “clean” opinion.¹⁶⁷ In this role, the auditor can improve the information environment, not only by detecting accounting fraud or violation of accounting standards and assist board members in their monitoring role.¹⁶⁸

2.1.4 Accounting Information and the Relationship between Controlling and Minority Shareholders

Under the stylized picture of the widely-held firm interests are aligned between shareholders as a group but may diverge from interests of other contracting parties includ-

¹⁶⁴ Cf. chapter 3.3 for a detailed illustration of the concept and measurement of conservatism.

¹⁶⁵ In this context, conservatism does not only refer to recognition and measurement but also to disclosure. Cf. Guay (2007), p. 6-7.

¹⁶⁶ Cf. Dechow/Schrand (2004), p. 66; Armstrong et al. (2010), p. 191. In Germany, all limited firms and corporations need to audit financial statements according to § 316 I S1 HGB, except for when they do not meet certain size criteria (§ 267 I HGB).

¹⁶⁷ Cf. Dechow/Schrand (2004), p. 66.

¹⁶⁸ However, the relationship between the audit firm and the client is based on a contract where the client pays the audit firm for the provision of the auditing service. Hence, conflicts of interests could arise from the fact that auditors are typically paid by the firm they audit. In this context, the subject of “auditor independence” is intensely debated. Cf. DeAngelo (1981); Antle (1984); Simunic (1984); Bazerman et al. (1997); Ashbaugh et al. (2003); Ashbaugh-Skaife et al. (2007). In Germany auditor dependence was subject to discussion in the context of the audit of Siemens AG by KPMG, cf. e.g. Maier/Grass (2008).

ing the management. The free-rider problem occurs because the individual shareholders in a widely-held firm do not have the incentive and ability to monitor managerial performance.¹⁶⁹ The presence of large shareholders is addressed in Shleifer/Vishny (1986) as a partial solution to the free-rider problem. Analyzing ownership structures around the world, several studies conclude that most firms are characterized by concentrated ownership structures, particularly outside the USA or the UK.¹⁷⁰ As a consequence, agency conflicts outside Anglo-Saxon environments are considered not to arise primarily between managers and shareholders but between large and small shareholders.¹⁷¹

Small and large shareholders, frequently also referred to as controlling and minority shareholders, are characterized by different utilities. The model by Shleifer/Vishny (1986) suggests that the stake owned by blockholders is large enough to pay them for the monitoring of the management. The monitoring of managers through large shareholders benefits all shareholders since it reduces the severity of agency problems arising from the separation between ownership and control. Large shareholders also face lower information asymmetries between ownership and control because they may actively engage in the selection of board members.¹⁷²

Several studies show that owners receive benefits disproportional to their fractional stake in the firm, though concentrated ownership is also associated with costs such as to be not well diversified.¹⁷³ Researchers assume that premiums paid on block trades can be interpreted as a signal for private benefits of control. Private benefits of control can be defined as the “psychic value some shareholders attribute simply to being in

¹⁶⁹ Cf. Grossman/Hart (1980).

¹⁷⁰ Cf. e.g. La Porta et al. (1999); Claessens et al. (2000); Faccio/Lang (2002); Burkart et al. (2003). However, blockholders are also common in the USA or the UK. For example, Shleifer/Vishny (1986) have found that the main part of US firms out of the Fortune 500 firms is characterized by the presence of a shareholder who owns at least five percent of ownership in the firm (blockholder). La Porta et al. (1998), p. 1146 conclude: “The finance textbook model of management faced by multitudes of dispersed shareholders is an exemption and not the rule.”

¹⁷¹ Cf. e.g. Gugler/Yurtoglu (2003), p. 732, Barclay/Holderness (1989), p. 392-393; Dyck/Zingales (2004), p. 541.

¹⁷² Cf. Shleifer/Vishny (1986); Barclay et al. (1993).

¹⁷³ Cf. for early studies Fama/Jensen (1983a); DeAngelo/DeAngelo (1985), Demsetz/Lehn (1985); Stulz (1988); Barclay/Holderness (1989); Barclay et al. (1993).

control”.¹⁷⁴ An increase in voting rights is also associated with the ability to influence corporate policies. Large shareholders may be tempted to exploit their exceptional position in the firm and extract private benefits of control by self-serving investments, perquisite consumption, bailing out of weak affiliates or “tunneling”¹⁷⁵ which in turn may disadvantage minority shareholders.¹⁷⁶ When the large shareholder is also the manager of the company, he may for example extract private benefits of control by paying himself a high salary.¹⁷⁷ Controlling shareholders are presumed to possess an information advantage as compared to minority shareholders since they have access to private information channels (e.g. through a position in the board of directors). This information advantage may either be used to communicate private information to other shareholders or to entrench themselves at the expense of minority shareholders.¹⁷⁸

The role of accounting information under the presence of controlling shareholders can be discussed based on a supply and demand perspective.¹⁷⁹ Regarding agency conflicts arising from the separation between ownership and control, monitoring through large shareholders may reduce the demand for accounting information as a governance mechanism to alleviate information asymmetries between managers and shareholders. Furthermore, given that large shareholders are presumed to have access to private information channels there may be less demand for publicly available information.¹⁸⁰ As long as small shareholders perceive their interests to be aligned with large shareholders they may not demand a higher level of accounting information. However, minority shareholders could have an increased demand for accounting information when they feel that there is a danger of being expropriated by controlling shareholders. In this

¹⁷⁴ Dyck/Zingales (2004), p. 540.

¹⁷⁵ “Tunneling” refers to the transfer of assets from the firm, cf. Johnson et al. (2000).

¹⁷⁶ Cf. Grossman/Hart (1980); Barclay/Holderness (1989); Shleifer/Vishny (1997); Pagano/Roell (1998); La Porta et al. (2000a); Dyck/Zingales (2004); Holmen/Knopf (2004).

¹⁷⁷ Cf. Edwards/Weichenrieder (2004), p. 143.

¹⁷⁸ Cf. e.g. Warfield et al. (1995), p. 62-63.

¹⁷⁹ Cf. for a similar view Wang (2006).

¹⁸⁰ Cf. consistent with these arguments Fan/Wong (2002); Burgstahler et al. (2006); Wang (2006); LaFond/Roychowdhury (2008).

case, accounting information could reduce information asymmetries between controlling and minority shareholders.¹⁸¹

From a life cycle perspective of the firm, owners need to decide at some point in time whether to raise equity from minority shareholders or not. If minority shareholders consider information asymmetries to be high and recognize that agency conflicts with controlling shareholders could occur, they may be willing to pay a lower price for the shares. In this setting, controlling shareholders could use accounting information *ex ante* as a bonding mechanism to commit to minority shareholders not to extract private benefits of control.¹⁸² In summary, there is no clear prediction how the presence of controlling shareholders affects the demand and supply of accounting information.

The level of private benefits of control varies among different shareholder groups and with the level of ownership. Incentives to extract private benefits of control may be less pronounced for institutional blockholders since the benefits are diluted among the individual owners. In contrast, large individual shareholders directly benefit from the extraction of private benefits of control.¹⁸³ Founding families constitute a particular type of individual shareholder that is likely to have incentives to defend private benefits of control. Private benefits of control may not only be financial but also non-financial. Non-financial private benefits of control such as transferring the business to the next family generation could play an important role in family firms. This implies that the type of shareholder also needs to be taken into account when analyzing effects of large shareholders on financial reporting. The particularities of family governance (ownership, management and board membership) and potential consequences for the reporting behavior of family firms are discussed in more detail in chapter 2.3.3. Furthermore, the level of ownership concentration needs to be considered in the analysis since evidence suggests that incentives of large shareholders to extract private benefits of control change with the level of ownership.¹⁸⁴ This argument was particularly

¹⁸¹ Cf. Pae et al. (2008), p. 53-55.

¹⁸² Cf. Armstrong et al. (2010), p. 210. Consistent with this argument cf. Fan/Wong (2005); Ali et al. (2007).

¹⁸³ Cf. Faccio et al. (2001); Morck/Yeung (2003); Le Breton-Miller/Miller (2006); Villalonga/Amit (2006).

¹⁸⁴ Cf. Morck et al. (1988); Himmelberg et al. (1999); Anderson/Reeb (2003).

brought forward in the context of managerial ownership and performance and is also discussed in more detail in the context of family ownership in chapter 2.3.

The level of private benefits of control is also contingent on the level of investor protection and as a consequence varies across countries. Dyck/Zingales (2004) estimate private benefits of control in 39 countries based on 393 controlling block sales. They find the level of private benefits of control to be positively associated with less developed capital markets, ownership concentration and more privately negotiated privatizations. This is consistent with La Porta et al. (1997) who assume that the level of private benefits of control is affected by the level of minority shareholder protection.¹⁸⁵ As a consequence, large shareholders are presumed to have higher incentives to extract private benefits of control when minority shareholders are weakly protected. Countries in which investor protection is less pronounced are commonly characterized by less transparent financial reporting which is considered to facilitate the extraction of private benefits of control. This leads to a circular argument but helps to explain cross-country differences in financial systems and regulation. Germany is traditionally characterized by low levels of investor protection. However, a large row of reforms were put in place in recent years that strengthened investor protection.¹⁸⁶ IFRS adoption and corporate governance reforms are presumed to increase the transparency of German firms and enhance investor protection in Germany. These developments are likely to have affected earnings characteristics among German firms. Consistently, chapter 6 analyzes effects of IFRS adoption on earnings management and conservatism among German firms.

Another important aspect that needs to be acknowledged in the discussion on agency conflicts and accounting information is that transparent financial reporting is not an end in itself but always associated with considerable cost. As a consequence, lower supply of accounting information does not always need to result from the reluctance of the firm or large shareholders to provide information but could also be due to the fact that the cost and benefit of financial reporting may not always be aligned for certain

¹⁸⁵ Although factors determining the level of private benefits of control were addressed in earlier literature, Dyck/Zingales (2004) provide the first study that assesses the level of private benefits of control empirically using an international sample. Prior empirical evidence on the prevalence of private benefits of control among US firms is presented in Barclay/Holderness (1989).

¹⁸⁶ Cf. chapter 2.2 for a description.

types of firms, particularly smaller firms.¹⁸⁷ Ownership concentration and firm size are found to be positively associated in a considerable number of studies.¹⁸⁸ Therefore, evidence on ownership concentration and financial reporting needs to be interpreted with caution.

2.1.5 Accounting Information and the Relationship between Shareholders and Creditors

Creditors¹⁸⁹ as compared to shareholders have priority in case of a firm's bankruptcy but do not hold control rights. In contrast to shareholders or managers, they do not receive additional compensation from an increase in net assets. However, when net assets are not sufficient to cover the payment, limited liability induces creditors to receive less than the contracted sum. As a consequence, creditors seek to assure that net assets are sufficient to cover the outstanding loan. Differences in the payoff function between shareholders and creditors lead to agency conflicts. There is a large body of literature on the relationship between shareholders and creditors.¹⁹⁰ This chapter is limited to a brief overview on the role of accounting information in mitigating conflicts between shareholders and creditors.

Shareholders and creditors have different payoff functions. Conflicts between shareholders and creditors can be defined as "creditors' concern with actions by owners/managers that increase the risk or probability that the creditors will not see their investment returned."¹⁹¹ After the loan is granted, shareholders and managers are presumed to have incentives to engage in activities that may further increase their benefit to the detriment of outside capital providers. For example, they could increase the riskiness of the firm's assets by reckless investment decisions or increase leverage to allow for dividend payments or share repurchases. Both are examples for activities that lead to a transfer of wealth from creditors to shareholders and endanger creditors of

¹⁸⁷ Cf. on effects of firm size on financial reporting, chapter 5.4.

¹⁸⁸ Cf. e.g. Demsetz/Lehn (1985).

¹⁸⁹ In the following "creditor" refers to any provider of debt capital (i.e. bonds, syndicated loans, bank and other loans).

¹⁹⁰ For a recent and comprehensive overview cf. Roberts/Sufi (2009).

¹⁹¹ Armstrong et al. (2010), p. 182.

not getting their capital returned. This phenomenon is referred to in the literature as ‘risk-shifting’.¹⁹²

Creditors will anticipate those activities by either pricing them into their claims or by the decision not to lend money to the firm. Alternatively, they may choose contractual arrangements that reduce the management’s and shareholders’ ability to expropriate wealth from creditors. Shareholders may anticipate price protection by creditors and be willing to incur bonding and monitoring mechanisms *ex ante* to signal that they restrict their ability to engage in actions that are detrimental to creditors.¹⁹³ In this context, accounting information may mitigate conflicts between creditors and shareholders and reduce problems from moral hazard such as risk-shifting or dividend overpayment and increase the efficiency of debt contracts. Furthermore, the lending relationship between the firm and its creditors may also be beneficial to shareholders and the board because creditors have additional incentives to monitor the management.¹⁹⁴

Creditors are interested in information about the likelihood that the firm disposes over enough assets to cover the loan. Therefore, creditors demand timely but verifiable information and are interested in a timely recognition of ‘bad news’, i.e. accounting conservatism.¹⁹⁵ Furthermore, private lenders such as banks frequently demand a proprietary access to company information besides audited financial statements such as information on forecasts or budgets and demand securities for the loan.¹⁹⁶ Given that accounting information is involved in the credit granting process and partly determines terms and conditions of the grant such as maturity, interest rate and size of the loan, firms have incentives to prevent adverse effects on their credit ratings that may affect future loan negotiations. This informal relationship or implicit contract between the

¹⁹² Cf. Jensen/Meckling (1976); Myers (1977). Smith/Warner (1979) name four major sources of conflict which arise between creditors and shareholders: dividend payment, claim dilution, asset substitution and underinvestment, cf. Smith/Warner (1979), p. 118-119.

¹⁹³ Cf. Armstrong et al. (2010), p. 182, 213.

¹⁹⁴ Armstrong et al. (2010), p. 197.

¹⁹⁵ Cf. Watts (2003a), p. 212. Studies on debt contracting and conservatism include e.g. Ahmed et al. (2002); Ball et al. (2008); Beatty et al. (2008); Guay (2008); Zhang (2008); {Callen, 2009 #1045}; Gigler et al. (2009); Nikolaev (2010). These studies suggest on average that conservatism is an efficient governance mechanism from a debt contracting perspective.

¹⁹⁶ Cf. Armstrong et al. (2010), p. 214.

firm and its creditors can be regarded as another mechanism that aligns interests between shareholders, managers and creditors.¹⁹⁷

Accounting information may also be incorporated in financial covenants to assure that creditors get their investment returned. When firms violate covenants, contracts are renegotiated or the loan will even be recalled. According to the debt/equity hypothesis in positive accounting theory,¹⁹⁸ firms that are close to breaching financial covenants are likely to choose income increasing accounting practices. This prediction is confirmed in various studies.¹⁹⁹

Dividend restrictions are frequently used to mitigate conflicts between shareholders and creditors. Financial contracting is fundamentally influenced by the underlying accounting system. Leuz et al. (1998) find that dividend restrictions in Germany are predominantly mandated, whereas in the UK mandated dividend restrictions are accompanied by debt contracts. In the USA, dividend restrictions are primarily incorporated in debt contracts. In this context, covenants are frequently not only used to restrict dividend payout but also to limit the issuance of additional debt.²⁰⁰ The prudence principle as core principle of the German accounting system leads to an understatement of net assets. Dividends are distributed to shareholders based on the net earnings from individual statements prepared under German GAAP. As a consequence, dividend payout is restricted due to legal restrictions imposed by accounting standards and there is less demand for payout restriction and covenants via debt contracts.²⁰¹ Particularities

¹⁹⁷ Cf. Rajan (1992).

¹⁹⁸ Cf. Watts/Zimmerman (1978); Watts/Zimmermann (1986); Watts/Zimmerman (1990).

¹⁹⁹ For example, Kinney/McDaniel (1998) find evidence that firms with higher leverage have a higher frequency to adjust earnings from prior periods. This behavior may be interpreted as evidence for earnings management in prior periods. Sweeney (1994) suggests that firms engage in income-increasing activities when they are likely to breach financial covenants since working capital accruals and discretionary accruals are found to be particularly high in the period before financial covenant violation. Bartov (1993) finds that firms tend to defer the sale of long-term assets in order not to breach financial covenants. This evidence suggests that debt contracting provides incentives for real earnings management because accounting earnings management may be restricted on a contractual basis and is easier to detect. Further evidence supporting the debt covenant hypothesis is presented in Zmijewski/Hagerman (1981) and DeFond/Jiambalvo (1994).

²⁰⁰ Cf. e.g. Smith/Warner (1979); Peek et al. (2010), p. 52. For a formal model, cf. Gjesdal/Antle (2001).

²⁰¹ Cf. Leuz et al. (1998); Leuz/Wüstemann (2004), p. 452. Cf. e.g. Andres et al. (2009), p. 176-178; Schmid (2010), p. 43-46 on payout regulation in Germany.

of the German accounting and corporate governance system are illustrated in more detail in chapter 2.2.

2.2 Accounting and Corporate Governance in Germany

2.2.1 Accounting and Corporate Governance Classifications

The theory of the firm is rooted in Anglo-Saxon environments and mainly adopts a shareholder perspective. Notwithstanding the large number of regulatory reforms that reduced differences between the German and the Anglo-Saxon accounting and corporate governance system, the German financial system still exhibits central features that are clearly distinct from Anglo-Saxon economies.²⁰² Therefore, the theoretical arguments developed in chapter 2.1 need to be critically reflected with regard to the German institutional framework and in the context of the analyses in this study. This chapter provides an overview on common classifications on accounting and corporate governance systems.

Corporate governance structures vary across countries and lead to differences in accounting systems. To examine how cross-country differences, affect accounting numbers, comparative accounting studies commonly group countries into certain categories based on their

- legal origin (code-law vs. common-law),
- legal tradition (e.g. English, Scandinavian, French, German)²⁰³ or
- institutional framework.²⁰⁴

Studies that classify countries according to their *legal origin* distinguish between common law countries (e.g. USA, UK, Australia, Hong Kong) and code law countries

²⁰² Cf. Goergen et al. (2008b) for a recent overview on the German corporate governance system.

²⁰³ German origin: Germany, Austria; French origin: Belgium, France, Greece, Italy, the Netherlands, Portugal, Spain; Scandinavian: Sweden, Denmark, Finland; English: United Kingdom, Ireland. Cf. La Porta et al. (1998).

²⁰⁴ For an overview and discussion on these classifications, cf. La Porta et al. (1998); for comprehensive surveys on difficulties regarding international classifications of financial reporting, cf. e.g. Nobes (1983); Achleitner (1995), p. 148-173; d'Arcy (2001); Nobes (2004); d'Arcy (2004).

(e.g. Germany, France, Japan).²⁰⁵ While common law regimes largely take on a shareholder-oriented view, code law countries primarily adopt a stakeholder perspective.²⁰⁶

In more recent studies, the dichotomous differentiation according to legal origin or legal tradition is no longer perceived appropriate. Both concepts only provide summary measures that proxy for a multitude of institutional factors.²⁰⁷ The most frequently mentioned factors that affect financial reporting are capital market development, investor protection, capital structures, ownership structures, and a country's tax system.²⁰⁸ Following the papers by La Porte et al. (1997, 1998, 1999, 2000) accounting researchers started classifying countries according to their institutional framework using country-level indicators. According to this classification, the German corporate governance system is characterized as a code-law country with weak investor protection and high levels of private benefits of control. It is commonly considered to be marked by the following stylized factors:

- high ownership concentration and strong insider involvement,²⁰⁹
- financing structures relying on bank and internal financing,²¹⁰
- relatively low investor protection,²¹¹
- less developed markets for corporate control,²¹²
- a conservative accounting system²¹³ and

²⁰⁵ Cf. Ball et al. (2003), p. 238.

²⁰⁶ Cf. Ball et al. (2000), p. 3.

²⁰⁷ Cf. e.g. La Porta et al. (1998), p. 1115-1117; Ball et al. (2000); Burgstahler et al. (2006), p. 998-1000, Leuz et al. (2003), p. 507. However, the classification according to legal origin and tradition may still represent useful proxies for general sensitivity analyses, cf. e.g. Burgstahler et al. (2006), p. 1000.

²⁰⁸ Cf. Soderstrom/Sun (2007), p. 676; d'Arcy (2001), p. 329.

²⁰⁹ Cf. e.g. Leuz et al. (2003).

²¹⁰ Cf. e.g. Baums (1992); Gorton/Schmid (2000b); Elsas/Krahn (2004); Dittmann et al. (2010).

²¹¹ Cf. e.g. La Porta et al. (1997); La Porta et al. (1998); La Porta et al. (1999), La Porta et al. (2000a); Leuz et al. (2003); Dargenidou et al. (2007).

²¹² Cf. e.g. Kaserer/Wenger (1998); Jenkinson/Ljungqvist (2001); Köke (2004).

²¹³ Cf. e.g. Joos/Lang (1994); Harris et al. (1994); Leuz/Verrecchia (2000); Leuz/Wüstemann (2004).

- low enforcement of accounting standards.²¹⁴

This stylized description of the German corporate governance system may no longer be accurate given the numerous developments towards a more Anglo-Saxon way of financing and accounting not only in Germany but across Europe.²¹⁵ Accounting and corporate governance reforms and initiatives in Germany resulted in the internationalization of accounting standards, strengthened the enforcement of accounting standards and investor protection. Although the German corporate governance system develops towards a more market-oriented system, some cornerstones of the German corporate governance still remain: i) concentrated ownership structures, ii) high prevalence of insider and family ownership, iii) relatively high bank influence, iv) dual board system and v) co-determination by employees in the supervisory board.²¹⁶

In this context, Bauwhede (2001) suggests that differences between companies should rather be discussed based on Anglo-Saxon characteristics such as widespread ownership, financing through public markets or the adoption of international accounting standards (IFRS and/or US GAAP).²¹⁷ This is consistent with the focus of the analyses in this thesis on how the adoption of a shareholder-oriented accounting system and family governance, a distinct characteristic of the German corporate governance system, affect earnings characteristics.

Chapter 2.2.2 provides an overview on main characteristics of the German corporate governance system focusing on ownership structures, board structures and bank influence. This chapter is complemented by chapter 2.2.3 which provides an overview on the process of accounting internationalization in Germany. Chapter 2.3 discusses the relation between accounting and corporate governance in the context of family firms.

²¹⁴ Cf. e.g. Hope (2003).

²¹⁵ Cf. for an overview on reforms between 1998 and 2009, table 3. For a detailed description of these reforms cf. e.g. Nowak (2004), Blum (2005), p. 35-148, Moldenhauer (2007), p. 28-36, Ernstberger et al. (2009), p. 6-10.

²¹⁶ Cf. Ampenberger (2010), p. 102. Consistently, Hackethal et al. (2003); Terberger (2003) suggest that the German corporate governance system still differs substantially from the Anglo-American corporate governance system.

²¹⁷ Cf. Bauwhede (2001), p. 32.

2.2.2 *Ownership Structures*

Most listed firms in Germany are characterized by concentrated ownership structures.²¹⁸ Furthermore, the block held by controlling shareholders in Germany is found to be significant in several studies on corporate ownership in Germany. According to Edwards/Nibler (2000) and Franks/Meyer (2001) more than half of all listed firms have a shareholder that controls more than 50% of voting rights.²¹⁹ Based on an analysis of ownership structures of non-financial firms in the German Composite Index (CDAX), Ampenberger (2010) shows that the average percentage of voting rights held by the largest shareholder is 46.5% (median 43.3%), while the three largest shareholders hold an average of 59.4% (median 60.7%) of ownership.²²⁰ It appears that the largest stake is constituted by the first largest shareholder whereas the second and third largest shareholders only hold a rather low percentage of ownership. Becht/Boehmer (2003) suggest that voting control is commonly concentrated in one block among and not shared among several block holders.²²¹ Nevertheless, blocks held by other shareholders may assist minority shareholders in preventing the largest shareholder from extracting private benefits of control.²²²

An aspect that is frequently discussed in the context of ownership structures among German firms is that voting or control rights frequently exceed cash flow rights due to various mechanisms including pyramids and cross-holdings, proxy votes, voting

²¹⁸ Considering an ownership threshold of ten percent La Porta et al. (1999) show that only about 10%-20% of firms in the US or the UK but about 65% of firms in Germany are characterized by the presence of a controlling shareholder. Cf. Goergen et al. (2008b), p. 176-177; Ampenberger (2010), p. 209-230 for an overview of studies on corporate ownership in Germany.

²¹⁹ Consistent with these studies, Becht/Roell (1999) suggest that the degree of voting power in Continental Europe is extraordinarily high as compared to the USA or the UK. Germany exhibits the highest degree of ownership concentration after Italy. In a comparison of firms in 13 Western European countries, Faccio/Lang (2002) show that Germany tends to exhibit the highest level of ownership concentration. The largest shareholder is found to hold an average of 54.5% of voting rights whereas the largest shareholder in Irish or UK firms only holds an average of 21.6% respectively 25.1% of voting rights.

²²⁰ Cf. Ampenberger (2010), p. 210. These results are consistent with previous studies including Köke (1999), p. 11; Becht/Boehmer (2003), p. 6-9 and Faccio/Lang (2002), p. 368, 392. Further studies on corporate ownership and control in Germany include Jenkinson/Ljungqvist (2001); Koeke 2001; Ruhwedel (2003); Edwards/Weichenrieder (2004); Moldenhauer (2007); Andres et al. (2009); Edwards/Weichenrieder (2009); Franks et al. (2009).

²²¹ Cf. Becht/Boehmer (2003), p. 7-11.

²²² Cf. Bennedsen/Wolfenzon (2000).

agreements and dual class shares.²²³ “The control rights of ownership refer to an owner’s ability to influence the way a firm is run, while the cash-flow rights of ownership refer to the fraction of the firm’s profits to which an owner is entitled.”²²⁴

Pyramids and Cross-Holdings: While firms in the USA or the UK are commonly characterized by atomistic shareholder structures, German firms are found to be frequently held via pyramids and cross-holdings.²²⁵ Pyramids and cross-holdings can be regarded as an instrument through which owners exercise control over a firm via a chain of other firms.

Proxy Votes: In Germany, proxy votes are particularly relevant in the context of bank ownership.²²⁶ Most shares in Germany are unregistered bearer shares. Shareholders frequently leave their shares with banks who are allowed to exercise the voting right of the shares on their behalf. Thereby, the vote by the bank is contingent on the duty that the bank announces how it will vote on particular resolutions in the general shareholder’s meeting.²²⁷

Voting Agreements: Voting agreements can enhance control of shareholders in closely-held firms whereby individual blockholders pool their voting rights.²²⁸ This instrument is frequently used by listed family firms. While the individual family members may only hold relatively low percentages of ownership in the firm they may pool their voting rights via a voting agreement to exercise unanimous voting at the general shareholder’s meeting.²²⁹

Dual-Class Shares: The issuance of dual-class shares leads to a deviation from the one-share-one-vote principle and represents another instrument that allows controlling shareholders to retain control.²³⁰ While the main part of listed firms in Germany only

²²³ For an overview, cf. Goergen et al. (2008b), p. 176-179.

²²⁴ Edwards/Weichenrieder (2009), p. 489.

²²⁵ Cf. e.g. Gorton/Schmid (2000b); Franks/Meyer (2001); Faccio/Lang (2002).

²²⁶ Cf. Prigge (1998); Gorton/Schmid (2000b); Edwards/Nibler (2000); Franks/Meyer (2001).

²²⁷ Cf. Schmid/Wahrenburg (2004), p. 278; Goergen et al. (2008b), p. 178.

²²⁸ Cf. Bennedsen/Wolfenzon (2000).

²²⁹ Cf. Achleitner et al. (2011), p. 30.

²³⁰ Cf. Nenova (2003) the value of voting rights.

issued common shares, some firms have solely issued preference shares or dual-class shares to raise capital at the German stock exchange.²³¹ The issuance of preference and dual-class shares is particularly prevalent among listed family firms.²³²

Given the high presence of large shareholders around the world, Becht/Roell (1999) point out that it is at least as important to understand the relationship between large and small shareholders as the most frequently studied relationship between managers and shareholders.²³³ In this context, it is not only interesting to consider ownership concentration but also the type of shareholder.²³⁴ The most important shareholder groups in Germany include other non-financial firms (strategic investors), private individuals and families, banks and other institutional investors, private equity investors as well as public authorities and the government. The distribution of these shareholder groups among listed firms in Germany is illustrated in figure 4.²³⁵

²³¹ Cf. Achleitner et al. (2009b), p. 29-31. While shareholders of common shares are entitled to voting and dividend rights, preferred shares only incorporate dividend rights. This may explain why preferred shares are commonly traded at a discount at stock exchanges. Schmid/Wahrenburg (2004) illustrate the discount on non-voting or preference shares based on the example of Volkswagen AG. Another example for a large German corporation that issued dual-class shares besides Volkswagen AG is BMW AG, cf. Schmid/Wahrenburg (2004), p. 280-281. Faccio/Lang (2002) find that one out of five German firms issued dual-class shares. In the study by Achleitner et al. (2009b) firms that only issued preference shares to raise capital at the German stock exchange only contribute to about 4% of the observations in the sample (non-financial firms in the CDAX, 1998-2008, 5,370 total observations). Examples for German corporations that exclusively issued listed preference shares are Porsche SE, Sto AG and Villeroy & Boch AG.

²³² Cf. e.g. Claessens et al. (2002); Cronqvist/Nilsson (2003); Morck et al. (2005); Villalonga/Amit (2006); Villalonga/Amit (2009).

²³³ Cf. Becht/Roell (1999), p. 1049.

²³⁴ Different types of shareholders are presumed to be characterized by different levels of agency conflicts, cf. e.g. Pagano/Roell (1998).

²³⁵ Ownership information is based on data used in chapters 7 and 8 in this study. For a detailed description of the sample selection procedure and data sources cf. chapter 5. In the following, information on ownership structures among German firms refers to own data analyses. Similar results on the development of ownership structures in Germany are presented in Ampenberger (2009), p. 209-230.

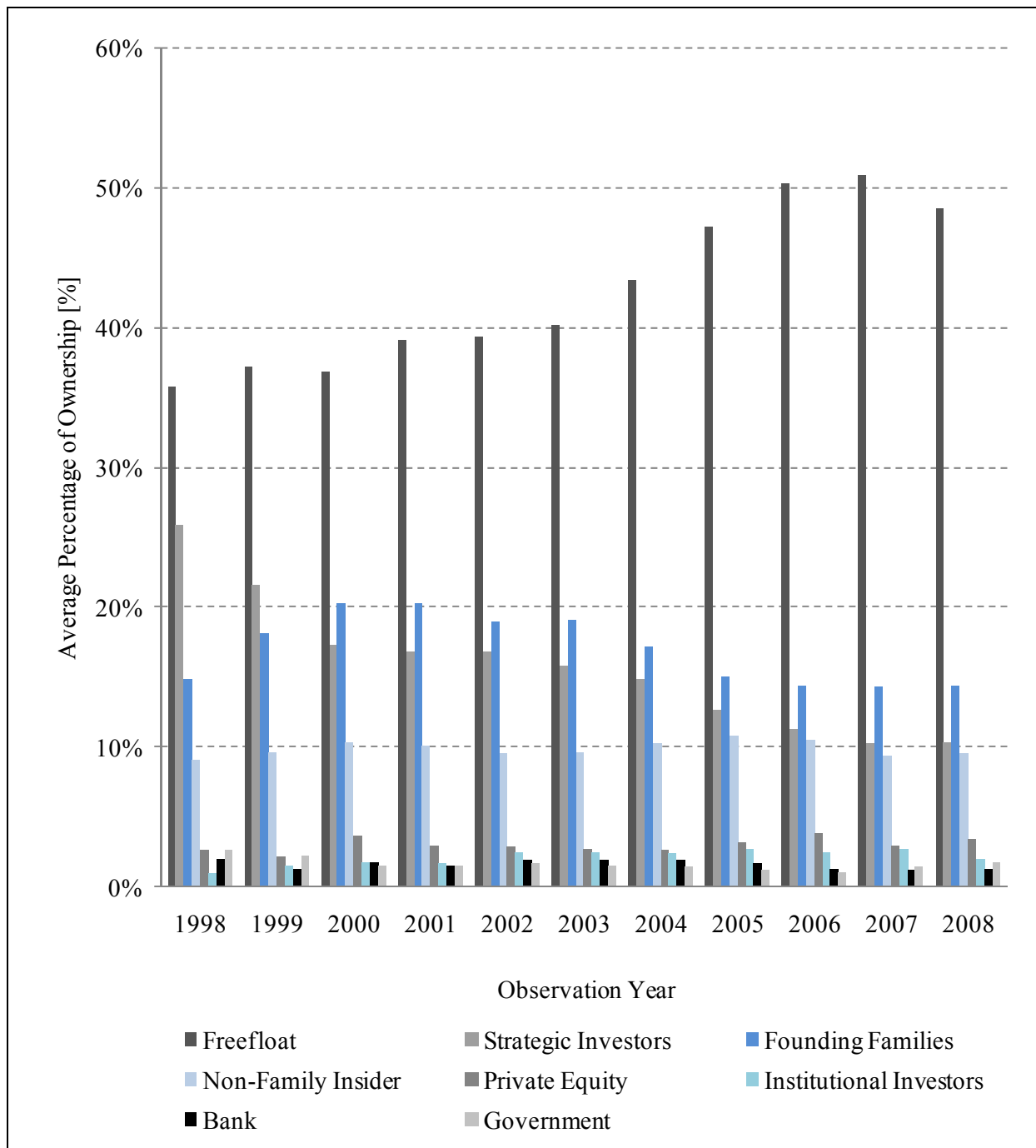


Figure 4: Ownership Structures in Germany (1998 – 2008)²³⁶

²³⁶ Source: Author's illustration and analysis, data is based on sub-sample 2, cf. chapter 5.2. *Freefloat* is percentage of widely held shares, *Strategic Investors* is percentage of shares held by non-financial firms, *Founding Family Ownership* is percentage of shares held by the founder and/or members of the founding family, *Non-Family Insider* is percentage of shares held by members of the management and/or supervisory board that do not form part of the founding family, *Private Equity* is shares held by venture capital or private equity investors, *Institutional Investors* include shareholdings by institutional investors such as pension funds and trusts, *Bank* is shares held by foreign and domestic banks, *Government* is shares held by governmental institutions.

Freefloat: Some very large German corporations do not fit into the pattern of concentrated ownership and control but are characterized by dispersed ownership. Nevertheless, the percentage of freefloat in German non-financial firms is rather low as compared to Anglo-Saxon countries. The average percentage of widely-held shares in German firms during the observation period ranges between 32% in 1998 and 44.5% in 2006.²³⁷

Strategic Investors: Strategic investors are non-financial firms, primarily industrial and holding companies that hold direct equity stakes in listed firms. Blocks held by strategic investors are commonly considered as one of the characteristic features of the German corporate governance system.²³⁸ However, the percentage held by strategic investors has decreased since the late 1990s. This development is largely presumed to result from the unbundling of cross-holdings across German firms, the so-called *Deutschland AG*.²³⁹ While strategic investors on average held more than 25% in German non-financial firms in 1998 the percentage of shares held by strategic investors dropped to an average of about 10% in 2008.²⁴⁰

Family and Insider Ownership: The shareholder group of private individuals and families can be divided into sub-groups, namely founding family ownership, insider ownership and shares held by private individuals who neither form part of the founding family nor hold a position in the management or supervisory board. Founding family ownership refers to shares held by the founder of the firm or private individuals that are related to the founder by either blood or marriage.²⁴¹ Insider ownership refers to shares held by the actual and former members of the management or supervisory board

²³⁷ Cf. Ampenberger (2010), p. 221 for similar results.

²³⁸ Cf. in this context e.g. Prigge (1998); Becht/Boehmer (2003); Faccio/Lang (2002).

²³⁹ The unbundling of the *Deutschland AG* is considered to be affected by the corporate tax reform in 2002. Cf. in this context e.g. Kengelbach/Roos (2006); Rapp et al. (2008).

²⁴⁰ Cf. for similar results Ampenberger (2010), p. 221-223. Similarly, Gorton/Schmid (2000a) and Emmons/Schmid (1998) suggest based on samples from the 1990s that holding and industrial companies hold an average of 21% in other German listed firm. It needs to be noted that the results on the average shares held in German corporations refer to all firms in the sample not only the firms in which strategic investors are invested. If only firms are considered in which strategic shareholders are invested the average percentage of ownership exceeds 50%.

²⁴¹ For a similar definition on founding family ownership, cf. Villalonga/Amit (2006), p. 389.

and/or their families.²⁴² There is a significant overlap between family and insider ownership. While the average percentage of family ownership in 2008 is 14.5% the average percentage of shares held by insiders is 24%, whereby non-family insiders only hold an average percentage of 9.5%. Family shareholders are presumed to have high private benefits of control. They may seek to raise capital via the IPO to finance projects of the firm or diversify some of their wealth outside the firm but at the same time try to maintain a controlling position in the firm.

Venture Capital and Private Equity Investors: The prevalence of venture capital and private equity activity in German listed firms is considered to have increased after the unbundling of the *Deutschland AG*. It also increased due to the high number of IPOs during the period of the ‘Neuer Markt’ in the late 1990s.²⁴³ Private equity and venture capital investors only hold a comparatively small percentage of ownership in German listed firms. The average percentage of shares held by venture capital or private equity investors amounts to an average of approximately three percent during the observation period.²⁴⁴

Banks and Institutional Investors: The German financial system is frequently described as a bank-based system.²⁴⁵ Creditor monitoring arising from long-term lending relationships between banks and the firm is frequently considered to be one the characteristics of the German corporate governance system.²⁴⁶ Banks frequently do not only act as creditors but are also directly invested in German firms. The ownership stake held by banks in German firms dropped from an average of 2% in 1998 to an average of

²⁴² The distinction between these sub-groups is illustrated in more detail in chapter 2.3.1.

²⁴³ Cf. Achleitner et al. (2010a), p. 807. Cf. Bessler/Kurth (2007) for a overview on venture-backed IPOs in Germany during the period of the ‘Neuer Markt’. For an overview on the economic effects of private equity investors on German corporations and the motives of private equity investors to invest in listed firms in Germany, cf. Achleitner et al. (2009a); Achleitner et al. (2010a); On the involvement of private equity investors in going private transactions across Europe, cf. Achleitner et al. (2010b).

²⁴⁴ Cf. Ampenberger (2010), p. 221 for similar results.

²⁴⁵ Cf. in this context e.g. Kaserer/Wenger (1998); Gorton/Schmid (2000b); Elsas/Krahen (2004). One of the characteristics of a bank-based as compared to a market-based system is that firms rather rely on private rather than public debt financing. However, recent developments in the bank sector indicate that the importance of public debt may increase for large German firms, cf. for a comprehensive overview Achleitner et al. (2011).

²⁴⁶ Cf. Goergen et al. (2008b), p. 175.

1.2% in 2008.²⁴⁷ However, the voting power of banks may be understated given the fact that banks may exercise proxy voting rights on behalf of their clients. Furthermore, bank members frequently exercise influence on corporate policies in German firms as members of the supervisory board.²⁴⁸

Institutional investors are considered to play a fundamental role as controlling shareholders in Anglo-Saxon corporations. They are frequently referred to as ‘active investors’ and presumed to mitigate free-rider problems in corporations.²⁴⁹ Although insurance companies are presumed to play a considerable role as shareholders in German firms,²⁵⁰ other institutional investors such as pension, funds or endowment funds are rarely invested in German firms. The percentage of ownership held by insurance companies and institutional investors is on average about 3% and steady during the observation period.

Public Authorities and Government: Public authorities and the government on average hold an ownership stake of 2.5% in German listed firms. In some firms, the privatization of state-owned companies took place via IPOs. German federal or state governments act as shareholder in several of these firms including Volkswagen AG, ENBW AG, Deutsche Telekom AG or Deutsche Post AG.²⁵¹

2.2.3 *Management and Supervisory Board*

Compared to unitary board systems, dual board systems separate more distinctly between the management and the supervision of a company. While executive and non-executive directors are on the same board in unitary board systems, management and supervision are incorporated in two separate boards in dual board systems.²⁵² Consistently, the German two-tier board system comprises the management board (*Vorstand*)

²⁴⁷ Cf. Ampenberger (2010), p. 221 for similar results.

²⁴⁸ For an overview on the role of banks in German corporations, cf. among others Baums (1992); Mülbart (1998); Kaserer/Wenger (1998); Prigge (1998); Edwards/Nibler (2000); Elsas/Krahnert (2004); Vitols (2005); Franks et al. (2006); Dittmann et al. (2010).

²⁴⁹ Cf. e.g. Smith (1996); Gillan/Starks (2000); Dahlquist/Robertsson (2001); Ajinkya et al. (2005).

²⁵⁰ Cf. Becht/Boehmer (2003); Vitols (2005).

²⁵¹ Cf. Moldenhauer (2007), p. 70 on the role of Federal, State and Municipal Government as particular type of shareholder.

²⁵² Cf. Mallin (2007), p. 122.

and the supervisory board (*Aufsichtsrat*).²⁵³ The dual board structure was put in place by company law in 1870 to protect shareholders and stakeholders.²⁵⁴

Legal regulation in the Stock Corporation Act (*Aktiengesetz, AktG*) sets the rights and duties of the two boards as well as their interdependencies.²⁵⁵ The *management board* is appointed by the supervisory board for a tenure of at most 5 years (§ 84 AktG), whereby reappointment is possible. In firms with more than three million Euros in capital stock the board consists of at least two persons (§ 76 AktG). Members of the management board are comparable to the executive directors in a one-tier board system.²⁵⁶ The members of the management board are jointly accountable for managing the enterprise (§ 76 AktG). Some management boards appoint a chairman equivalent to the chief executive officer (CEO) to coordinate the tasks among the different members of the management board.²⁵⁷ The management board sets out the firm's strategy in agreement with the supervisory board and is responsible for its implementation. Furthermore, it is responsible for the risk management and controlling systems put in place in the firm.²⁵⁸ Financial statements are prepared by the management board but examined by the auditor and the supervisory board (§§ 170-172 AktG). Furthermore, financial statements need to be approved by the general shareholder's meeting (§ 173 AktG).

The *supervisory board* can be considered as an integral part of the German corporate governance system. Members of the supervisory board are comparable to the non-

²⁵³ For a more comprehensive overview on the German board system cf. Roe (1998); Gerum/Wagner (1998); Hopt (1998); Hopt/Leyens (2004); Moldenhauer (2007), p. 48-51; Goergen et al. (2008b), p. 184.

²⁵⁴ Cf. Fohlin (2007), p. 260-261, for a detailed overview on the history of the German board system cf. Hopt (1998), Moldenhauer (2007), p. 28-42.

²⁵⁵ Rights and duties of the management board and the supervisory board are regulated in §§ 76-94 AktG and §§ 95-116 AktG respectively.

²⁵⁶ For a comparison between unitary and dual board systems, cf. Mallin (2007), p. 121-122.

²⁵⁷ The appointment of a "CEO" is recommended in the German corporate governance code (cf. Regierungskommission Deutscher Corporate Governance Kodex (2010), paragraph 4.2) but not mandatory.

²⁵⁸ Cf. on the tasks and responsibilities of the management board set out in the German corporate governance code, Regierungskommission Deutscher Corporate Governance Kodex (2010). A new task that entered the corporate governance code in 2010 is that the management shall take diversity into account when appointing executives in the firm. This includes an "appropriate consideration of women" (par. 4.1.5).

executive directors in a one-tier board system.²⁵⁹ The task of the supervisory board is to advise and monitor the management board of the firm (§ 111 AktG). It appoints and dismisses the members of the management board and needs to be involved in all important decisions concerning the firm.²⁶⁰ The chairman of the supervisory board (§ 107 AktG) is in charge of the distribution of duties among the members of the supervisory board, chairs committees that deal with contracts concerning the members of the management board and prepares the meetings of the supervisory board.²⁶¹ Further duties and responsibilities of the supervisory board concern the surveillance of financial reporting including the preparation of the annual report and the functioning of internal control systems (§§ 91, 111, 170, 171 AktG). The supervisory board proposes the auditor to the general shareholders' meeting (§ 124 III AktG)²⁶² and has the right to call in a general shareholder's meeting (§ 111 AktG).

The number of members in the supervisory board is regulated and needs to be divisible by three (§ 95 AktG).²⁶³ A German particularity is that the supervisory board not only comprises shareholder but also employee representatives (§ 96 AktG).²⁶⁴ Co-determination is considered to reflect the idea that managers are not only responsible to shareholders but also to other stakeholders.²⁶⁵ The proportion of shareholder and employees representatives in the supervisory board is set out in the Co-determination

²⁵⁹ Cf. Mallin (2007), p. 122.

²⁶⁰ Cf. paragraph 5.1 of the German corporate governance code, Regierungskommission Deutscher Corporate Governance Kodex (2010).

²⁶¹ Cf. Regierungskommission Deutscher Corporate Governance Kodex (2010), paragraph 5.2.

²⁶² Cf. on the collaboration between the supervisory board and the auditor, Prangenberg/Sollanek (2005).

²⁶³ The maximum number of members in the supervisory board is nine for firms with shareholders' equity up to 1.5 mio. €, 15 for firms with shareholders' equity exceeding 1.5 mio. € and 21 for firms with shareholders' equity greater than 10 mio. €. The minimum number of board members is three (§ 95 AktG).

²⁶⁴ On the particularities of co-determination in the German corporate governance system cf. e.g. Gerum/Wagner (1998); Roe (1998); Hopt/Leyens (2004), p. 144-146; Goergen et al. (2008b), p. 184.

²⁶⁵ Cf. Fohlin (2007), p. 264.

Act from 1976. Employee representatives are elected by the employees of the company and constitute up to half of all members in the supervisory board.²⁶⁶

2.2.4 General Shareholders' Meeting

Besides the supervisory board, shareholders' interests are represented by the general shareholders' meeting (*Hauptversammlung*).²⁶⁷ Each shareholder is entitled to attend the meeting and to bring forward proposals or questions. The general meeting needs to be held at least once per year within the first eight months of the fiscal year. Rights and duties of shareholders incorporated in the general shareholders' meeting are outlined in the German corporate governance code²⁶⁸ as well as in §§ 118-149 of the Stock Corporation Act (AktG).

Consolidated financial statements are submitted to the general shareholders' meeting by the management board. The general shareholders' meeting approves financial statements and decides on the appropriation of net income (§§ 119, 173 AktG). In this context, it also discharges the management and the supervisory board. Furthermore, the general meeting elects the shareholder representatives in the supervisory board and the auditors (§§ 101 AktG, 318 HGB). Furthermore, fundamental decisions such as acquisitions, the repurchase of own shares or capital increases followed by a seasoned equity offering need to be approved by the general shareholders' meeting (§ 119 AktG).

The percentages held by blockholders in German corporations are frequently strongly correlated with certain control thresholds.²⁶⁹ Most important control thresholds and the rights to influence corporate policies associated with these control thresholds are outlined in table 1. An important aspect is that large shareholders may even exercise greater voting power in the shareholders' general meeting than their actual voting power given that not all the shareholders attend the meeting or discharge their voting

²⁶⁶ Co-determination is contingent on the firm's legal form, number of employees, ownership structure and the industry of the firm, cf. Gerum/Wagner (1998); Roe (1998); Goergen et al. (2008b), p. 178 for an overview on co-determination in Germany.

²⁶⁷ Cf. for a more comprehensive overview on rights and duties of the general meeting Ruhwedel (2003), p. 16-17, 27; Blum (2005), p. 119-120; Moldenhauer (2007), p. 51-53 and references therein.

²⁶⁸ Cf. Regierungskommission Deutscher Corporate Governance Kodex (2010).

²⁶⁹ Cf. Becht/Boehmer (2003).

rights as proxy voting right to banks. Baums/Fraune (1995) find evidence that commonly only about 60% of voting power is present at the general shareholders' meeting.

Table 1: Control Thresholds in German Corporations²⁷⁰

Control Threshold	Control Rights
5% of voting power	<ul style="list-style-type: none"> • Right to call in an extraordinary general shareholders' meeting (§ 122 AktG)
10% of voting power	<ul style="list-style-type: none"> • Right to demand the discharge of board members (management and supervisory board) on the level of individual members (§ 120 AktG)
25% of voting power	<ul style="list-style-type: none"> • Blocking minority • Possibility to block important corporate decisions that require agreement by at least 75% of votes such as extraordinary dismissal of board members (supervisory board) (§ 103 AktG), changes in the corporation's statutes (§ 179 AktG), Increases or decreases in equity capital (§§ 182, 193, 222 AktG), mergers and acquisitions, liquidation (§ 262 AktG)
50% of voting power	<ul style="list-style-type: none"> • Simple majority/management control • Possibility to block all corporate decisions that require approval by the general shareholders' meeting except for decisions for which other control thresholds are required either through law or the corporation's statutes (§ 111 AktG)
75% of voting power	<ul style="list-style-type: none"> • Qualified majority • Comprehensive possibility to influence corporate decisions (see blocking minority)
95% of voting power	<ul style="list-style-type: none"> • Blockholders can induce the squeeze-out of minority shareholders (§§ 327a-327f AktG, 39a-c WpÜG)

²⁷⁰ Source: Author's illustration, partly based on Jenkinson/Ljungqvist (2001), p. 40.

2.2.5 Accounting Internationalization in Germany

2.2.5.1 Differences between German GAAP and IFRS

The German accounting system is commonly considered as prototype of the Continental European accounting model characterized by fundamental differences as compared to the Anglo-Saxon system.²⁷¹ Some of the main differences between the Continental European and the Anglo-Saxon accounting model are illustrated in table 2.

Table 2: Continental European and Anglo-Saxon Accounting Model²⁷²

	Continental European Model	Anglo-Saxon Model
<i>Legal System</i>	<ul style="list-style-type: none"> • Code/civil law 	<ul style="list-style-type: none"> • Common/case law
<i>Ownership and Financing Structures</i>	<ul style="list-style-type: none"> • Concentrated ownership structures • Insider-oriented system • Internal financing and bank financing; rather low prevalence of stock market financing 	<ul style="list-style-type: none"> • Dispersed ownership structures • Outsider-oriented system • High prevalence of stock market financing
<i>Purpose of Accounting Information</i>	<ul style="list-style-type: none"> • Creditor protection • Strong link between financial reporting and tax reporting 	<ul style="list-style-type: none"> • Information to shareholders: true and fair view of financial condition • Financial reporting and tax reporting are decoupled

Germany is traditionally regarded as primary example for a relationship-based or insider-oriented system. In a relationship-based system, firms heavily rely on sources of internal financing and hold close relationships with banks for financing purposes. Ownership structures are concentrated and corporate governance is in the hand of insiders which are presumed to have access to private information channels. In this light, there is relatively low demand for public disclosure since information asymmetries are considered to be primarily resolved via private information channels rather than public disclosure. However, this opacity is presumed to provide a barrier for outside investors.²⁷³

²⁷¹ Cf. Joos/Lang (1994), p. 142.

²⁷² Source: Author's illustration, partly based on Achleitner/Thommen (2009), p. 292.

²⁷³ Cf. Leuz/Wüstemann (2004), p. 453.

This stylized view²⁷⁴ of the German corporate governance system is reflected in German GAAP, the German Commercial Code (HGB). Primary objectives of this set of accounting standards are to preserve equity, protect creditors and facilitate the calculation of taxable accounting income and dividend payout.²⁷⁵ In a relationship-based corporate governance system the role of accounting information is primarily concerned with the alleviation of relationship-based financing by limiting outsiders' claims such as dividends or taxes to protect creditors and facilitate internal financing.²⁷⁶ The German accounting system can be regarded as a creditor- and stakeholder-oriented system and is characterized by a strong link between financial and tax reporting.²⁷⁷ It underlies a conservative approach concerning the recognition and measurement of assets and liabilities incorporated in the prudence principle and relies on easy-to-verify information.²⁷⁸ The conservative accounting approach and a considerable number of explicit accounting choices are presumed to facilitate the creation of hidden reserves.²⁷⁹

From an Anglo-Saxon perspective criticism regarding the German accounting system mainly concerns the low level of disclosure, the high number of explicit accounting choices, excessive conservatism in accounting numbers and the close link between financial and tax accounting. Accounting numbers are considered to be heavily affected by tax avoidance strategies and to include large amounts of hidden reserves. These effects are deemed to result in uninformative accounting numbers which may be inappropriate to meet the information demands of investors and financial analysts.²⁸⁰

Shareholders are commonly considered to be the main constituency of financial statements in Anglo-Saxon countries.²⁸¹ International Financial Reporting Standards

²⁷⁴ On the stylized view on the German corporate governance system cf. also chapter 2.2.1.

²⁷⁵ Cf. Harris et al. (1994), p. 190.

²⁷⁶ Cf. Leuz/Wüstemann (2004), p. 453.

²⁷⁷ Cf. Joos/Lang (1994), p. 142; Hung/Subramanyam (2007), p. 630.

²⁷⁸ Cf. Moxter (1982), p. 26-27.

²⁷⁹ Cf. Peemöller (2003), p. 177 on pros and cons of hidden reserves.

²⁸⁰ Cf. Leuz/Verrecchia (2000), p. 95.

²⁸¹ This thought may result from the paradigm that shareholders own the company and need to be protected because they provide risk capital to the firm. The belief that the shareholders own the company is deeply influenced by Milton Friedman's school of thoughts, cf. Friedman (1962), Friedman (1970); on the US debate of who owns the company and its implications for accounting standards, cf. Sayre (2009).

(IFRS) are a shareholder-oriented accounting system stemmed from common law regimes such as the USA or the UK characterized by a long tradition of stock market financing. In outsider-oriented regimes such as the USA or the UK information asymmetries are considered to be primarily resolved via public disclosure.²⁸² IFRS hardly contain explicit accounting choices but are characterized by a high level of implicit accounting choices.²⁸³ Discretion incorporated in implicit accounting choices may be used by managers as long as this contributes to a true and fair view into the firm's financial and economic position.²⁸⁴ Financial statements according to IFRS are complemented by a high level of disclosure included in the notes.

Evaluating IFRS from an investor perspective, Ball (2006) suggests that compared to the typified Continental European system, IFRS pursue the goal to reflect economic substance rather than legal form, incorporate economic gains and losses on a timelier basis, provide more informative financial statements and avoid discretion that facilitates the creation of hidden reserves that may be used to smooth earnings and mask economic losses.²⁸⁵ IFRS are considered to provide comprehensive and timely financial statements with the purpose to lower information asymmetries between the management and shareholders as well as between small and large shareholders.²⁸⁶ A uniform and comprehensive set of accounting standards may also reduce information processing costs for financial analysts and lower the competitive advantage of professional investors as compared to small investors.²⁸⁷ Increased market efficiency from lower information asymmetries and lower processing costs are considered to lead to a

²⁸² Cf. Ball et al. (2000), p. 3.

²⁸³ There are a row of accounting choices regarding the measurement of assets and liabilities but practically no accounting choices regarding the recognition of assets and liabilities. For an overview on accounting choices according to IFRS cf. Wagenhofer (2009), p. 566-573.

²⁸⁴ Cf. Joos/Lang (1994), p. 142.

²⁸⁵ Cf. Ball (2006), p. 9. Though these attributes of financial statements are in favour of IFRS it needs to be noted that Ball (2006) provides a critical discussion on the increasing use of fair values in IFRS that downplays the stewardship role of accounting information and may incorporate noisy information in earnings, cf. Ball (2006), p. 12-14. For a critical discussion on potential advantages of IFRS as compared to HGB, cf. Ballwieser (2009), p. 193-212.

²⁸⁶ Cf. Pae et al. (2008), p. 51-55.

²⁸⁷ Cf. Ball (2006), p. 11.

reduction in the firms' cost of capital.²⁸⁸ However, empirical evidence on IFRS adoption and the cost of capital is mixed.²⁸⁹

A central argument brought forward in favor to the convergence towards a single accounting system is the comparability of financial statements. Thereby, IFRS are presumed to lead to more transparent cross-country comparisons. Although the application of a uniform set of accounting standards may result in similar presentations of financial statements, it needs to be noted that this goal is unlikely to be completely achieved given that the interpretation, implementation and enforcement of IFRS differs across countries and firms.²⁹⁰

Analyses of reconciliations according to IFRS 1 provide insights regarding the amount and structure of differences between German GAAP and IFRS.²⁹¹ Hung/Subramanyam (2007) find that total assets, book value of equity and cross-sectional variation in net income are significantly higher under IFRS as compared to German GAAP. Evidence suggests that these differences primarily result from differences in the standards regarding deferred taxes (IAS 12), pensions (IAS 19), property, plant and equipment (IAS 16) as well as provisions (IAS 37). Beckman et al. (2007) suggest that reconciling items show a tendency of German firms to write off assets immediately and to accrue provisions in excess of those allowed under IFRS. Based on a sample of mandatory IFRS adopters,²⁹² Haller et al. (2009) find that IFRS adoption tends to result in a significant increase in the book value of equity and net income as compared to German GAAP. Partial analysis of the differences suggest that the effects are primarily due to differences in accounting standards on property, plant and equipment (IAS 16), pensions (IAS 19), provisions (IAS 37), construction contracts (IAS 11), intangible assets

²⁸⁸ This presumption is even indicated in Regulation (EC) No. 1606/2002 of the European Parliament and of the Council of July 19th 2002 on the application of international accounting standards, par. 4.

²⁸⁹ Cf. Leuz/Verrecchia (2000); Daske (2006); Daske et al. (2008). For an overview on studies on the effects of IFRS adoption in accounting research, cf. chapter 4.3.2.

²⁹⁰ Cf. Ball (2006); Holthausen (2009) for a comprehensive discussion of this issue. On arguments in favor to and against worldwide IFRS adoption cf. also Lehman (2005).

²⁹¹ Cf. e.g. Beckman et al. (2007); Hung/Subramanyam (2007); Haller et al. (2009). For a normative comparison of accounting standards according to HGB and IFRS cf. Hayn, Sven/Graf Waldersee (2008).

²⁹² Mandatory IFRS adopters are defined as firms that adopted IFRS from 1/1/2005.

(IAS 38) and goodwill (IFRS 3). Given that de facto differences between German GAAP and IFRS are found to be substantial in prior studies²⁹³ but that incentives of German firms are not ruled out by the adoption of a new set of standards, it appears to be a promising field of research how IFRS adoption affects earnings characteristics among German firms (chapter 6).

2.2.5.2 *Overview on Regulatory Reforms in Germany*

When financing needs of German firms increased as a result of the globalization of markets as well as the German reunification in 1990, the stock market gained importance as an additional source of capital.²⁹⁴ However, German firms faced difficulties in explaining results derived from German GAAP to foreign investors. The lack of acceptance of German GAAP accounts was considered as a disadvantage of German firms to raise capital.²⁹⁵ Capital market pressure is presumed to be the driving force of the harmonization of corporate governance structures and accounting standards in Germany and culminated in an ongoing row of regulatory initiatives and reforms from the second half of the 1990s.²⁹⁶ Table 3 provides an overview on important regulatory initiatives and reforms that became effective within the observation period.²⁹⁷ Reforms concerning the internationalization of accounting standards and enforcement as well as enhanced disclosure regulation are in the focus of this chapter.

²⁹³ Cf. the surveys in Haller et al. (2009), p. 227 and Haller et al. (2009), p. 269.

²⁹⁴ Using Bundesbank statistics Leuz/Wüstemann (2004) find that net capital flows were significantly negative subsequent to German reunification, cf. Leuz/Wüstemann (2004) p. 455.

²⁹⁵ Cf. for a detailed description of this issue Harris et al. (1994), p. 187-188; Leuz/Verrecchia (2000), p. 95; Bruns (2001).

²⁹⁶ Cf. Delvaille et al. (2005), p. 143. Harmonization of accounting and corporate governance across Europe started as early as the 1970s. However, regulatory initiatives and reforms were significantly enhanced in the late 1990s. For a description on early efforts of accounting harmonization, cf. Baker/Wallage (2000), p. 176-177.

²⁹⁷ The Accounting Law Modernization Act (BilMoG) only became effective from 2009 but is listed given its high influence on accounting regulation in Germany.

Table 3: Accounting and Corporate Governance Initiatives from 1998 – 2009²⁹⁸

Year	Regulation	Summary/Description
1998	3. FMFG	<ul style="list-style-type: none"> • 3rd Financial Market Promotion Act • Limits the issuance of non-voting shares to a maximum of 50% of total equity issued
1998	KapAEG	<ul style="list-style-type: none"> • Raising of Equity Relief Act • Liberating preparation of consolidated financial statements according to IFRS or US GAAP (dual reporting no longer required)
1998	KonTraG	<ul style="list-style-type: none"> • German Accounting Standards Board (GASB) put in place • Act on the Control and Transparency of Corporations • Enhanced liability of auditors and board members • Mandatory disclosure of cash flow statements and segment reporting for listed firms
2000	KapCoRiLiG	<ul style="list-style-type: none"> • Introduction of risk reporting as part of the Lagebericht • Limited Companies and Co-Regulation Act • Alignment of regulation for limited (e.g. GmbH, AG) and limited and co companies (e.g. GmbH & Co. KG)
2002	4. FMFG	<ul style="list-style-type: none"> • Stronger enforcement of disclosure regulation • 4th Financial Market Promotion Act • Changes in the supervision of securities trading, banks and insurance undertakings
2002	WpÜG	<ul style="list-style-type: none"> • Disclosure of Directors' Dealings • Acquisition and Takeover Act
2002	TransPuG	<ul style="list-style-type: none"> • Threshold for mandatory offers is set to 30% of voting rights • Transparency and Disclosure Act
2004	AnSVG	<ul style="list-style-type: none"> • Introduction of the German corporate governance code • Investor Protection Improvement Act
2004	APAG	<ul style="list-style-type: none"> • Changes in the regulation on insider-trading, market manipulation regulation, disclosure of ad hoc news • Auditor Oversight Law
2005	BilKoG	<ul style="list-style-type: none"> • Establishment of the APAK (Auditor Oversight Commission) • Accounting Enforcement Act • Two-stage enforcement procedure of financial reporting via the Financial Reporting Enforcement Panel (DPR) and the Federal Financial Supervisory Authority (BaFin)
2005	BilReG	<ul style="list-style-type: none"> • Accounting Law Reform Act • IAS-Regulation: Mandatory Introduction of IFRS
2005	VorstOG	<ul style="list-style-type: none"> • Regulation to enhance auditor independence • Management Compensation Disclosure Act • Disclosure of fixed and variable board compensation (management and supervisory board) for publicly-held firms
2005	KapMUG	<ul style="list-style-type: none"> • Capital Markets Model Case Act • Improve securities mass proceedings
2006	TUG	<ul style="list-style-type: none"> • Transparency Directive Ratification Act • Mandatory disclosure of shareholdings above 3%, 5%, 15%, 20%, 25%, 30%, 50%, 75%
2009	BilMoG	<ul style="list-style-type: none"> • Accounting Law Modernization Act

²⁹⁸ Source: Author's illustration, partly based on Moldenhauer (2007), p. 32, 34; Goergen et al. (2008b), p. 188-189.

Raising of Capital Relief Act (KapAEG)

Only few German firms applied IFRS or US GAAP before 1998.²⁹⁹ Since national accounting regulation was seemed to hinder German firms to participate in international capital markets and given that dual reporting is associated with high effort and cost, increased capital market pressure induced the German government to issue the Capital Raising Facilitating Act (*Kapitalaufnahmeerleichterungsgesetz, KapAEG*).³⁰⁰ It allowed listed firms in Germany to prepare consolidated financial statements under IFRS or US GAAP without being required to disclose additional consolidated financial statements under German GAAP.³⁰¹ As a consequence, companies that reported according to IFRS or US GAAP no longer faced the costs of dual or parallel reporting regarding the preparation of consolidated financial statements. This regulatory reform marked an important step towards the internationalization of accounting standards. A considerable number of German firms voluntarily adopted IFRS after the KapAEG and turned Germany into the country with the highest number of voluntary IFRS adopters in the European Union.³⁰² The adoption rate of IFRS and US GAAP from 1998 to 2008 is illustrated in figure 5.

Parallel to the regulation by the KapAEG a new set of IAS/IFRS standards was issued in 1998 by the IASC (International Accounting Standards Committee). This institution was renamed IASB (International Accounting Standards Board) in 2001. For the first time in the history of IAS/IFRS³⁰³, firms that claimed to prepare financial statements according to IFRS had to fully comply with the standards. Prior to 1998 only partial compliance was required which led to much leeway for non-compliance and to a con-

²⁹⁹ Based on the information provided by the Worldscope database, only 9 German firms (thereof 7 non-financial firms) listed in the CDAX adopted IFRS prior to 1998.

³⁰⁰ Cf. Delvaille et al. (2005), p. 143.

³⁰¹ Six other EC-countries introduced similar legislation on the adoption of IFRS or US-GAAP (Austria, Belgium, Finland, France, Italy, and Luxemburg). Non-EU countries such as Switzerland or China also allowed firms to adopt IFRS instead of national accounting standards. This led to a significant percentage of early voluntary IFRS adopters in these countries, cf. e.g. Van Tendeloo/Vanstraelen (2005), p. 157; Gassen/Sellhorn (2006), p. 366.

³⁰² Cf. e.g. Barth et al. (2008), p. 487. Motivations for voluntary IFRS adoption in Germany are discussed in chapter 4.3.1.

³⁰³ In the following, the expression 'IFRS' is used to refer to both sets of standards, IAS and IFRS as the set of accounting standards issued by the International Accounting Standards Board (IASB).

siderable number of opportunities to manage earnings which diminished the acceptance of IFRS in earlier years.³⁰⁴

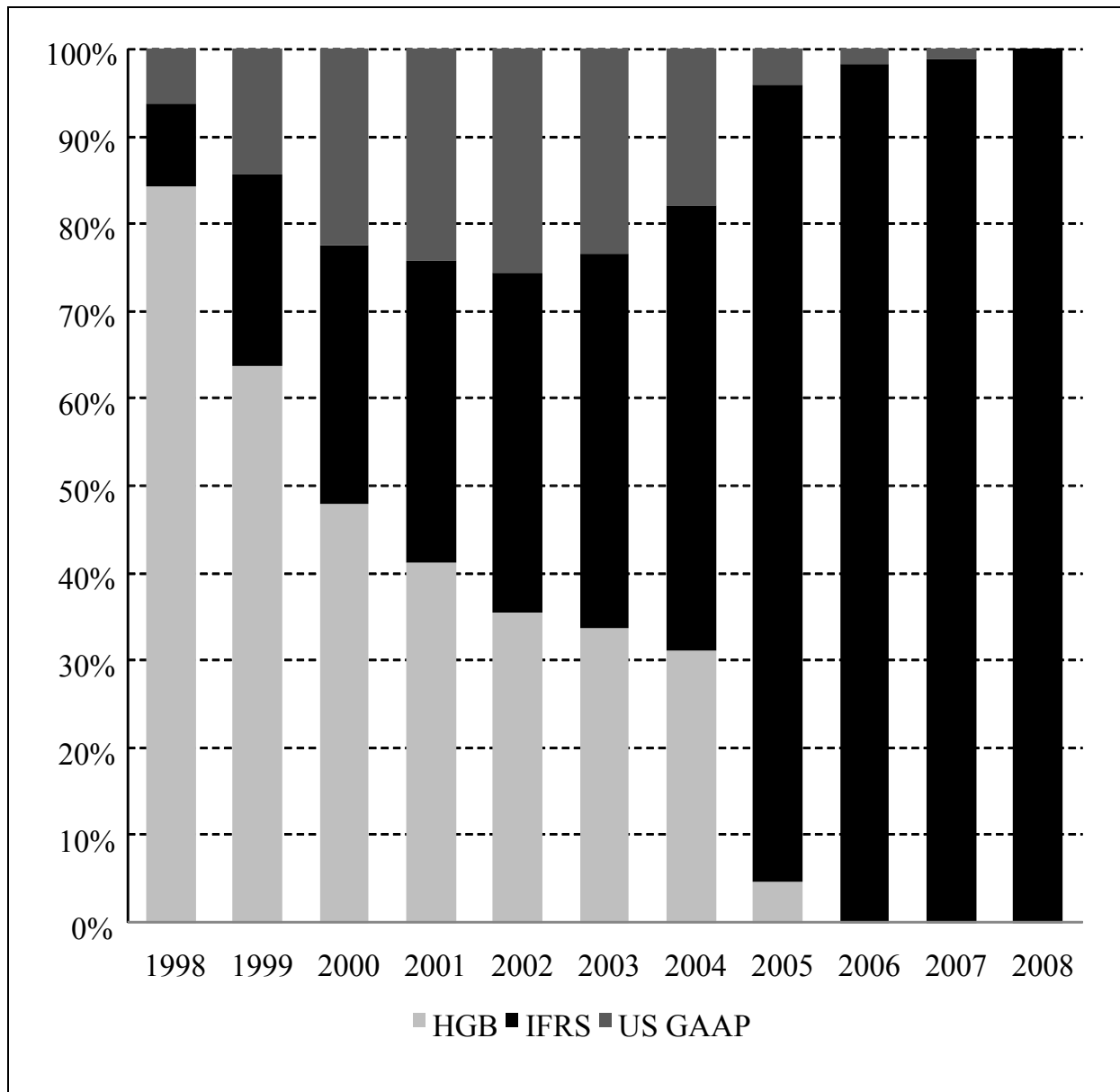


Figure 5: Accounting Standards Followed by German Firms (1998 – 2008)³⁰⁵

As a liaison standard setter to the IASB, the German Accounting Standards Board (GASB) was put in place to represent Germany vis-à-vis the IASB and exercise influence on the future development of IFRS. Further tasks of the GASB include the development of German standards regarding the preparation of consolidated financial

³⁰⁴ Cf. Aussenegg et al. (2008), p. 7-8.

³⁰⁵ Source: Author's illustration (own analysis based on data from chapters 7 and 8).

statements and to advise the Ministry of Justice regarding future accounting reforms (§ 342 HGB).³⁰⁶

Third Act on the Promotion of Financial Markets (3. FMFG) and Act on the Control and Transparency of Corporations (KontraG)

The year 1998 was marked by two other influential reforms besides the KapAEG, namely the Act on the Control and Transparency of Corporations (*Gesetz zur Kontrolle und Transparenz im Unternehmensbereich, KontraG*) and the Third Act on the Promotion of Financial Markets (*3. Finanzmarktförderungsgesetz, 3. FMFG*). Both laws contain several innovations regarding accounting and corporate governance regulation. To reduce dispersion of cash flow and voting rights among German firms, the FMFG restricted the issuance of preference shares to 50% of the total equity capital issued with a transition period for existing shares until 2003.³⁰⁷ The KontraG intended to strengthen the role of the supervisory board in monitoring the management and enhanced the accountability of board members and auditors. Furthermore, it regulates risk management systems in German firms and requires them to report on risks and risk structures in the risk report included in the Lagebericht. Furthermore, listed firms in Germany were required to provide cash flow statements and segment reporting in their consolidated financial statements for fiscal years beginning after 12/31/1998. Before 1999 cash flow statements and segment reporting were subject to voluntary disclosure.³⁰⁸

Accounting Enforcement Act (BilKoG) and Auditor Oversight Reform (APAG)

The opportunities to influence reported earnings do not only depend on the flexibility of accounting standards but also on the degree to which standards are enforced. On December 15, 2004 the accounting enforcement act (*Bilanzrechtskontrollgesetz, BilKoG*) introduced a two-tier regime to enforce compliance with accounting standards in Germany. It examines whether financial statements by capital market oriented firms have been readily prepared and if they comply with legal requirements. An enforcement institution set up under private law, the Financial Reporting Enforcement Panel

³⁰⁶ Cf. Delvaille et al. (2005), p. 145.

³⁰⁷ Cf. Goergen et al. (2008b), p. 188.

³⁰⁸ On the disclosure of cash flow statements in Germany before the KontraG, cf. Leuz (1999).

(FREP)³⁰⁹ (§ 342b-342e HGB), constitutes the first tier together with the German Ministry of Finance (the Panel). However, the FREP does not have the power to sanction non-compliance. This is where the second tier represented by the Federal Financial Supervisory Authority (BaFin) (§§ 37n-37s WpHG) sets in. When the Panel yields an opinion that an error has occurred, the BaFin becomes in charge when the Panel's opinion differs from the company's opinion or when the firm is not willing to cooperate.³¹⁰

Enforcement of accounting standards in Germany was also enhanced by the Auditor Oversight Law (*APAG, Abschlussprüferaufsichtsgesetz*) that put in place the Auditor Oversight Commission (*AOC* or *APAK, Abschlussprüferaufsichtskommission*) from January 1, 2005. This regulatory body is responsible for the public oversight of the Chamber of Public Accountants (*WPK, Wirtschaftsprüferkammer*) and forms the German counterpart to the Public Company Accounting Oversight Board (*PCAOB*). The *WPK* constitutes a corporation under public law and all public accountants are mandatory members. The *APAK* is monitored by the Federal Ministry of Economics and constitutes of six to ten members appointed by the Ministry. Members of the *APAK* must not have been members of the *WPK* for at least five years. The responsibilities of the *WPK* are outlined in § 57 of the *Wirtschaftsprüferordnung (WPO)*. It is in charge of assuring the quality of statutory audits in Germany. From 2001, this quality assurance is partly provided by peer review methodology.³¹¹ The German enforcement system after the regulatory changes by the *BilKoG* and the *APAG* is illustrated in figure 6.

³⁰⁹ In German “Deutsche Prüfstelle für Rechnungslegung” (DPR). For a description of the enforcement process cf. http://www.frep.info/index_en.php (last accessed 03/31/2011).

³¹⁰ Cf. http://www.frep.info/docs/pruefverfahren/091023_Examination%20Process.pdf (last accessed 02/17/2011).

³¹¹ Cf. § 57a WPO for details.

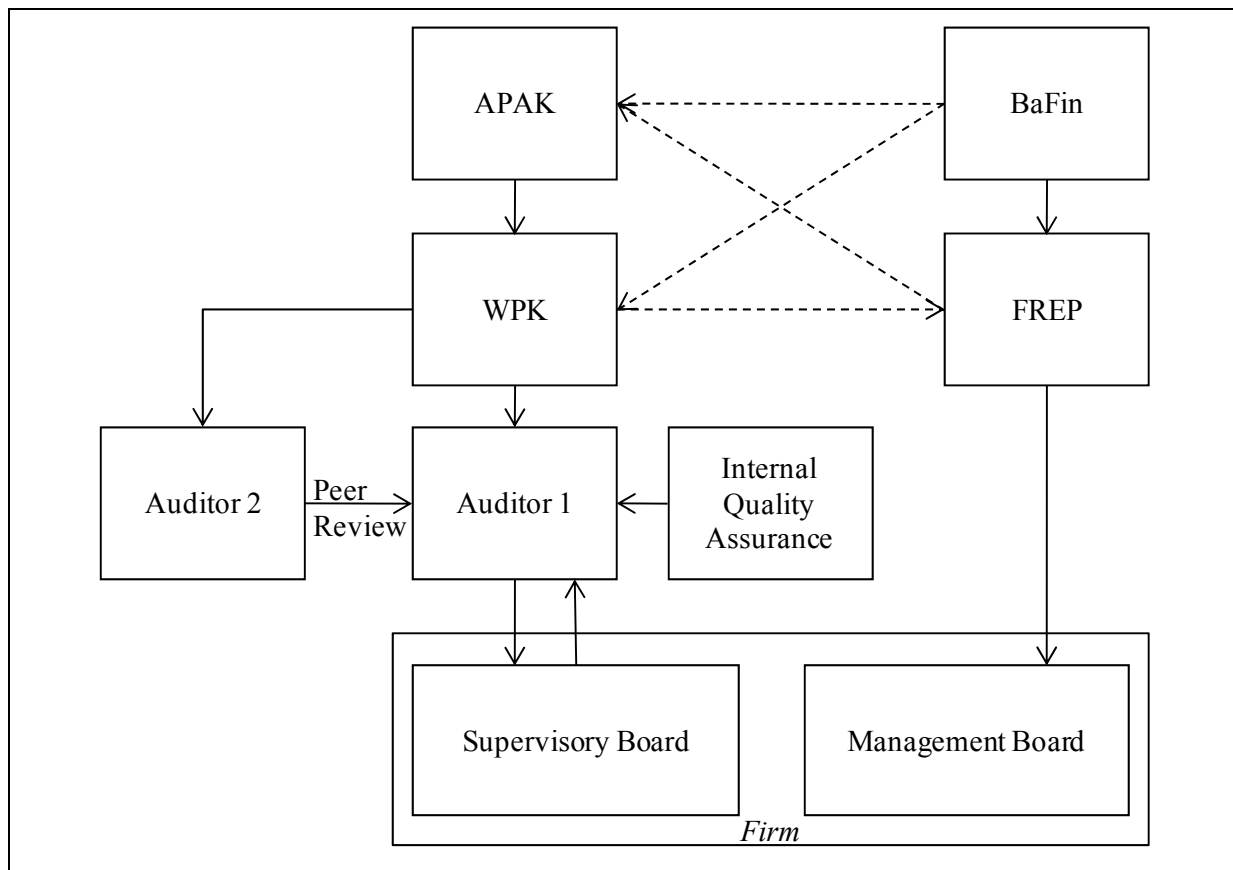


Figure 6: German Accounting Enforcement System³¹²

³¹² Source: Author's illustration based on Ernstberger et al. (2009), p. 40. Solid arrows signify "supervises and controls" whereas dashed arrows denote "exchange information". For an alternative illustration of auditor oversight in Germany cf. <http://www.apak-aoc.de> (last accessed 03/10/2011).

Accounting Law Reform Act (BilReG)

The preparation of consolidated financial statements according to IFRS became mandatory for listed firms in Germany as a consequence to EC regulation 1606/2002.³¹³ Capital market oriented companies in the European Union are obliged to release their consolidated financial statements under International Financial Reporting Standards (IFRS)³¹⁴ for fiscal years starting from January 1st 2005 onwards.³¹⁵

This regulation by the European Commission can be regarded as one of the milestones that turned IFRS into the most widely accepted set of accounting standards in the world.³¹⁶ While the European Commission made IFRS mandatory for consolidated financial statements of capital market oriented firms, it left it up to its member states whether to allow voluntary preparation of consolidated financial statements by non-capital market oriented firms and to prepare individual financial statements according to IFRS for disclosure purposes. Germany made use of this option and implemented EC regulation in the Accounting Law Reform Act (*Bilanzrechtsreformgesetz, BilReG*).

The BilReG also aimed to increase auditor independence and prohibits services and actions by auditors that could result in a lack of objectivity. Lack of objectivity is presumed if auditors form part of the supervisory board, have financial interests in the firm, get actively engaged in the book-keeping or internal revision of the audited firm, provide tax advisory or render consulting, financial or other related services.³¹⁷

³¹³ Cf. Regulation (EC) No 1606/2002 of the European Parliament and of the Council of July 19th 2002 on the application of international accounting standards, Official Journal of the European Communities, L 243/1.

³¹⁴ International accounting standards (IAS) were renamed International Financial Reporting Standards (IFRS) in 2001. IFRS refers to the set of standards issued by the International Accounting Standards Board (IASB). IAS were renamed IFRS in 2001.

³¹⁵ German companies that are publicly traded both in the European Union and on a regulated third-country market and therefore apply another internationally accepted accounting standard (i.e. US GAAP) in their consolidated accounts were allowed to defer the application of IFRS until fiscal years starting from January 1st 2007 onwards.

³¹⁶ On the use of IFRS across jurisdictions, cf. <http://www.iasplus.com/country/useias.htm> (last accessed 03/31/2011).

³¹⁷ Cf. Haller/Eierle (2004) for a detailed description of this reform.

Securities Trading Act (WpHG), Fourth Act on the Promotion of Financial Markets (4. FMFG), Transparency and Disclosure Act (TransPuG) and Transparency Directive Ratification Act (TUG)

Disclosure regulation on ownership stakes increased due to the introduction of the Securities Trading Act (*Wertpapierhandelsgesetz, WpHG*) in 1995.³¹⁸ This regulation enhanced the availability and accuracy of data on the distribution of ownership structures in Germany. Shareholders need to report their amount of shares to the BaFin and the firm (§ 21 WpHG) when they exceed a certain percentage of voting rights or fall below a certain threshold. From 1998 to 2006 these thresholds were equal to 5%, 10%, 15%, 20%, 25%, 50% and 75%. They were lowered as a consequence to the TUG (Transparency Directive Ratification Act) in 2007 and currently correspond to 3%, 5%, 10%, 15%, 20%, 25%, 30%, 50% and 75%. Members of the management and the supervisory board as well as their families are subject to particular regulation and need to report all trades in their firm's shares to the firm as well as to the public (*Directors' Dealings*, § 15 WpHG).³¹⁹ The disclosure of corporate governance practices was significantly enhanced due to the Transparency and Disclosure Act (TransPuG) in 2002. This regulation introduced the so-called German corporate governance code into the Stock Corporation Act (§ 161 AktG). The purpose of the German corporate governance code is to enhance transparency of the German corporate governance system. Full compliance with the code is not mandatory since it follows a "comply-or-explain"-rule following the example of the Cadbury report published in the UK in 1992.³²⁰ Since its introduction in 2002 the German corporate governance code is revised by the Commission of the German corporate governance code on a regular basis.³²¹

Accounting Law Modernization Act: The Accounting Law Modernization Act (*Bilanzrechtsmodernisierungsgesetz, BilMoG*) became effective from May, 29, 2009

³¹⁸ Before the WpHG became effective, firms only had to disclose ownership stakes exceeding 25% or 50%.

³¹⁹ The regulation on directors' dealings results from the 4th FMFG (4th Financial Market Promotion Act) in 2002 and the TUG in 2007.

³²⁰ On the German corporate governance code cf. Pfitzer et al. (2005); Werder et al. (2005); Bassen et al. (2006); Taulicar/Werder (2008); Deubel et al. (2010); Werder/Taulicar (2010) among others.

³²¹ Cf. Regierungskommission Deutscher Corporate Governance Kodex (2010).

(BGBI. I, p. 1102)³²² and is regarded as most comprehensive accounting reform since the Accounting Directives Act (*Bilanzrichtliniengesetz*) in 1988.³²³ Its purpose is to provide a “comparable and cost efficient but less costly alternative to International Financial Reporting Standards (IFRS)”.³²⁴ Under this law, several explicit accounting choices were eliminated from German GAAP, particularly with regard to the preparation of consolidated financial statements, disclosure was enhanced and fair value accounting was introduced for financial instruments held for trading.³²⁵ Therefore, the Accounting Law Modernization Act lowered differences between German GAAP and IFRS concerning individual financial statements and marks a further step towards a more Anglo-Saxon oriented accounting system in Germany.

³²² Accounting standards according to BilMoG need to be applied by German firms for financial statements with fiscal year end after 12/31/2009 and may optionally be applied for financial statements with fiscal year’s end after 12/31/2008.

³²³ Cf. e.g. Fockenbrock/Sigm (2009).

³²⁴ Gesetzesentwurf der Bundesregierung, Entwurf eines Gesetzes zur Modernisierung des Bilanzrechts (Bilanzrechtsmodernisierungsgesetz – BilMoG), 07/30/2008, p. 1, available under: <http://dip21.bundestag.de/dip21/btd/16/100/1610067.pdf> (last accessed 03/31/2011).

³²⁵ Cf. Hayn/Graf Waldersee (2008); Küting et al. (2009); Petersen/Zwirner (2009) among other for a comprehensive overview on the revision of accounting standards as a consequence to the BilMoG and remaining differences between HGB and IFRS,.

2.3 Accounting in Family Firms

2.3.1 Overview on Family Firm Definitions

In Western Europe, as in most other countries around the world as well, family firms are the most prevalent type of firm,³²⁶ not only among privately held but also among listed firms. In Germany, family firms constitute about half of all companies listed in the German regulated stock market.³²⁷ Listed family firms can be regarded as a specific firm type ranging somewhere between privately held family firms and widely-held listed firms. They possess own distinct governance characteristics.³²⁸ Families are a particular type of shareholder in listed firms because they commonly hold large undiversified equity positions and frequently also act as board members.³²⁹ In contrast to privately held firms, listed family firms need to find a trade-off between the interests of family shareholders and the interests of other shareholder groups including minority shareholders. Thereby, incentive structures between family and minority shareholders differ primarily with regard to their investment horizon and risk attitude.³³⁰

Notwithstanding the importance of this particular firm type and its evident unique features, research on accounting in family firms has met scant attention to date or as summarized by Salvato/Moores (2010) “the matching of *accounting* and *family firms* does not have a familiar ring in either field.”³³¹ This chapter elaborates some of the distinct features of listed family firms that make this firm type particularly interesting from an accounting research perspective.

The editors’ notes of the *Family Business Review*’s first issue addressed the challenging question “what is a family business?”³³² Although most people have an idea about

³²⁶ Cf. e.g. Faccio/Lang (2002), Burkart et al. (2003). Shleifer/Vishny (1986) finds evidence that founding families even hold equity stakes and/or board positions in about one third of the Fortune 500 firms. The prevalence of family firms in the USA is also supported in Shanker/Astrachan (1996).

³²⁷ Cf. Achleitner et al. (2009b), p. 38.

³²⁸ Cf. Combs (2008), p. 1028-1029.

³²⁹ Cf. Anderson/Reeb (2003), p. 264.

³³⁰ Cf. Achleitner et al. (2011), p. 81.

³³¹ Salvato/Moores (2010), p. 194, emphasis added.

³³² Lansberg et al. (1988), p. 1. Similarly, Handler (1989), p. 258 names the definition of family firms as primary methodological issue in family business research.

what is meant when speaking of family firms, the challenge is to articulate a precise definition.³³³ This difficulty arises because family firms are a heterogeneous group.³³⁴

Family firms – as expressed by the term – are marked by the influence of a family on the firm. This influence can be exercised through different governance mechanisms such as ownership, management and supervisory board membership.³³⁵ The family's influence is in different ways contingent on the positions held by the family in the firm and the family's attitude and values regarding the business. Based on these factors there are by and large four dominant concepts to define family firms in extant literature two for listed and two for privately held family firms. While studies on listed family firms mainly rely on the *founding family* or the *ultimate owner* definition, studies on privately held family firms commonly focus on the *components-of-involvement* or the *essence approach*.³³⁶ These definition concepts are illustrated in figure 7.

³³³ The academic literature has not found a satisfactory uniform definition for the term „family firm“ up to date. Although some main definition concepts may be identified, there are many variations of the respective definition concept. For example, Habbershon/Williams (1999) identify 44 different definitions of family firms in their survey on studies between 1998 and 1999. Miller et al. (2007), p. 832-835 provide an overview on 28 different definitions used in the literature up to date. Further discussions on family firm definitions include e.g. Handler (1989); Astrachan et al. (2002); Klein et al. (2005).

³³⁴ Cf. Klein (2004), p 4.

³³⁵ In the following, the rationale in this chapter builds on the two-tier board system in Germany comprising the management and the supervisory board.

³³⁶ Cf. Achleitner et al. (2011), p. 18-22; Chrisman et al. (2005), p. 556-557. Cf. Klöckner (2009), p. 14-16 for an overview on the use of the components-of-involvement and the essence approach in studies on privately held family firms.

Listed Family Firms		Privately held Family Firms	
Founding Family The founder or a member of the founding family by either blood or marriage act as shareholders and/or hold positions in the management or in the supervisory board	Ultimate Owner A family or private individual acts as blockholder; Shares may be held either directly or indirectly	Components of Involvement Expressed in the index Substantial Family Influence (SFI) defined as the sum out of the percentage of <ul style="list-style-type: none"> • family ownership • family members in the management board • family members in the supervisory board, with family ownership $\neq 0$ 	Essence Family specific behavior such as the aim to transfer the business to the next generation is the most important characteristic when classifying firms as family firms

Figure 7: Overview on Family Firm Definitions³³⁷

According to the *founding family definition*, family firms are defined as firms in which the founder or a member of his/her family by either blood or marriage serve as directors in the management and/or supervisory board or act as blockholders, either individually or as a group.³³⁸ This definition is very general and encompasses various sub-groups of family firms ranging from firms in which the family holds a large stake in the firm and is involved in the management and supervisory board to those in which the founding family no longer holds a stake in the firm but is still involved in one of the boards.

The *ultimate owner definition* refers solely to the ownership component.³³⁹ According to this definition firms are classified as family firms if a family or private individual directly or indirectly acts as blockholder in the firm. Studies that apply the ultimate

³³⁷ Source: Author's illustration based on Achleitner et al. (2011), p. 19.

³³⁸ Cf. Villalonga/Amit (2006), p. 389. This definition is used for example in Anderson/Reeb (2003); Anderson et al. (2003); Villalonga/Amit (2006); Villalonga/Amit (2009); Sraer/Thesmar (2007), Andres (2008); Schmid et al. (2008); Achleitner et al. (2009b); Ampenberger et al. (2009); Villalonga/Amit (2009); Ampenberger (2010); Schmid et al. (2010).

³³⁹ Cf. on this definition e.g. La Porta et al. (1999); Faccio/Lang (2002); Claessens et al. (2000); Claessens et al. (2002); Achleitner et al. (2009b); Franks et al. (2009).

owner definition commonly capture the entire complexity of ownership structure including pyramids and cross-holdings as well as the existence of dual class shares.³⁴⁰ This implies that the ultimate owner definition does not take board structures into account and comprises block ownership by different types of private individuals. Thereby, the ultimate owner definition generally does not differentiate between founding family ownership, non-family insider ownership or shares held by private individuals that are neither part of the founding family nor related to the management or supervisory board. While founding family ownership refers to the founder(s) of the firm and private individuals related to the founder(s) by either blood or marriage, insider ownership refers to shares held by current and former members of the management and/or supervisory board and their families. Given that the founding family frequently holds positions in the management and/or supervisory board, insider ownership and founding family ownership tend to be highly correlated. For example, according to a study by Achleitner et al. (2009b) the family is involved in one of the boards in more than 80% of listed family firms in Germany.³⁴¹ The differences between founding family ownership, insider ownership and shares held by private individuals as elements of the ultimate ownership definition are illustrated in figure 8.

³⁴⁰ On methodological deliberations regarding the application of the ultimate owner definition concept, cf. Edwards/Weichenrieder (2009).

³⁴¹ Cf. Achleitner et al. (2009b), p. 41.

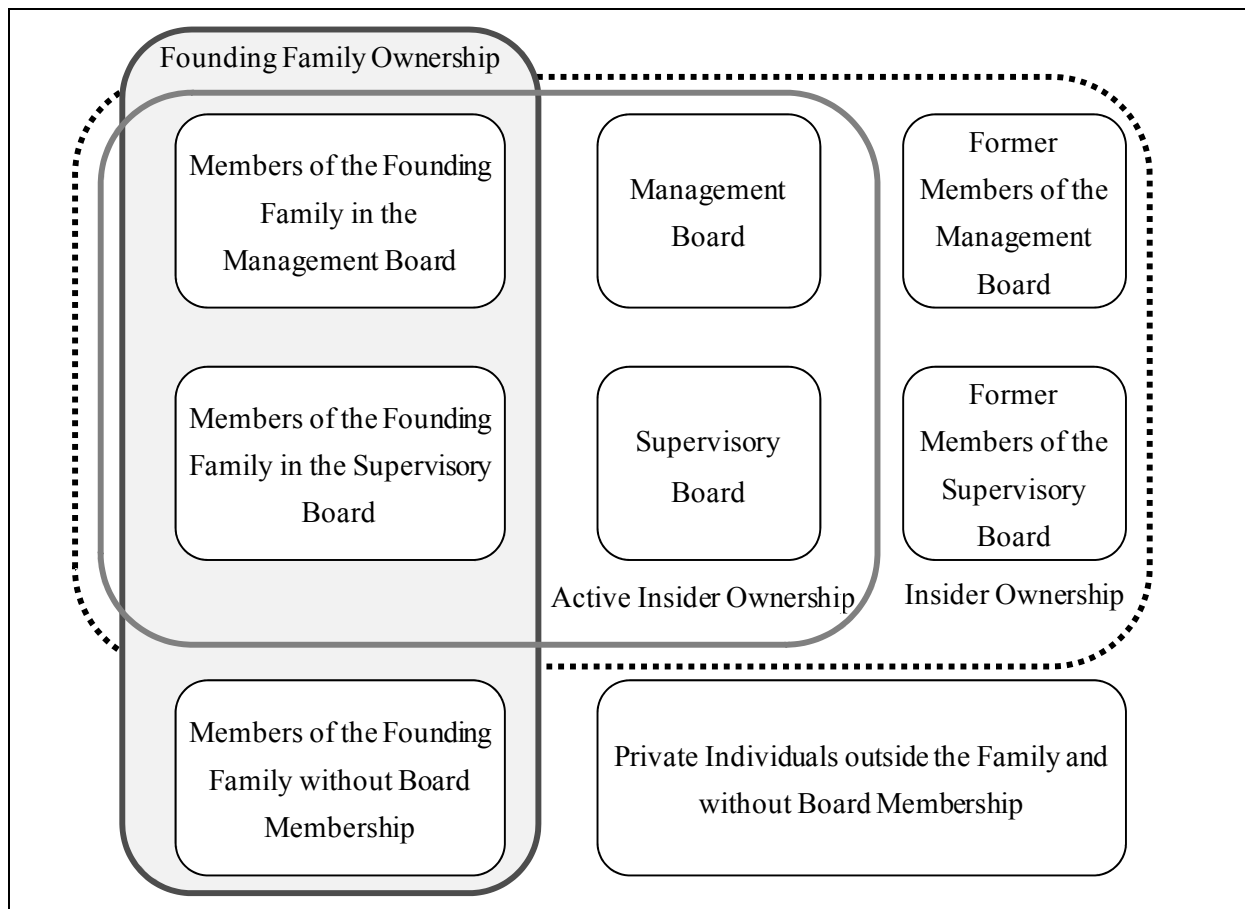


Figure 8: Comparison between Family and Insider Ownership³⁴²

The level of ownership required by international studies applying the *founding family* or the *ultimate owner definition* varies significantly. While in corporate governance systems characterized by less concentrated ownership structures such as the USA, studies commonly consider an ownership percentage of 5% to 10%,³⁴³ studies focusing on corporate governance systems with rather concentrated ownership structures, consider higher levels of ownership thresholds, e.g. 25% for Germany, 20% for France, and even 50% for Italy.³⁴⁴

³⁴² Source: Author's illustration based on Ampenberger (2010), p. 224; Schmid (2010), p. 19.

³⁴³ Cf. e.g. La Porta et al. (1999); Faccio/Lang (2002); Anderson et al. (2003); Anderson/Reeb (2003); Villalonga/Amit (2006).

³⁴⁴ Cf. e.g. Andres (2008); Schmid et al. (2008); Ampenberger et al. (2009); Schmid et al. (2010) for Germany; Sraer/Thesmar (2007) for France; Volpin (2002); Prencipe et al. (2008); Cascino et al. (2010) for Italy.

While earlier studies and cross-country studies primarily focus on the ultimate owner definition,³⁴⁵ founding family ownership is the dominant definition concept in more recent single country studies.³⁴⁶ Founding family ownership is considered to have its own distinct characteristics when compared to insider ownership and shares held by private individuals. Family shareholders constitute long-term investors that hold weakly diversified portfolios and have particular emotional ties in the business.³⁴⁷ While insider ownership, particularly in US firms, is to a high degree driven by executive compensation, family ownership in Germany frequently corresponds to insider ownership and arises from succession.³⁴⁸ Family owners commonly have the incentive to pass on the business to their descendants. Other than individual shareholders, family members frequently hold positions in the senior management of the firm. The family's position in the firm, its long-term orientation, risk aversion and the goal to maintain independence from outside capital providers are likely to affect family business behavior.

Similar to the founding family definition, the *components-of-involvement* approach builds on the three governance mechanisms ownership, management and involvement in the supervisory board.³⁴⁹ However, this approach does not necessarily require that family involvement is equal to founding family involvement.

Given that family involvement differs across firms, a dichotomous differentiation between family and non-family firms is inappropriate to develop a profound understanding regarding family firm behavior. The so-called substantial family influence (*SFI*) index seeks to mitigate this issue and comprises the dimensions addressed in the components-of-involvement approach, ownership and the presence of the family in the management and/or supervisory board as a continuous measure.³⁵⁰ The SFI corresponds to the sum of the percentage of ownership held by family members as well as the percentage of positions held by family members in the management and/or super-

³⁴⁵ Cf. e.g. La Porta et al. (1999); Faccio/Lang (2002); Franks et al. (2009).

³⁴⁶ Cf. e.g. Anderson/Reeb (2003); Anderson et al. (2003); Villalonga/Amit (2006); Schmid et al. (2008); Ampenberger et al. (2009); Villalonga/Amit (2009); Schmid et al. (2010).

³⁴⁷ Cf. Anderson/Reeb (2003), p. 1104.

³⁴⁸ Cf. Kaserer/Moldenhauer (2008), p. 5.

³⁴⁹ Cf. Shanker/Astrachan (1996); Astrachan et al. (2002).

³⁵⁰ Cf. Astrachan et al. (2002).

visory board³⁵¹. In contrast to the founding family definition, the SFI always requires that the family holds an ownership stake in the firm and takes a value of zero otherwise. Although the SFI is a continuous variable, it also allows for a dichotomous distinction between family and non-family firms based on a certain threshold. For privately held firms this threshold commonly corresponds to a value of 1, adequate to 100% family influence.³⁵² Although the SFI is a concept that was originally developed for privately held family firms it can also be transferred to listed family firms.³⁵³ Given that ownership structures are less concentrated for listed as compared to privately held firms, it is useful to consider a lower threshold (e.g. 0.5) when a dichotomous distinction between family and non-family firms is required.

Even though the SFI captures a certain degree of heterogeneity across family firms, critics of the *components-of-involvement* approach argue that the presence of the family in the governance mechanisms of the firm needs to be regarded as a necessary but not a sufficient condition to classify a firm as a family firm because family-specific behavior is the essence of family firms. Accordingly, studies that define family firms according to family specific behavior are attributed to the so-called *essence approach*.³⁵⁴

In an attempt to consider both definition approaches and to capture heterogeneity across family firms in more detail, Astrachan et al. (2002) developed the F-PEC scale (Family Power, Experience and Culture). While the power component corresponds to the SFI, the experience component is expressed by the family business generation and the number of family members in the firm. The culture component reflects family

³⁵¹ In the following, supervisory board is used as a synonym for the control committee of the firm because supervisory boards are not foreseen under each legal system and legal form besides the German limited company (Kapitalgesellschaft).

³⁵² Cf. Klein (2000), p. 158-159.

³⁵³ Achleitner et al. (2009b) refer to this approach as SFI_{mod} . The concept corresponds to the SFI but only takes founding family ownership into consideration. Cf. Achleitner et al. (2009b), S. 24-27.

³⁵⁴ Cf. for a discussion Chua et al. (1999); Habbershon et al. (2003); Chrisman et al. (2005).

business behavior³⁵⁵ such as the wish to transfer the business to the next generation and hence reflects the essence approach.³⁵⁶

The application of different family firm definitions hinders the comparability of family firm research. However, the four definition concepts introduced in this chapter are not necessarily conflicting and different variations of these definitions may be found across the family business literature.³⁵⁷

2.3.2 *Family Firm Definition Applied in this Study*

The impact of the applied family firm definition on the results in empirical studies is highlighted in Miller et al. (2007) and Villalonga/Amit (2006) among others. In the light of the large variety of family firm definitions in the literature the definition applied in this thesis should assure comparability to previous studies and account for particularities of the German corporate governance system as well as the fact that the analyses focus on listed family firms.³⁵⁸ The family firm definition used in this study is based on the founding family definition.³⁵⁹ Following prior studies,³⁶⁰ a firm is classified as a family firm if the founder(s) or private individuals bound to the founder(s) by

³⁵⁵ Astrachan et al. (2002), p. 57-58 and Klein et al. (2005), p. 323, 339 suggest that this component may be for example assessed based on the questionnaire used in Carlock/Ward (2001).

³⁵⁶ A similar approach to capture familiness on a continuous basis is provided by the concept of the resource based view in Habbershon/Williams (1999); Habbershon et al. (2003).

³⁵⁷ Cf. e.g. Miller et al. (2007), p. 832-835; Block (2009), p. 11; Ampenberger (2010), p. 19-20; Schmid (2010), p. 9-12 for recent overviews on family firm definitions. An example for a definition that comprises elements of different definition concepts on family firms is the EU definition. An expert group of the EU commission has elaborated a definition of family firms to facilitate comparability of family firm research across Europe. This definition comprises elements of the founding family, the ultimate owner and the components-of-involvement approach and hence represents a very broad definition of family firms. According to the EU-definition “a firm, of any size, is a family business, if: i) The majority of decision-making rights is in the possession of the natural person(s) who established the firm, or in the possession of the natural person(s) who has/have acquired the share capital of the firm, or in the possession of their spouses, parents, child or children’s direct heirs; ii) The majority of decision-making rights are indirect or direct; iii) At least one representative of the family or kin is formally involved in the governance of the firm. iv) Listed companies meet the definition of family enterprise if the person who established or acquired the firm (share capital) or their families or descendants possess 25 per cent of the decision-making rights mandated by their share capital.” European Commission (2009), p. 10.

³⁵⁸ Cf. Achleitner et al. (2009b), p. 16 for similar deliberations.

³⁵⁹ In the following ‘family’ refers to ‘founding family’.

³⁶⁰ Cf. in particular Schmid et al. (2008); Achleitner et al. (2009b); Ampenberger et al. (2009); Schmid et al. (2010).

either blood or marriage are either represented in the management and/or the supervisory board or at least hold 25% of voting rights. Shares can be held directly or indirectly³⁶¹ either individually or as a group³⁶². Family firms are a heterogeneous group and the dichotomous definition comprises different sub-groups of family firms. Therefore, effects of family influence are disentangled in the analyses.

The role of earnings is likely to be essentially affected by the interplay between family ownership, management (family members in the management board) and control (family members in the supervisory board). Consistent with the factors through which firms qualify as family firms according to the founding family definition family, firms may largely be divided into five sub-groups.³⁶³ The types of family firms distinguished for the purpose of the analyses in chapters 7 and 8 are characterized as follows:

- Family firms characterized by family ownership and management (type 1),
- Family firms characterized by family ownership and the presence of family members in the supervisory board (type 2),
- Family firms characterized by family ownership of more than 25% but family members are not present in either of the boards³⁶⁴ (type 3),
- Family members are represented in the management (type 4) or the supervisory board (type 5) but no longer hold an ownership stake in the firm.

Descriptive statistics suggest that family firm types 1 and 2 constitute around 80% of the family firms analyzed in this study. This finding illustrates that families do not only act as large shareholders but in most cases also hold positions in the management or the supervisory board. Interestingly, family firm type 1 is more prevalent than family

³⁶¹ This means that an ultimate ownership concept is used when shares are held by investment vehicles of the family. Furthermore, when a strategic shareholder holds a percentage of more than 50% of shares it is assessed whether the ultimate owner is a family or an alternative shareholder group.

³⁶² This implies that the family is presumed to exercise combined voting.

³⁶³ A similar distinction of family firm types among US firms is provided in Villalonga/Amit (2006), p. 401-402.

³⁶⁴ In some cases board members may not be attributed to the founding family because they could not be matched to the founder by their surnames and not identified as members of the founding family by internet and press research. Given the high ownership stake, the founding family is likely to at least delegate a family representative to the supervisory board although this person may not form part of the founding family. Therefore, family firm type 3 may be presumed to be similar to family firm type 2.

firm type 2 and constitutes around 60% of the family firms in the sample, whereas family firm type 2 only represents 20% of the family firms in the sample.³⁶⁵

The study does not only distinguish between different types of family firms but also examines effects of the different elements of family involvement (ownership and presence in the management and/or supervisory board) in more detail.³⁶⁶ Furthermore, consistent with previous studies³⁶⁷ the analysis distinguishes between different types of CEOs (founder CEO, descendant CEO and hired CEO) to assess effects of the CEO type on the level of earnings management and conditional conservatism and differentiates between the presence of a family or non-family chairman in the supervisory board. Given the large spectrum of family ownership observable in German listed firms, it may be inappropriate to assume a linear relationship between family ownership and earnings characteristics. Consistent with evidence in Wang (2006) and Shuto/Takada (2010), it is tested if there is a non-linear relationship between family ownership and earnings characteristics.

A caveat of the study is that cultural aspects may not be covered in the analyses. Regarding listed family firms it would be interesting to gain deeper insight on the motivation of the family to take the firm public and strategic planning of the family. While the main part of families is likely to have taken the firm public to finance firm growth but clearly aims at maintaining control over the firm some may have pursued an exit strategy from the firm via the IPO. In the light that founding family ownership tends to be a rather stable among listed firms in Germany and given that family owners are commonly related to the business by emotional ties, the argumentation in the following chapters regarding accounting in family firms mainly builds on the paradigm of the first type of listed family firms.

2.3.3 *Accounting and Corporate Governance in Family Firms*

Economics based accounting theory primarily refers to the framework of contracting and agency theory.³⁶⁸ Agency theory may provide a link between accounting and fami-

³⁶⁵ A more detailed description on family firm characteristics of the sample is provided in chapter 7.

³⁶⁶ For a detailed description of family firm variables, cf. table 16, chapter 5.

³⁶⁷ Cf. Wang (2006); Yang (2010).

³⁶⁸ Cf. chapter 2.1.

ly business theory given that agency theory is the most frequently referenced theoretical framework to explain family business behavior.³⁶⁹ However, it is widely acknowledged in family business research that family firms pursue economic and non-economic goals and that agency theory alone is insufficient to understand family business behavior.³⁷⁰ Alternative theories that complement agency theory with regard to accounting in family firms are stewardship and behavioral theory.³⁷¹ Non-financial goals linked to long-term orientation in family firms may play an important role in explaining accounting choices in family firms though these incentives met scant attention in previous studies.

Family ownership is presumed to mitigate agency costs arising from the separation between ownership and control because families as large, undiversified shareholders have the incentive and the ability to monitor managers.³⁷² Families are presumed to have higher monitoring incentives than institutional and individual shareholders because they hold a less diversified equity position in the firm and benefits of monitoring are less diluted.³⁷³ As a consequence, managers have fewer opportunities to alter reported earnings opportunistically.³⁷⁴ Family shareholders have an emotional investment in the firm and concerns over family reputation.³⁷⁵ Managers in family firms fre-

³⁶⁹ Chrisman et al. (2010) identify 25 papers that are considered as most influential in shaping the state of the art in family business research. The analysis suggests that a large proportion of these papers use an agency theoretical framework including Jensen/Meckling (1976); Fama/Jensen (1983a); Morck et al. (1988); La Porta et al. (1999); Gomez-Mejia et al. (2001); Schulze et al. (2001); Anderson/Reeb (2003); Morck/Yeung (2003); Schulze et al. (2003); Chrisman et al. (2004). In this context, Pieper (2010), p. 26 states that it “is astonishing that a concept that is based on self-interest, ignores altruistic motivations for interaction, and is inherently ‘de-socialized’, serves as the main foundation for research on a type of firm that is known to operate on a highly relational base, be highly emotionally loaded, driven by economic and non-economic goals (...), and known to pursue strategies that do not conform with traditional (i.e. rational) economic assumptions.”

³⁷⁰ Cf. e.g. Gomez-Mejia et al. (2001); Chrisman et al. (2003); Schulze et al. (2003); Corbetta/Salvato (2004); Chrisman et al. (2005); Lubatkin (2005); Miller/Le Breton-Miller (2006), Chrisman et al. (2007); Astrachan/Jaskiewicz (2008); Zellweger/Astrachan (2008); Moores (2009).

³⁷¹ Cf. Prencipe et al. (2008), Stockmans et al. (2010).

³⁷² Cf. Demsetz/Lehn (1985); Shleifer/Vishny (1986); Shleifer/Vishny (1997).

³⁷³ Cf. e.g. Coffee (1991), p. 1283; Villalonga/Amit (2006), p. 387.

³⁷⁴ Cf. Wang (2006), p. 621-622.

³⁷⁵ Cf. e.g. Chami (2001); Burkart et al. (2003); Gomez-Mejia et al. (2007); Astrachan/Jaskiewicz (2008); Zellweger/Astrachan (2008).

quently act as informed stewards because families have incentives to create long-term loyalty with their employees.³⁷⁶ This effect could imply that family firms have incentives to report accounting information in good faith and lead to higher earnings quality.³⁷⁷ Consistent with the decision usefulness approach, earnings are generally presumed to be of ‘high quality’ in accounting literature when they correspond to the ‘true’ earnings of a company as closely as possible.³⁷⁸

Though external CEOs frequently act as stewards of the family, external CEOs may also be subject to high pressure to meet the family’s demands.³⁷⁹ From an agency perspective, interests between external managers and the family are not aligned because the non-family CEO faces a different time-horizon. Therefore, differences in the quality of accounting information could arise between family firms with external and family CEOs. This issue is investigated in Yang (2010) who suggests that family firms with external CEOs engage in more earnings management than family firms with family CEOs.

Interests between the family and shareholders are aligned if the family holds positions in the management board. From an agency perspective, family CEOs are presumed to have the incentive and the ability to monitor other managers of the firm in line with the shareholders’ interests.³⁸⁰ They face less job pressure than non-family CEOs and frequently hold long tenures in the firm.³⁸¹ Given that the family manager is concerned about the longevity of the firm, family-led firms are presumed to be less subject to managerial myopia and to invest according to the ‘market rule’ (i.e. into positive NPV projects) rather than boost current earnings by engaging in risky projects.³⁸² Family managers are directly involved in the preparation of financial statements. This implies that the family’s ability to influence accounting numbers is particularly high if the family is involved in the management board. Family managers hold close ties in the

³⁷⁶ Cf. Miller/Le Breton-Miller (2006), p. 74.

³⁷⁷ Cf. Wang (2006), p. 621.

³⁷⁸ This thought and the concept of earnings quality are described and discussed in more detail in chapter 3.

³⁷⁹ Cf. Franks/Mayer (1994) for Germany; Kaplan/Minten (1994); Kang/Shivdasani (1995) for Japan.

³⁸⁰ Cf. e.g. Anderson/Reeb (2003), p. 1304.

³⁸¹ Cf. Miller/Le Breton-Miller (2006), p. 76.

³⁸² Cf. James (1999), p. 42.

firm and focus on the longevity of the family firm rather than short-term earnings targets.³⁸³ However, the presence of a family manager does not necessarily imply that incentives to alter reported earnings are lower. Stockmans et al. (2010) suggest that family CEOs have particular incentives to alter reported earnings to defend socioemotional wealth relating to the control of the firm.³⁸⁴

While agency costs arising from the separation between ownership and control may be mitigated in family firms, agency costs may arise from divergent interests between family and other shareholder types particularly minority shareholders.³⁸⁵ Interest divergence is mainly due to different time horizons and different risk attitudes. Family shareholders are presumed to have the incentive and the ability to exploit their controlling position to entrench themselves at the detriment of minority shareholders.³⁸⁶ The controlling position of family shareholders does not only arise from their position as large shareholders but also from board positions, pyramids and dual-class shares as well as long-term affiliation to the firm.³⁸⁷ Families may expropriate minority shareholders by non-arm's-length transactions such as related party transactions, the payment of special dividends or perquisite consumption.³⁸⁸

Expropriation of minority shareholders could be even more pronounced in family firms where the family is also involved in the management board because this controlling position provides direct access to the firm's resources.³⁸⁹ Given that the family is generally presumed to have superior access to private information, particularly if the family is also involved in the management of the firm, it could make use of its informational advantage and mask 'true' performance with the purpose of concealing ex-

³⁸³ Cf. Prencipe et al. (2008), p. 72.

³⁸⁴ Cf. Stockmans et al. (2010), p. 281-282.

³⁸⁵ Cf. chapter 2.2 for further information on agency conflicts between small and large shareholders and the role of accounting information in mitigating this conflict.

³⁸⁶ Cf. e.g. Fama/Jensen (1983a); Claessens et al. (2002); Morck/Yeung (2003); Cheung et al. (2006).

³⁸⁷ Cf. Zingales (1995); Shleifer/Vishny 1997; Faccio/Lang (2002); Anderson/Reeb 2004; Almeida/Wolfenzon (2006); Villalonga/Amit (2006).

³⁸⁸ Cf. e.g. DeAngelo/DeAngelo (2000); Gomez-Mejia et al. (2001); Morck/Yeung (2003); Anderson et al. (2003), p. 267; Anderson/Reeb (2003), 1305.

³⁸⁹ Cf. Jensen/Meckling (1976), p. 112-113; Schulze et al. (2001); Morck/Yeung (2003); Miller/Le Breton-Miller (2006), p. 79.

appropriation of minority shareholders. Under this perspective family governance leads to lower earnings quality.

Leuz et al. (2003) suggest that insiders in countries with weak investor protection are tempted to alter reported earnings to protect private benefits of control by concealing firm performance to outsiders.³⁹⁰ Investor protection is presumed to alleviate information asymmetries between controlling and minority shareholders by means of the legal system and corporate transparency.³⁹¹ However, even based on a sample of US firms, Anderson et al. (2009) argue that founders and heirs have incentives to create opacity to entrench themselves and extract private benefits of control. The information environment of a firm is not only affected by mandatory but also by voluntary disclosure, private information, media and analyst coverage and likely to affect the firm's cost of capital.³⁹² Information asymmetries between family and minority shareholders are likely to be reflected in stock prices. Armstrong et al. (2010) suggest that controlling shareholders could choose superior information environments as a bonding mechanism to commit not to expropriate minority shareholders to overcome price discounts.³⁹³

An important thought that fits into this context is that family and minority shareholders have different demand for accounting information. Building on agency theory, accounting information plays a valuation and a stewardship role to mitigate information asymmetries between managers and shareholders.³⁹⁴ The problem of adverse selection is likely to play a minor role for family shareholders because they commonly do not ground their decision as to whether hold or sell their stake on earnings numbers. Besides, family shareholders frequently have access to private information which lowers their demand for publicly available information. This implies that earnings are more

³⁹⁰ Cf. Leuz et al. (2003), p. 506.

³⁹¹ Cf. e.g. La Porta et al. (1998); La Porta et al. (2000a); Leuz et al. (2003); Nenova (2003). Referring to Stiglitz (2000), Anderson et al. (2009), p. x suggest that outside shareholders may be reluctant to invest in firms dominated by insiders when they lack information. This may explain the large number of regulatory initiatives in Germany that aimed at higher transparency and enforcement of accounting standards in Germany.

³⁹² Cf. Leuz/Verrecchia (2000); Easley/O'Hara (2004).

³⁹³ Cf. Armstrong et al. (2010), p. 183.

³⁹⁴ Cf. on the dual role of accounting chapters 2.1. to 2.2. The stewardship role of accounting rather puts emphasis on easy-to-verify and reliable information such as historical costs rather than information that may be relevant in providing a true-fair-view of the firm's performance but is less reliable such as fair value.

likely to play a stewardship than a valuation role from the perspective of family shareholders. The emphasis on the stewardship role of accounting creates demand for conservative and easy-to-verify information.³⁹⁵ For example, conservative earnings numbers could assist family shareholders in monitoring external managers with the purpose of preventing managerial myopia.

In contrast, minority shareholders have demand for accounting information that assists them in making investment decisions and to overcome information asymmetries between themselves and family shareholders, i.e. adverse selection. Thereby, accounting information in family firms needs to meet a trade-off between the information needs of the family and minority shareholders. If minority shareholders fear that they could be expropriated by controlling shareholders, they may equally demand easy-to-verify and conservative accounting information as well as high levels of disclosure. Timely loss recognition is presumed to lower information asymmetries between inside and outside investors.³⁹⁶ Family managers may have lower incentives than external managers to defer bad earnings news to later periods due to risk aversion and their long-term investment horizon. This could lead to higher levels of timely loss recognition in family firms. Similarly, as stated above family shareholders could have demand for timely loss recognition to prevent managerial myopia and entrenchment by external CEOs. Studies on board independence and conditional conservatism suggest that independent directors have demand for timely loss recognition for monitoring purposes.³⁹⁷ Similarly family members in the supervisory board could have demand for timely loss recognition to monitor external managers. In this context, timely loss recognition may align interests between family and minority shareholders. However, minority shareholders could be expropriated when earnings are systematically understated in family firms.

Non-financial goals such as family control and financial independence are likely to play an important role in this context though non-financial goals are rarely addressed in accounting research. The family is presumed to consider the firm as an asset that needs to be transferred to the next generation rather than wealth that needs to be con-

³⁹⁵ Cf. on the stewardship role of accounting information chapters 2.1 and 2.2.

³⁹⁶ Cf. LaFond/Roychowdhury (2008); Bona Sánchez et al. (2009); Haw et al. (2009); Shuto/Takada (2010).

³⁹⁷ Cf. Ahmed/Duellman (2007); Garcia Lara et al. (2007).

sumed during life time.³⁹⁸ German family firms are commonly characterized by strong family values that are not necessarily easy to combine with a stock exchange listing. This may explain why a considerable number of large German firms are privately held. The decision to go public is frequently considered as a kind of ‘last resort’ if the firm strongly needs external capital to finance growth.³⁹⁹ Evidence on IPOs by German family firms in Ehrhardt et al. (2006) suggests that families exercise considerable influence on ‘their’ firms even more than ten years after the IPO.⁴⁰⁰ This indicates that the wish to retain a controlling position in the firm may be strongly pronounced among listed family firms in Germany.

Long-term orientation may play a two-fold role regarding incentives to alter reported earnings. On the one hand, long term orientation in family firms implies that family firms are less subject to market reactions due to earnings numbers that fall below market expectations but rather focus on sustainable earnings. As a consequence, family firms could be less likely to sacrifice firm value to short-term earnings targets.⁴⁰¹ On the other hand, long-term orientation and risk aversion create incentives to manage earnings to maintain family control over the business. Risk aversion may not only be expressed by a conservative approach in financing and investment decisions but also by a conservative approach in accounting choices.⁴⁰²

Conservative accounting choices create internal funds that may be used for the purpose of internal financing. Financing behavior in family firms is frequently explained by the pecking order theory.⁴⁰³ According to the pecking order theory, firms prefer internal to external funds but prefer debt over equity in case that external funds should be required for financing purposes. Family firms have a strong preference for financing via internal funds, not only for cost reasons but also to maintain control and independence from outside capital providers. As a consequence, internal financing and the avoidance

³⁹⁸ Cf. Anderson/Reeb (2003), p. 1306.

³⁹⁹ Cf. for a comprehensive analysis of this phenomenon Achleitner et al. (2011). For a similar argumentation cf. Burkart et al. (2003), p. 2168.

⁴⁰⁰ This notion is supported by evidence in Franks et al. (2009).

⁴⁰¹ Cf. Anderson/Reeb (2003), p. 1305-1306; Hutton (2007), p. 289.

⁴⁰² Cf. Achleitner et al. (2011), p. 72.

⁴⁰³ Cf. e.g. Myers (1977); Myers/Majluf (1984); Gallo/Vilaseca (1996); Mahéroul (2000); Poutziouris (2001); Gallo et al. (2004); López-Gracia/Sánchez-Andújar (2007).

to raise external funds are likely to constitute an incentive to alter reported earnings that may be particularly prevalent in family firms. Risk aversion and long-term relationships with banks are presumed to lower agency conflicts between shareholders and creditors.⁴⁰⁴ Prencipe et al. (2008) argue that at the same time reputational concerns vis-à-vis banks, the wish to avoid additional external capital due because the family aims at retaining control as well as risk aversion make family firms more sensitive to debt-related earnings targets such as covenant violations. As a consequence, family firms could use retained earnings to meet debt-related earnings targets.⁴⁰⁵

Retained earnings also create reserves to smooth earnings which may prevent outsider interference and assist the family in maintaining control over the firm. Given that family owners are less likely to sell their share, they may also have demand for a steady income stream for tax and dividend purposes.⁴⁰⁶ Dividends may be an incentive to manage earnings that may be even more pronounced in family firms with later business generations whereas the founder may forego dividends but keep internal funds in the firm for future firm development.⁴⁰⁷ Minority shareholders and family shareholders that do not form part of the management could be disadvantaged if family managers adjust earnings downwards to prevent shareholder pressure for dividend payout. As a consequence, conflicts of interests may not only arise between family and minority shareholders but also between family managers and other family shareholders. Family firms may also have incentives to alter reported earnings to trade in own shares.⁴⁰⁸ For example, if shares are undervalued because earnings are understated, the family may buy back shares to reincrease its influence over the firm at the expense of minority shareholders.

Incentives to alter reported earnings are also likely to depend on the level of family ownership.⁴⁰⁹ At low levels of family ownership, the monitoring effect of family ownership may be dominant and the demand for accounting information by small share-

⁴⁰⁴ Cf. Anderson et al. (2003), p. 267.

⁴⁰⁵ Cf. Prencipe et al. (2008), p. 72.

⁴⁰⁶ Cf. Kasanen et al. (1996) on dividend-based earnings management by firms with large shareholders.

⁴⁰⁷ Cf. Schmid (2010), p. 178-179.

⁴⁰⁸ Cf. Chan et al. (2009) on incentives by family shareholders to trade in own shares.

⁴⁰⁹ Cf. Wang (2006), p. 646-651; Yang (2010), p. 268 - 269.

holders is in the focus. Financial and non-financial private benefits of control increase with family ownership and ‘masked’ earnings may assist family shareholders in defending private benefits of control. Besides, the demand for publicly available accounting information decreases with increasing family ownership. At high levels of family ownership, family shareholders may still make use of private benefits of control but minority shareholders are less influential and earnings may play a less important role in defending private benefits of control. This implies that the relationship between family ownership and earnings quality could be characterized by an inverted u-shape.

Deliberations on accounting in family firms in this chapter do not claim to be complete but highlight that effects of family governance on reported earnings are multi-faceted. Earnings quality such as earnings management or conservatism may take on a different meaning in family firms as compared to non-family firms. Although several studies address earnings management in family firms the field of accounting in family firms is under-researched and attempts need to be made to understand accounting choices in family firms in more detail.⁴¹⁰ The analyses in this study contribute to this strand of research and investigate if family firms engage in different kinds of earnings management as compared to non-family firms. Chapter 7 analyzes the relationship between family governance and accounting as compared to real earnings management. Chapter 8 investigates if family firms have more conservative earnings than non-family firms and to which extent conservatism in family firms is driven by downwards earnings management. The concept and measurement of earnings quality are described in the following chapter.

⁴¹⁰ Cf. Salvato/Moores (2010) on this issue as well as avenues for future research.

3 Concept and Measurement of Earnings Quality

3.1 Definition and Dimensions of Earnings Quality

3.1.1 Definition of Earnings Quality

Although ‘earnings quality’ is intensely studied in accounting research, there is surprisingly little theoretical foundation to its concept and no common definition of the term.⁴¹¹ One of the basic theoretical ideas on earnings quality is that reported earnings of a firm can be expressed as a function of true or fundamental earnings of the company (X) and an error term induced by the measurement system (e). The function f turns the unobservable variable X into observable reported earnings.⁴¹²

$$\text{Reported Earnings} = f[\text{fundamental earnings } (X); \text{error term } (e)]$$

Fundamental earnings (X) are presumed to be a function of the operating cycle of the firm, macro business conditions, investment opportunities, managerial skill and other features of the firm and hence considered as ‘actual’ performance of the firm. In contrast, the error term (e) is induced by the measurement process of the accounting system. Reported earnings cannot equal fundamental earnings for three reasons, a) because standard-setters make trade-offs to anticipate the needs of different users, b) firms choose accounting policies from a pre-determined set of standards for *all* firms and c) since fundamental earnings are unobservable accounting systems inherently involve estimations and judgment.⁴¹³

Consistent with the decision usefulness approach in accounting research, reported earnings are considered to signal superior quality when they correspond to fundamental earnings as closely as possible.⁴¹⁴ Fundamental earnings are considered to reflect the ‘true’ economic performance of the firm. Earnings quality can then be defined as “the reduction of the market’s uncertainty about the firm’s terminal value due to the

⁴¹¹ Cf. Ewert/Wagenhofer (2010), p. 2.

⁴¹² Cf. Dechow et al. (2010), p. 347.

⁴¹³ Cf. Dechow et al. (2010), p. 348; DeFond (2010), p. 404.

⁴¹⁴ On earnings quality from a decision usefulness perspective cf. Schipper/Vincent (2003); Dechow/Schrand (2004).

earnings report”.⁴¹⁵ Based on a financial analysts’ perspective, Dechow/Schrand (2004) argue that a high quality earnings numbers will “reflect current operating performance; [...] be a good indicator of future operating performance; and [...] accurately annuitize the intrinsic value of the company.”⁴¹⁶ Tested empirically, earnings would for example be considered to be of superior quality when they are strongly associated with returns because a high correlation with stock market data is interpreted as an indicator that earnings are useful in the context of equity valuation decisions.⁴¹⁷

However, the quality of earnings may not only be assessed from a decision usefulness perspective because the demand for earnings attributes depends on the context in which earnings are used. The term ‘quality’ is misleading given that earnings are used in various decision contexts.⁴¹⁸ While some earnings characteristics may be useful in an equity valuation context, they may not necessarily be equally appropriate in other contexts such as contracting.⁴¹⁹

Based on the qualitative characteristics addressed in the conceptual frameworks⁴²⁰ to IFRS and US GAAP but also based on other concepts such as positive accounting theory, a multitude of metrics has been developed in accounting literature that attempt to capture earnings quality empirically. While some of these proxies only comprise accounting information others also involve stock market data. A lot of metrics build on the decomposition of earnings into cash flows and accruals. Accruals refer to the non-

⁴¹⁵ Ewert/Wagenhofer (2005), p. 1.

⁴¹⁶ Dechow/Schrand (2004), p. 2.

⁴¹⁷ Cf. in this context Lev (1989). His paper is considered to be one of the first studies that used the term ‘quality’ as characteristic for accounting earnings based on earnings/return models. Furthermore, earnings persistence and predictability of current earnings for future cash flows are commonly regarded as positive earnings attributes from a valuation perspective because ‘sustainable’ earnings/cash flows are a useful input in the context of equity valuation. Cf. Schipper/Vincent (2003), p. 99; Francis et al. (2004), p. 972.

⁴¹⁸ Cf. DeFond (2010), p. 348, 390.

⁴¹⁹ Cf. the model in Kirschenheiter/Melumad (2002) as well as deliberations in chapter 2.1.

⁴²⁰ In their joint conceptual statement of qualitative characteristics of financial reporting the standard setters IASB and FASB address certain dimensions that are presumed to characterize high accounting quality, though the term “quality” is avoided in both frameworks. These dimensions are referred to as qualitative characteristics of financial information and divided into fundamental and enhancing qualitative characteristics. Fundamental characteristics are relevance and faithful representation, whereas enhancing qualitative characteristics comprise comparability, verifiability, timeliness and understandability. Cf. SFAC 8, framework to IFRS.

cash effective component in reported earnings and may be regarded as the difference between earnings and cash flows. Comparing earnings and cash flows, Dechow (1994) find that earnings exhibit a stronger relation with stock market performance than cash flows. This evidence suggests that accruals do not only comprise news from current and past but also from future periods. The relation between earnings, cash flows and accruals will be revisited in the following chapters that introduce some of the metrics used to proxy for earnings quality.

Given that accounting information serves different purposes, the ‘quality’ of earnings may only be evaluated relative to the specific context in which earnings are used. Although earnings quality was at first addressed in an equity valuation decision context,⁴²¹ earnings quality needs to be regarded as a multi-faceted term.⁴²² This implies that there is no ‘overall best measure’ for earnings quality.

For this reason, most studies use various metrics to proxy for certain earnings characteristics that are deemed to signal high quality earnings. Other studies combine different metrics for earnings quality and use ‘earnings quality scores’. This procedure is for example followed by Biddle/Hillary (2006) who state: “Because we are agnostic regarding which dimension of accounting quality plays a more significant role, we aggregate the four accounting measures into a summary index.”⁴²³ However, this procedure is criticised by many scholars because earnings metrics may be linked in some respects, but do not necessarily point into the same direction.⁴²⁴ Therefore, the analyses in this study use various proxies and discuss how these proxies may be linked but do not build on a summary index.

The following chapter provides an overview on different dimensions of earnings quality developed in prior literature. A common weakness of all metrics is that earnings quality is unobservable. As a result, it is not necessarily certain that the chosen metric comprehensively captures the earnings characteristic it should. Given the econometric problems related to the estimation of earnings quality metrics, analyses on earnings quality always involve a joint test of “the hypothesis related to the research question

⁴²¹ Cf. Lev (1989).

⁴²² Cf. Dechow et al. (2010), p. 344-345.

⁴²³ Biddle/Hilary (2006), p. 969.

⁴²⁴ Cf. e.g. Wagenhofer/Dücker (2007), p. 265.

and the hypothesis that the proxy is a valid measure.⁴²⁵ Therefore, the essential caveat that remains for all studies on earnings quality including this study is that earnings quality can only be estimated but not empirically observed.⁴²⁶

3.1.2 *Dimensions of Earnings Quality*

There is a multitude of metrics for earnings quality. This chapter provides an overview on metrics that are most frequently analyzed in accounting literature but focuses on metrics that are applied in this study. Figure 9 illustrates the classification of earnings quality dimensions illustrated in this chapter based on Dechow et al. (2010).⁴²⁷ According to this categorization earnings quality may be organized according to three main groups i) properties of earnings, ii) investor responsiveness to earnings and iii) external indicators of financial reporting. These categories capture various proxies for earnings quality.

Properties of earnings refer to proxies commonly used to empirically analyze certain earnings specifications such as earnings management or conservatism. Studies on the investor responsiveness to earnings investigate the relation between accounting and stock market data and primarily relate to the valuation role of accounting.⁴²⁸ This category comprises value relevance⁴²⁹, mispricing of accruals (also referred to as the accrual anomaly)⁴³⁰ as well as the post earnings announcement drift⁴³¹.

⁴²⁵ DeFond (2010), p. 8. Although this statement was addressed in the context of abnormal accruals it also applies to the other proxies for earnings quality.

⁴²⁶ Cf. Bowen et al. (2008), p. 353.

⁴²⁷ For alternative classifications cf. Schipper/Vincent (2003), p. 99-106; Francis et al. (2004), p. 972-973; Wagenhofer/Dücker (2007).

⁴²⁸ For a detailed survey on capital markets research in accounting cf. Kothari (2001).

⁴²⁹ Accounting numbers are considered to be value relevant if they are significantly correlated with stock market data, cf. e.g. Holthausen/Watts (2001), p. 4. The relation between stock market data (dependent variable) and earnings (explanatory variable) is expressed in the earnings response coefficient (ERC), the coefficient of the earnings variable. Higher ERCs are considered to reflect superior earnings quality. The concept of value relevance is linked to the decision usefulness approach. However, is highly debated in accounting literature how meaningful inferences drawn from value relevance studies are. Cf. Barth et al. (2001); Holthausen/Watts (2001); Dechow et al. (2010), p. 366-371 for a survey and discussion of fundamental studies on value relevance.

⁴³⁰ The accrual anomaly relates to the mispricing of accruals in the stock markets. Sloan (1996) suggests that stock prices are not fully reflecting information contained in the accrual and cash flow component but tend to overreact to the accrual component of earnings. Cf. for further studies on the accrual anomaly Collins/Hribar (2000); Dechow/Ge (2006); Mashruwala et al. (2006);

The third category, *external indicators of financial reporting* refers to restatements and internal control deficiencies reported under the Sarbanes Oxley Act (SOX).⁴³²

This thesis focuses on *properties of earnings* because this dimension of earnings quality is directly affected by changes in the accounting system and managerial incentives. In contrast, metrics capturing investor responsiveness of earnings only indirectly capture effects of accounting standards and managerial incentives as they primarily relate to stock market reactions. External indicators of financial reporting may be a valid metric for earnings quality in the case of US firms but are subject to data limitations in case of German firms. For this reason, this dimension of earnings quality may not be covered in the analyses of this study.

According to Dechow et al. (2010) *properties of earnings* encompass earnings persistence, earnings smoothness, discretionary accruals, conservatism and target beating.⁴³³ Discretionary accruals, earnings smoothing and target beating may be regrouped into the main category accounting earnings management. While accounting earnings management relates to the use of discretion in accounting standards, real earnings management refers to the discretion in operating, financing and investment activities used by managers to affect reported earnings.⁴³⁴ Real earnings management is not addressed in the survey by Dechow et al. (2010) but covered in the analysis on earnings management in family firms in this study and as a consequence forms part of this chapter.

Dechow/Ge (2006); Pincus et al. (2007); Kaserer/Klingler (2008); Gegenfurtner et al. (2009); Sawicki/Shrestha (2009); Garfinkel/Sokobin (2006); Wu et al. (2010).

⁴³¹ The post earnings announcement drift relates to the market's tendency to underreact to quarterly earnings information. Cf. Dechow/Schrand (2004), p. 76-82; exemplary studies on the post-earnings-announcement drift include Ball/Brown (1968); Foster (1977); Brown/Rozeff (1979); Foster et al. (1984); Bernard/Thomas (1989); Bhushan (1994); Rangan/Sloan (1998); Soffer/Lys (1999); Mendenhall (2004); Ke/Ramalingegowda (2005); Garfinkel/Sokobin (2006); Livnat/Mendenhall (2006); Sadka (2006); Hirshleifer et al. (2008).

⁴³² This recent strand of literature is for example covered by Agrawal/Chadha (2005); Burns/Kedia (2006); Ashbaugh-Skaife et al. (2007); Efendi et al. (2007).

⁴³³ Cf. Dechow et al. (2010), p. 346.

⁴³⁴ Cf. chapter 3.2.4 for a discussion on the relation between accrual based or accounting earnings management and real earnings management.

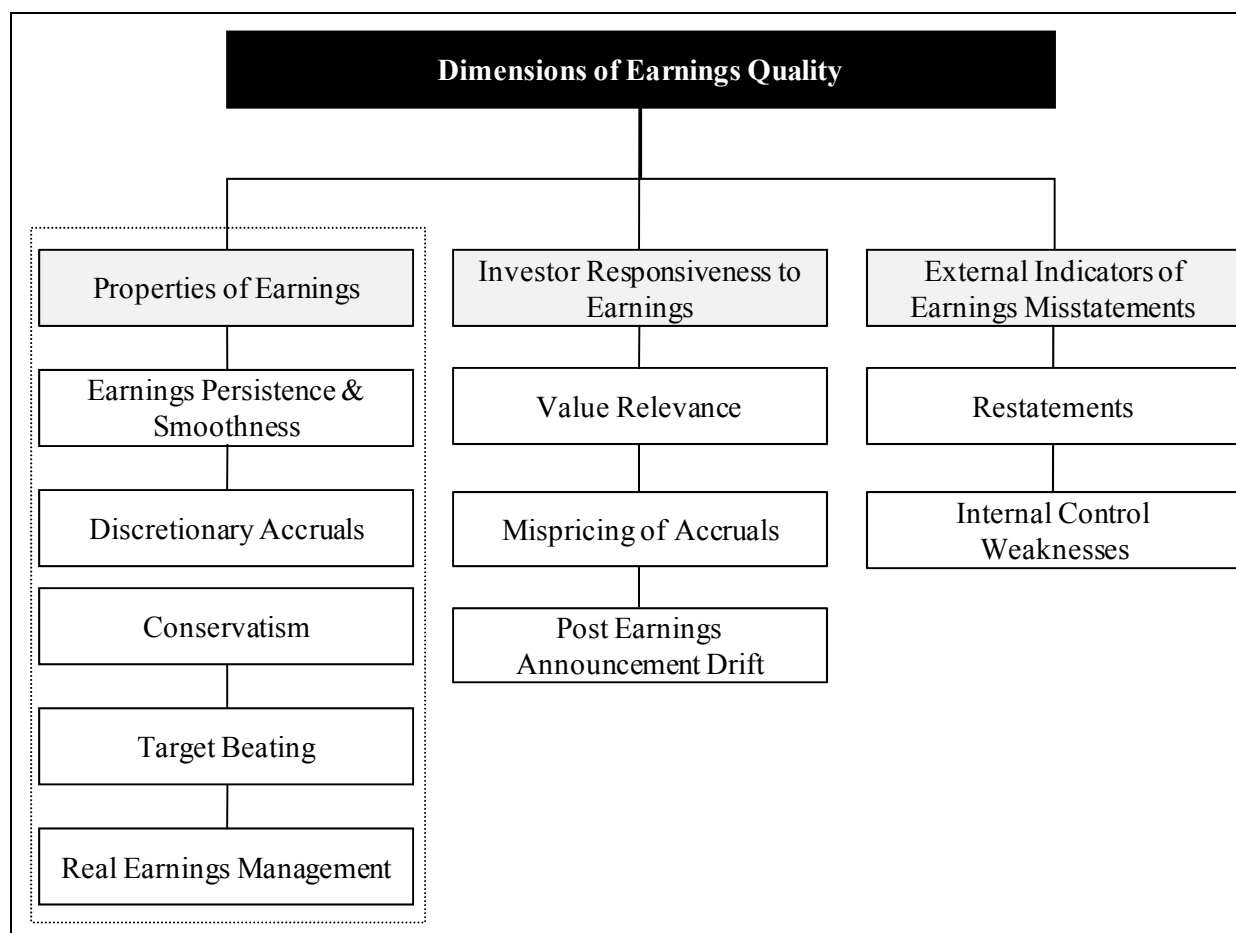


Figure 9: Dimensions of Earnings Quality⁴³⁵

a) Persistence

Persistence refers to the extent to which current earnings are an indicator for future earnings and can also be thought of as ‘earnings sustainability’.⁴³⁶ In other words, earnings persistence corresponds to the “extent to which the current period innovation becomes a permanent part of the earnings series (a random walk is highly persistent and a mean-reverting series has no persistence).”⁴³⁷ Earnings persistence is commonly measured as the slope coefficient of a regression of current on lagged earnings. This earnings characteristic is regarded as a desirable earnings property in the context of equity valuation and is found to be positively associated with the earnings response

⁴³⁵ Source: Author’s illustration, following Dechow et al. (2010), p. 346.

⁴³⁶ Cf. Francis et al. (2004), p. 972.

⁴³⁷ Schipper/Vincent (2003), p. 99.

coefficient used in value relevance studies and accrual reliability.⁴³⁸ Since earnings persistence primarily relates to the valuation role of earnings and frequently forms part of studies on the investor responsiveness to earnings this dimension is not examined in this study.

b) Earnings smoothing

Smoothness relates to the dampening of variations in cash flows via accruals. Although it is in the nature of accruals to smooth cash flows, earnings smoothing is commonly also regarded as a type of earnings management.⁴³⁹ This earnings characteristic is illustrated and discussed in more detail in section 3.2.2.

c) Discretionary Accruals

Reported earnings always involve judgment and estimations as well as accounting choices and are hence subject to discretion. Earnings may be divided into cash flows and accruals. Accounting discretion incorporated in accounting standards is presumed to primarily affect the accrual component. Accruals can be divided into normal (non-discretionary) and discretionary components. The discretionary component is considered to capture earnings management. Discretionary accruals can be regarded as most frequently used metric for earnings management. The concept and estimation of this metric are described and discussed in chapter 3.2.3

d) Target Beating

Target beating or benchmarking represents another dimension of earnings management besides earnings smoothing and income-increasing or decreasing earnings management. It relates to efforts by the management to pursue certain earnings targets such as analyst forecasts, prior years' earnings, management forecasts or loss avoidance via earnings management. Frequency distributions range among the earlier approaches to identify earnings management to meet or beat earnings targets.⁴⁴⁰ Studies using this approach draw inferences on the basis of the distribution of earnings around specific

⁴³⁸ Cf. e.g. Kormendi/Lipe (1987); Ali/Zarowin (1992); Sloan (1996); Penman/Zhang (2002); Richardson et al. (2005); Frankel/Litov (2009); Richardson et al. (2010).

⁴³⁹ Cf. Dechow/Skinner (2000).

⁴⁴⁰ Cf. e.g. Burgstahler/Dichev (1997), Degeorge et al. (1999), Myers/Skinner (1999).

benchmarks, such as zero earnings, prior year's earnings or analyst/ management forecasts. Based on a kink in the earnings distribution, it is tested whether the incidence of amounts above and below the benchmark is 'natural' or subject to earnings management. Following considerable criticism in prior literature⁴⁴¹, this approach became less common in more recent studies as a metric to detect earnings management. For this reason, it is not applied in this thesis. However, frequency distributions are used in more recent studies to identify firms that are likely to engage in earnings management. For example, Roychowdhury (2006) builds on firms that exhibit small gains to test for the appropriateness of his measures for real earnings management because these firms are presumed to have particular incentives to manage earnings.

e) Real Earnings Management

Real earnings management relates to the discretion in operating, financing and investment activities used by managers to affect reported earnings. This type of earnings management is commonly regarded as detrimental to firm value.⁴⁴² The difficulty is to distinguish empirically between normal business activities and real earnings management.⁴⁴³ Roychowdhury (2006) presents three metrics that may be used to examine real earnings management from operating activities: discretionary cash flows, discretionary expenses and discretionary production. The dimension of real earnings management and the metrics suggested in Roychowdhury (2006) are discussed in chapter 3.2.4.

f) Conservatism

Conservatism is considered to result from an accountant's tendency to require higher degrees of verification for 'good news' as compared to 'bad news'.⁴⁴⁴ While 'bad news' tend to be expensed immediately (e.g. impairment of assets in IAS 36), 'good news' are commonly not recorded (e.g. research expenses) or distributed over the life

⁴⁴¹ Cf. e.g. Kang (1999); McNichols (2000); Dechow et al. (2003); Durtschi/Easton (2005); Durtschi/Easton (2009); Lahr (2010).

⁴⁴² Cf. Ewert/Wagenhofer (2005), p. 1102; Roychowdhury (2006), p. 337-338.

⁴⁴³ Cf. Schipper (1989), p. 92.

⁴⁴⁴ Cf. Basu (1997), p. 4

time of an asset (e.g. prolonged life time of an asset). Conservatism as an earnings characteristic is described and discussed in chapter 3.3.

The following sections explain the concepts and measurement approaches developed to capture properties of earnings management and conservatism focusing on the metrics applied in the analyses in chapters 6 to 8.

3.2 Earnings Management

3.2.1 *Definition and Dimensions of Earnings Management*

Financial reporting and accrual accounting are inexorably linked. Accrual accounting comprises ‘appropriate’ accrual accounting choices as well as certain forms of ‘earnings management’. However, these two dimensions of accrual accounting are difficult to distinguish.⁴⁴⁵ The question that arises is when the appropriate managerial discretion in financial reporting needs to be regarded earnings management because discretion is immanent in financial reporting. Latitude incorporated in accounting standards involves judgment and estimations by managers to reveal private information. This discretion may either be used in an efficient or an opportunistic way.⁴⁴⁶ It is a highly debated subject in accounting research whether the former or the latter alternative is predominant.⁴⁴⁷ However, in the light of agency conflicts, most studies presume that earnings management tends to be used in an opportunistic way. This view of earnings management is reflected in the most common definitions on earnings management.⁴⁴⁸

⁴⁴⁵ Cf. Dechow/Skinner (2000), p. 237-238.

⁴⁴⁶ Cf. Healy/Wahlen (1999), p. 366-369.

⁴⁴⁷ Cf. in this context Watts/Zimmerman (1978); Christie/Zimmerman (1994); Subramanyam (1996); Arya et al. (1998); Arya et al. (2003); Bowen et al. (2008).

⁴⁴⁸ Ronen/Yaari (2008) p. 25 provide a comprehensive overview on definitions of earnings management that range from beneficial to opportunistic earnings management. Accordingly, definitions of earnings management are classified into different categories ranging from ‘white’ to ‘black’. Beneficial earnings management corresponds to the ‘white’ classification and entails that discretion in accounting standards is used by managers to communicate private information to the stock market. The ‘grey’ definition allows for opportunistic and economically efficient earnings management whereas the ‘black’ definition views earnings management as purposeful misrepresentation of earnings to reduce transparency of financial reports for opportunistic purposes. The definitions provided in Healy/Wahlen (1999), p. 386 and Schipper (1989), p. 92 need to be considered as examples for the ‘black’ category.

According to Healy/Wahlen (1999), “earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting practices”.⁴⁴⁹ Similarly, earnings management is defined in Schipper (1989) as “a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain (as opposed to say, merely facilitating the neutral operation of the process).”⁴⁵⁰

Earnings management comprises accounting and real earnings management. “Accounting earnings management includes the way accounting standards are applied to record given transactions and events, whereas real earnings management changes the timing or the structuring of real transactions. Real earnings management implies that the manager deviates from an otherwise optimal plan of actions only to affect earnings, thus imposing a real cost to the firm.”⁴⁵¹ Real earnings management is difficult to detect empirically because it is nearly unobservable if certain business activities such as an increase or decrease in the level of R&D or advertising expenditures, the drop or addition of product lines or acquisition decisions are undertaken due to economic necessity or with the purpose of real earnings management.⁴⁵²

While the term ‘earnings management’ brings to mind severe forms of accounting manipulation or even fraud,⁴⁵³ the term ‘earnings management’ in the context of accounting literature is restricted to ‘biased’ or ‘untimely’ information unless explicitly referred to as fraud.⁴⁵⁴

While accounting earnings management is effected by accounting choices, real earnings management is affected by cash flow choices. Accounting choices are decisions

⁴⁴⁹ Healy/Wahlen (1999), p. 386.

⁴⁵⁰ Schipper (1989), p. 92.

⁴⁵¹ Ewert/Wagenhofer (2005), p. 1102.

⁴⁵² Cf. Schipper (1989), p. 92.

⁴⁵³ Cf. e.g. Levitt (1998); Akers et al. (2007); Johnson et al. (2009); Grasso et al. (2009).

⁴⁵⁴ Cf. e.g. Beasley (1996); Beneish (1999) for studies on accounting fraud. Dechow/Skinner (2000), p. 235 state in this context: „Practitioners and regulators often see earnings management as pervasive and problematic – and in need of immediate remedial action. Academics are more sanguine, unwilling to believe [...] that the earnings management that does exist should necessarily concern investors.”

that influence the reported accounting numbers in a particular way, either in form or substance.⁴⁵⁵ Figure 10 provides different examples how accounting and cash flow choices may affect reported earnings. The figure illustrates that legal earnings management ranges from conservative to aggressive accounting⁴⁵⁶ and is conceptually distinct from fraudulent accounting practices. In the following, the term ‘earnings management’ only refers to legal accounting and cash flow choices.

In the light of the comprehensiveness of this strand of research, it is not surprising that there is a considerable number of surveys on earnings management.⁴⁵⁷ Figure 11 provides a generalized model of the earnings management process. Managers are commonly presumed to have incentives to maximize their utility. Common incentives are pecuniary and non-pecuniary benefits such as compensation (wealth), reputation, job-security or self-esteem.⁴⁵⁸ The institutional framework surrounding the firm, internal governance structures as well as ethical standards can be thought of as constraints that prevent utility maximization by managers. Incentives and constraints affect the objectives, necessity and possibility to interfere in the financial reporting process.

The magnitude and sign of earnings management is not only affected by managerial incentives and constraints but also by the demand of the users of financial statements. This implies that there is a feedback loop between incentives and constraints to engage in earnings management and the expectations and demands raised by the users of financial statements.⁴⁵⁹

⁴⁵⁵ Cf. Fields et al. (2001), p. 256.

⁴⁵⁶ It needs to be noted that figure 8 may also be used to illustrate the rationale of IFRS and US GAAP. According to the framework to IFRS and US GAAP, faithful representation is one of the central qualitative characteristics of financial reporting. In this context, SFAC 8, QC12 states: “Financial reports represent economic phenomena in words and numbers. To be useful, financial information not only must represent relevant phenomena, but it also must faithfully represent the phenomena that it purports to represent. To be a perfectly faithful representation, a depiction would have three characteristics. It would be complete, neutral, and free from error.” This implies that IFRS and US GAAP privilege “neutral” earnings that are neither positively nor negatively influenced by accounting choices, i.e. earnings management.

⁴⁵⁷ Cf. e.g. Healy/Wahlen (1999); Dechow/Skinner (2000); McNichols (2000); Beneish (2001); Fields et al. (2001); Dechow/Schrand (2004); Stolowy/Breton (2004); Ronen/Yaari (2008); Dechow et al. (2009).

⁴⁵⁸ Cf. Watts/Zimmerman (1978), p. 114.

⁴⁵⁹ Cf. Babalyan (2004), p. 36-39.

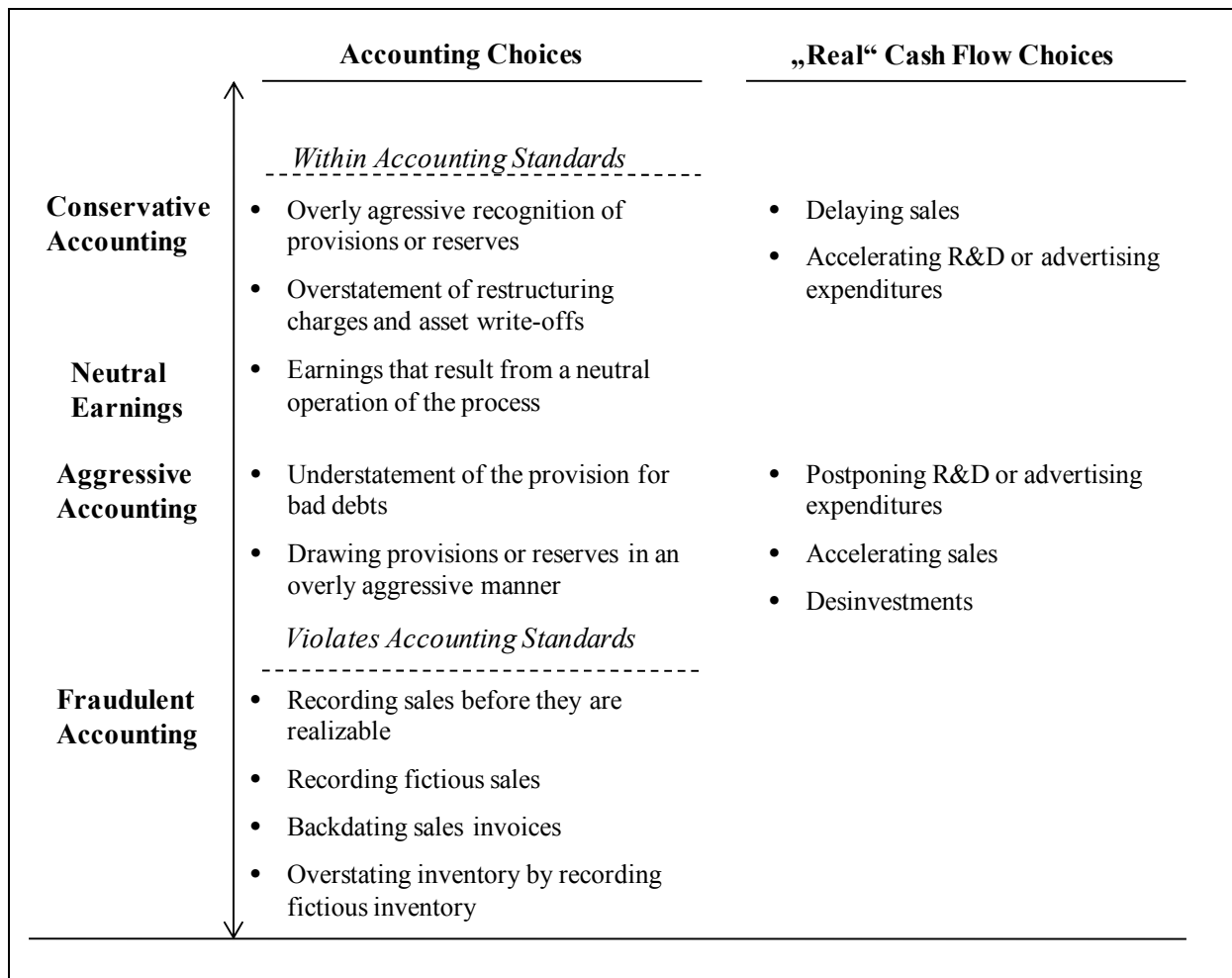


Figure 10: Earnings Management and Fraud⁴⁶⁰

⁴⁶⁰ Source: Author’s illustration following Dechow/Skinner (2000), p. 239.

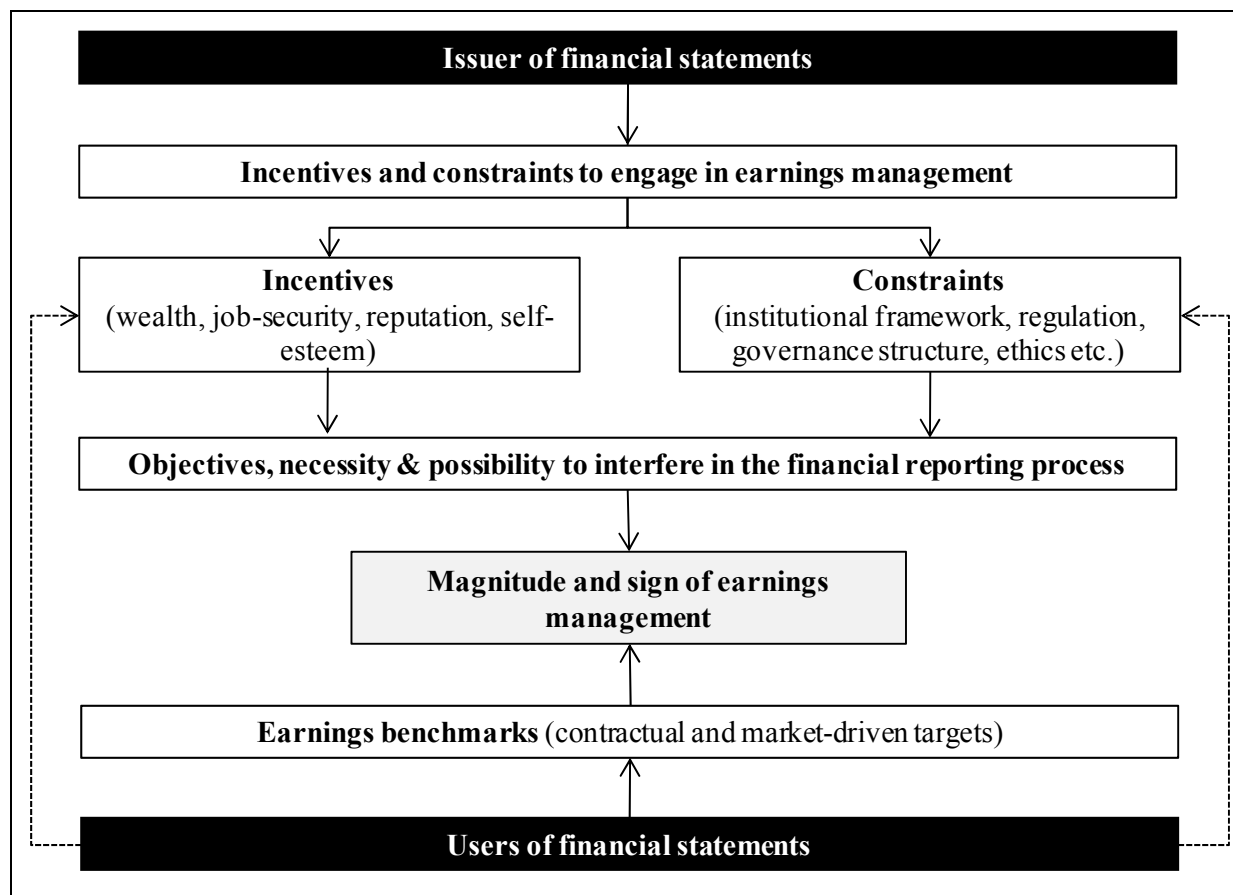


Figure 11: Generalized Model of Earnings Management⁴⁶¹

Users of financial statements may not be regarded as a single group. In practice there are many user groups including shareholders, analysts, debtholders, suppliers, customers, employees and other stakeholders. These groups are characterized by different demands for accounting information. As a consequence, managers face different kinds of market-based and contractual benchmarks that affect the magnitude of earnings management. Discretion in financial reporting may not only be used to communicate private information to shareholders but is subject to various considerations including the desire to report small gains instead of losses, achieve earnings targets (e.g. analyst forecasts, prior year's earnings), hide deteriorating performance, determine dividend payments, avoid covenant violation or minimize tax payments.⁴⁶²

It is nearly impossible to assess the primary purpose of earnings management empirically. As a consequence results on earnings management are frequently difficult to in-

⁴⁶¹ Source: Author's illustration, cf. Babalyan (2004), p. 38.

⁴⁶² Cf. Burgstahler et al. (2006), p. 986.

interpret. Metrics developed to estimate the extent of earnings management try to estimate the use of discretion in reported earnings but fundamentally lack from the caveat that earnings management is unobservable. There are two categories of metrics that are most commonly applied as proxies for earnings management in empirical accounting studies: earnings smoothing and discretionary accruals. Proxies for earnings smoothing are frequently used in cross-country studies and in studies on earnings management under national GAAP versus IFRS.⁴⁶³ The concept of earnings smoothing and metrics developed to proxy for earnings smoothing are illustrated in chapter 3.2.2. Discretionary accruals can be regarded as the most frequently used series of metrics to analyze earnings management. A large number of models have been developed in the literature to capture discretion in accruals. The most prevalent models are introduced in chapter 3.2.3.

3.2.2 *Earnings Smoothing*

3.2.2.1 *Concept*

Smoothing is a concept of earnings quality that already received attention in early accounting research.⁴⁶⁴ It describes the “dampening of fluctuations about some level of earnings that is currently considered to be normal for a firm”⁴⁶⁵ to the extent allowed under accounting principles.

Earnings smoothing can be accomplished along several dimensions including an event’s occurrence or recognition, allocation over time or classification. The first dimension concerns the timing of certain transactions by the management. When an event occurs, management, within limits, can determine which period shall be affected by its recognition (allocation over time). Smoothing through classification concerns the way the event is recognized in the income statement (i.e. intra-income statement classification, recognition versus direct expense).⁴⁶⁶

⁴⁶³ Cf. e.g. Leuz et al. (2003); Lang et al. (2006); Burgstahler (2006); Barth et al. (2008).

⁴⁶⁴ Cf. Moses (1987); Ronen et al. (1977); Ronen/Sadan (1981) and Newman (1988).

⁴⁶⁵ Beidleman (1973), p. 653.

⁴⁶⁶ Ronen/Sadan (1975), p. 133-134.

Depending on whether smooth earnings arise from business operations or from accounting choices, one distinguishes between *normal* and *artificial* smoothing.⁴⁶⁷ In contrast to normal smoothing, artificial smoothing is commonly considered as one dimension of earnings management. While normal smoothing relates to ‘normal’ business activities and the economic environment, it is presumed to be primarily captured by the cash flow component. Artificial smoothing relates to managerial discretion and is presumed to be primarily incorporated in the accrual component of reported earnings.⁴⁶⁸ However, it is difficult to assess when earnings smoothing becomes earnings management because it is the nature of accruals to smooth underlying cash flows.⁴⁶⁹

Earnings smoothing was for the first time defined in the context of earnings management by Fudenberg and Tirole (1995) as a process in which earnings are manipulated with regard to their time profile in order to make the income stream less variable.⁴⁷⁰

This type of earnings management is presumed to be particularly pronounced in continental European countries.⁴⁷¹ Incentives for earnings smoothing include for example the maximization of compensation, avoidance of shareholder interference, tax avoidance and the pursuance of targeted dividend payments.⁴⁷² Although smoothing is an important incentive for earnings management, this incentive can be overridden by other earnings management objectives such as meeting or beating certain earnings targets including prior years’ earnings, analyst or management forecasts.

From a stock market perspective, smooth earnings are commonly referred to in a positive context when current earnings are a good indicator for future earnings. This earn-

⁴⁶⁷ The relation between these two types of smoothing is modeled for the first time in Trueman/Titman (1988).

⁴⁶⁸ This distinction neglects the possibility that cash flows may be also affected by smoothing activities (i.e. real earnings management).

⁴⁶⁹ Dechow (1994); Dechow/Skinner (2000), p. 238. However, Ball/Shivakumar (2006) note that this is only correct for the recognition of gain recognition since loss recognition exercises the opposite effect and results in an increase in earnings volatility. Therefore, they argue that differences in the relation between accruals and gains as compared to losses need to be acknowledged in earnings management models. This issue is discussed in more detail in chapter 3.2.3 on discretionary accruals.

⁴⁷⁰ Cf. Fudenberg/Tirole (1995), p. 75.

⁴⁷¹ Cf. Burgstahler et al. (2006); García Lara et al. (2005).

⁴⁷² Cf. Bauwhede (2001), p. 34.

ings characteristic is commonly referred to as earnings ‘persistence’.⁴⁷³ In this context, smooth earnings reduce cash flow variability over time and as a consequence are presumed to lead to more accurate future earnings predictions. Smoother earnings may then be perceived by the stock market as risk reduction. Hence, firms with more persistent earnings are commonly presumed to have more accurate equity valuations.⁴⁷⁴

This subject is for example addressed in a study by Rountree et al. (2008). They find evidence that cash flow volatility is negatively associated with Tobin’s q whereas smooth earnings tend to be positively related to Tobin’s q . Evidence suggests that smooth earnings are only positively associated with firm valuation if smoothness is a result of cash flow smoothness not smoothing via accruals. This finding is interpreted in Rountree et al. (2008) as an indicator that the market distinguishes between ‘real’ and ‘artificial’ smoothness.

Earnings persistence may result from the measurement process or fundamental earnings of a company. However, research on persistence commonly does not distinguish between the two components. This implies that persistence may not only result from smooth fundamental earnings but also from short-term earnings management.⁴⁷⁵ Persistence and earnings smoothness relate to the same earnings number. However, Dechow et al. (2010) find that earnings smoothing is negatively correlated with persistence.⁴⁷⁶ It appears in this context that earnings attributes should not be tested separately without analyzing inter-dependencies among multiple earnings attributes and how they are related to firm characteristics. Chaney et al. (2008) illustrate the possibility to draw wrong inferences from single earnings attributes based on the relationship between *persistence* and *accrual volatility*. Earnings in period $t+1$ could be the same as in period t which would suggest a high persistence of earnings. However, this result

⁴⁷³ Cf. Foster 1986, p. 223-229. Following Lev (1983), earnings persistence is commonly calculated using the following regression: $\text{Earnings}_{i,t+1} = \beta_0 + \beta_1 \text{Earnings}_{i,t} + \varepsilon_t$, β_1 serves as metric for earnings persistence.

⁴⁷⁴ Cf. on earnings persistence in a valuation context e.g. Kormendi/Lipe (1987); Ali/Zarowin (1992); Sloan (1996); Penman/Zhang (2002); Richardson et al. (2005); Frankel/Litov (2009); Richardson et al. (2010). Graham et al. (2005) provide survey evidence that smooth earnings are important to CFOs. As a consequence, CFOs are likely to engage in earnings management to achieve smooth earnings in order to anticipate negative reactions by the stock market.

⁴⁷⁵ Cf. Dechow et al. (2010), p. 350-353.

⁴⁷⁶ Cf. Dechow et al. (2010), p. 349.

could be due to hidden reserves created in period t in which earnings were actually understated.⁴⁷⁷

Managers may smooth earnings in an efficient manner or for opportunistic purposes.⁴⁷⁸ Although earnings smoothness is commonly regarded as opportunistic, earnings smoothing that results in persistent earnings may also be efficient from an investor's perspective.⁴⁷⁹ Therefore, evidence derived from empirical metrics on earnings smoothing and persistence needs to be interpreted with caution. Empirical metrics developed to capture earnings smoothing are described in the following chapter.

3.2.2.2 Measurement

Building on Leuz et al. (2003), Lang et al. (2003, 2006) assume that given constant economic environments, smoother earnings should be characterized by lower earnings variability.⁴⁸⁰ This can be expressed in the following simple measure for earnings smoothing, the standard deviation of net income scaled by average total assets (NI).⁴⁸¹

$$\sigma(NI_{it}) \quad (3.1)$$

Higher earnings quality, i.e. less earnings smoothing is reflected in higher values of the measure. A slightly different metric is suggested in Lang et al. (2006) and Barth et al. (2008) who assess earnings smoothing based on the variability of change in net income scaled by average total assets (ΔNI).⁴⁸²

$$\sigma^2(\Delta NI_{it}) \quad (3.2)$$

It is commonly presumed that earnings are smoothed via the accrual component. This implies that the variability of the cash flow component is considered to primarily re-

⁴⁷⁷ Cf. Chaney et al. (2008), p. 10-11.

⁴⁷⁸ Cf. Carlson/Bathala (1997), p. 179.

⁴⁷⁹ This particularly holds to be true if the revelation principle is valid, cf. Arya et al. (2003).

⁴⁸⁰ Cf. Lang et al. (2003), p. 371; Lang et al. (2006), p. 261.

⁴⁸¹ Metrics 3.1 to 3.2 may be either calculated using the standard deviation or the variance in earnings and cash flows and using alternative deflators than average total assets, cf. e.g. Rountree et al. (2008), p. 246.

⁴⁸² Cf. Barth et al. (2008), p. 476.

flect economic performance of the firm not earnings management.⁴⁸³ Leuz et al. (2003) analyze whether cross-country differences in private benefits of control and investor protection lead to different levels of earnings management. Grounding on prior literature, they use several proxies to assess the level of earnings smoothing. The first measure corresponds to the standard deviation of net income divided by the standard deviation in cash flows. Cross-country studies build on the median value of this metric.⁴⁸⁴ The cash flow component is presumed to capture differences in the variability of economic performance. Hence, the measure expresses the variability of operating earnings scaled by average total assets (NI_{it}) over operating cash flows scaled by average total assets (CF_{it}). Higher values are presumed to indicate less earnings smoothing:

$$\sigma(NI_{it})/\sigma(CF_{it}) \quad (3.3)$$

This measure is used by Barth et al. (2008) in a modified version. They build on the variability of *change* in net income scaled by average total assets relative to the variability in *change* in cash flows scaled by average total assets.⁴⁸⁵

$$\sigma^2(\Delta NI_{it})/\sigma^2(\Delta CF_{it}) \quad (3.4)$$

The second measure in Leuz et al. (2003) builds on the correlation between accruals scaled by average total assets and operating cash flows scaled by average total assets.⁴⁸⁶

$$\rho(ACC_{it}, CF_{it}) \quad (3.5)$$

Accruals are considered to cushion cash flow shocks since they may for example accelerate the reporting of future revenues or defer the reporting of current cost.⁴⁸⁷ This

⁴⁸³ This implies that cash flow choices (i.e. real earnings management) are neglected.

⁴⁸⁴ Cf. Leuz et al. (2003), p. 509.

⁴⁸⁵ Cf. Barth et al. (2008), p. 476.

⁴⁸⁶ In cross-country studies the correlation between accruals and cash flows is computed over the pooled set of firms in each country. Cf. Leuz et al. (2003), p. 510. This model is also applied in Barth et al. (2008), p. 484 to evaluate changes in earnings smoothing under national GAAP and IFRS.

⁴⁸⁷ Cf. Leuz et al. (2003), p. 509.

may also explain why accruals and cash flows tend to be negatively correlated.⁴⁸⁸ Large negative magnitudes in the correlation between accruals and cash flows are commonly interpreted as a signal for earnings smoothing since managers are presumed to increase accruals to conceal poor cash flows.⁴⁸⁹

A caveat of the metrics in equations 3.1 to 3.4 is that earnings smoothing or earnings variability may be affected by other factors than earnings management. To mitigate this issue, Lang et al. (2006) and Barth et al. (2008) consider the variance of the residuals (ε_{it}) from a regression of change in net income scaled by average total assets on variables identified in prior research as drivers of variability of change in net income as additional metric for earnings smoothing. Residuals (ε_{it}) are calculated from the pooled OLS-regression on change in net income scaled by average total assets in equation 3.5. The vector of control variables in Lang et al. (2006) X_{nt} comprises leverage, sales growth, an indicator variable on the issue of equity or debt in the observation year, turnover, firm size and operating cash flow.⁴⁹⁰

$$\Delta NI_{it} = \alpha_0 + \sum_{n=1}^N \alpha_n \cdot X_{nt} + \varepsilon_{it} \quad (3.6)$$

$$\sigma^2(\varepsilon_{it}) \quad (3.7)$$

Despite these control variables, volatility may be driven by the underlying cash flow volatility. Therefore, Lang et al. (2006) run the same regression using change in net cash flow as dependent variable. Residuals on change in cash flows υ_{it} form the basis for an additional metric, the variance on the residuals from the regression on change in net income divided by the variance on the residuals from the regression on change in cash flows.

$$\Delta CF_{it} = \alpha_0 + \sum_{n=1}^N \alpha_n \cdot X_{nt} + \upsilon_{it} \quad (3.8)$$

⁴⁸⁸ Cf. Dechow (1994). Dechow (1994) suggests that the role of accruals is to smooth cash flow variability. Accruals and cash flows are presumed to be negatively correlated because accruals reverse over time. However, Ball/Shivakumar (2006), p. 211 point out that this only holds to be true for gains that are usually distributed over the life time of an asset whereas losses tend to be recognized immediately and lead to higher earnings variability. This aspect is not acknowledged in the measures for earnings smoothing but incorporated in the non-linear discretionary accruals model in chapter 3.2.3.

⁴⁸⁹ Cf. Land/Lang (2002); Myers et al. (2007).

⁴⁹⁰ Cf. Lang et al. (2006), p. 261. The specification of the models used in this study slightly differs from Lang et al. (2006) and is presented in chapter 6.

$$\sigma^2(\varepsilon_{it}) / \sigma^2(\nu_{it}) \quad (3.9)$$

These metrics are modified in this study consistent with Günther et al. (2009). Given that the extent not the direction of change in net income and change in cash flow is of interest in the analysis, the absolute value of change in net income and change in cash flows is used as dependent variable. When a flow variable such as change in net income is regressed on a stock variable such as size (that never becomes negative) residuals tend to be overstated.⁴⁹¹ This yields the following regressions:

$$|\Delta NI_{it}| = \alpha_0 + \sum_{n=1}^N \alpha_n \cdot X_{nt} + \varepsilon_{it}^* \quad (3.10)$$

$$|\Delta CF_{it}| = \alpha_0 + \sum_{n=1}^N \alpha_n \cdot X_{nt} + \nu_{it}^* \quad (3.11)$$

Consistently, the following proxies are used as metrics for earnings smoothing in the analysis:

$$\sigma^2(\varepsilon_{it}^*) \quad (3.12)$$

$$\sigma^2(\varepsilon_{it}^*) / \sigma^2(\nu_{it}^*) \quad (3.13)$$

A similar procedure may be used to assess the correlation between accruals and cash flows. As with change in net income and cash flow, accruals and cash flows are regressed on control variables to estimate residuals. The correlation between the residuals of accruals and cash flows is used as sixth metric for earnings smoothing. Since accruals and cash flows correspond to a stock not a flow variable, we do not include the absolute values.

$$ACC_{it} = \alpha_0 + \sum_{n=1}^N \alpha_n \cdot X_{nt} + \omega_{it} \quad (3.14)$$

$$CF_{it} = \alpha_0 + \sum_{n=1}^N \alpha_n \cdot X_{nt} + \nu_{it} \quad (3.15)$$

The correlation between the residuals from the regressions yields the following metric:

$$\rho(\omega_{it}, \nu_{it}) \quad (3.16)$$

⁴⁹¹ Comparing the regression results using the data in this study for the original and the modified version of the model shows that size does not have a significant impact on change in net income in the original model but is significant at the 1%-level in the modified model where the absolute change in net income is regressed on firm size.

The metrics described above are applied in the analysis in chapter 6 of this study consistent with Barth et al. (2008). Differences in earnings smoothing based on these metrics may be assessed using the following test procedures:

- F-tests are used to compare the variance in change in net income and the variance in the residuals on change in net income,
- Fisher's z is used to assess the significance of differences regarding the correlation between accruals and cash flows as well as the residuals from the regressions on accruals and cash flows,
- T-tests may be applied based on the empirical distribution of the differences for all measures despite the measures that build on the correlation between accruals and cash flows.

Differences in the variability of change in net income over variability of change in cash flow may not be tested using F-tests but require a more complicated testing procedure. In order to obtain the empirical distribution of the differences between groups one and two, a simulation is run that models the distribution of the basic population. Therefore, n firm-year observations are randomly selected for each group with replacement (bootstrapping), whereby n_1 and n_2 equals the number of observations of the group in the respective period. This procedure is commonly repeated 1,000 times. Variances are calculated for each group for each of the 1,000 drawings. The means of the variances in group 1 and group 2 may be tested for differences in means by a t-test based on 1,000 observations for each group.

3.2.3 *Discretionary Accruals*

3.2.3.1 *Concept*

The analysis of discretionary accruals is the most common approach in accounting research to investigate accruals-based earnings management behavior. The concept of discretionary accruals, builds on the accruals process of the firm. At first, total accruals need to be estimated that are subsequently divided into *normal* and *discretionary* accruals.

$$ABN_ACC_{it} = ACC_{it} - N_ACC_{it} \quad (3.17)$$

Where:

ACC_{it} = Total Accruals

N_ACC_{it} = Normal Accruals

ABN_ACC_{it} = Discretionary Accruals

While *normal* accruals result from transactions in the current period that are expected to be normal for the firm given certain economic factors (e.g. industry, year), discretionary accruals are presumed to result from accounting treatments or transactions chosen with the purpose to manage earnings.⁴⁹²

The application of discretionary accruals as a proxy for earnings management is linked to econometric problems that primarily arise from the fact that the composition of accruals and hence discretionary accruals is unobservable.⁴⁹³ Hence, discretionary accruals can only be estimated not measured.⁴⁹⁴

Notwithstanding the problem that discretionary accruals are unobservable, this metric is most common to analyze earnings management in accounting literature. As a result, a large variety of estimation procedures for discretionary accruals has been developed. These procedures are highly debated in accounting literature since tests for earnings management fundamentally depend on the model used by the researcher to estimate

⁴⁹² Cf. e.g. Ronen/Yaari (2008), p. 425.

⁴⁹³ Cf. McNichols/Wilson (1988); Dechow et al. (1995); Elgers et al. (2003), p. 406; Lindemann (2004), p. 207-209.

⁴⁹⁴ For an extensive summary on caveats of discretionary accruals models, cf. Ronen/Yaari (2008), p. 389-454.

discretionary accruals.⁴⁹⁵ The following chapter aims at providing an overview on some main estimation models. Since the models used in the empirical analyses in chapters 5-8 rely on the Ball/Shivakumar (2005) estimation procedure, this approach is presented in more detail.

3.2.3.2 Measurement Approaches

Models to estimate discretionary accruals are commonly based on the study by Jones (1991). The model developed in Jones (1991) is derived from early accruals-based research carried out during the 1980s.⁴⁹⁶ Building on the DeAngelo (1986) model, total accruals (TA) are proxied as change in non-current assets excluding change in cash, minus change in current liabilities excluding the change of current maturities of long-term debt and the change in income taxes payable, minus depreciation and amortization.

Based on the idea that accounting discretion is likely to be incorporated in accruals, the Jones (1991) model divides total accruals (TA_t) into normal and abnormal or discretionary accruals. Normal accruals are estimated cross-sectionally from the change in sales (ΔREV_t) and property plant and equipment (PPE_t) by the beginning of the period's assets given estimated coefficients on a year and industry level (firm-year observations in the same two-digit SIC code).⁴⁹⁷ All variables in the model are scaled by average or lagged total assets (A_{t-1}). Abnormal accruals are captured by the error term ε_t and estimated using the following equation:

$$TA_t/A_{t-1} = \beta_0 + \beta_1 \Delta REV_t/A_{t-1} + \beta_2 PPE_t/A_{t-1} + \varepsilon_t \quad (3.18)$$

With:

- TA_t = total accruals in year t for firm i;
- ΔREV_t = revenues in year t less revenues in year t-1 for firm i;
- PPE_t = property plant and equipment in year t for firm i;
- A_{t-1} = total assets in year t-1 for firm i;
- ε_t = error term in t

⁴⁹⁵ Cf. Kothari et al. (2005), p. 164.

⁴⁹⁶ Cf. Ronen/Sadan (1981); Healy (1985); DeAngelo (1986); DeAngelo (1988); Dechow/Sloan (1991).

⁴⁹⁷ Cf. Jones (1991), p. 211.

The introduction of the Jones (1991) model is considered to have fundamentally influenced empirical accounting research.⁴⁹⁸ Xie (2001) documents evidence supporting the validity of the Jones (1991) model. Results from his study suggest that the predictive ability for future earnings is lower for discretionary than for normal accruals. However, the Jones (1991) model is associated with various shortcomings. It only explains about 10% of the variation in accruals and the residuals from the model are found to be positively associated with total accruals and earnings performance but negatively correlated with cash flow performance. This indicates that the estimation of discretionary accruals according to the Jones (1991) model is likely to be subject to a correlated omitted variables problem.⁴⁹⁹ Dechow et al. (1995) among others, provide a formal model to illustrate this problem. Based on a linear test of earnings management they show that the Jones (1991) model does not include all relevant regressors. This creates an omitted variables problem and implies that discretionary accruals are likely to be measured with one of two errors. Type I error relates to an erroneous rejection of the null hypothesis that firms do not engage in earnings management. Type II errors are associated with an erroneous acceptance of the null hypothesis that firms do not engage in earnings management.⁵⁰⁰

Given the shortcomings of the Jones (1991) model on the one side and the high demand for a metric that captures earnings management on the other side there is a significant number of methodological papers that propose modified versions of the Jones (1991) model to alleviate some of the shortcomings associated with the original model.⁵⁰¹ Some of these alternative models as well as the original model are summarized in table 4.

⁴⁹⁸ Cf. DeFond (2010) , p. 403.

⁴⁹⁹ Correlated omitted variables bias refers to the correlation between a single independent variable and the error term. It commonly results in biased estimators in ordinary least squares regressions. Cf. Wooldridge, J. M. (2003), p. 93.

⁵⁰⁰ Cf. Ronen/Yaari (2008), p.424-431; Dechow et al. (2010) , p. 358.

⁵⁰¹ For an extensive summary and discussion regarding econometric issues associated with the Jones (1991) model and the estimation of discretionary accruals, cf. Ronen/Yaari (2008), p. 407-456, Central issues associated with the estimation of discretionary accruals concern the use of small samples, misspecification of the model, conterminated data and omitted variables.

Table 4: Comparison between Discretionary Accruals Models⁵⁰²

Model	Estimation Equation	Notes
<i>Jones Model</i> Jones (1991)	$TA_t/A_{t-1} = \beta_0 + \beta_1 \Delta REV_t/A_{t-1} + \beta_2 PPE_t/A_{t-1} + \varepsilon_t$	Normal accruals are estimated cross-sectionally from the change in sales (ΔREV_t) and property plant and equipment (PPE_t) scaled by the beginning of the period's assets (A_{t-1}); only explains about 10% of variation in accruals
<i>Modified Jones model</i> Dechow et al. (1995)	$TA_t/A_{t-1} = \beta_0 + \beta_1 (\Delta REV_t/A_{t-1} - \Delta REC_t/A_{t-1}) + \beta_2 PPE_t/A_{t-1} + \varepsilon_t$ <i>All variables are defined as in the Jones (1991) model; ΔREC_t is net receivables in year t less net receivables in t-1</i>	Similar to the Jones (1991) model but change in accounts receivable scaled by lagged total assets is included in the model because revenues are likely to be affected by earnings management
<i>Performance matched accruals model</i> Kothari et al. (2005) ⁵⁰³	$Dis_Adj_{it} = Dis_ACC_{it} - Match_Dis_ACC_{it}$	Performance is correlated with residuals; observation on discretionary accruals (Dis_ACC_{it}) is matched with observation on discretionary accruals from a firm in the same industry with the closest Return on Assets (RoA) ($Match_Dis_ACC_{it}$)
<i>Cash flow based accruals model</i> Dechow/Dichev (2002)	$ACC_t = \alpha_0 + \alpha_1 CF_{t-1} + \alpha_2 CF_t + \alpha_3 CF_{t+1} + \varepsilon_t$	Total accruals are calculated based on net income minus cash flows; normal accruals are considered to be a function of past, present and future cash flows (timing of cash flow recognition)
<i>Non-linear discretionary accruals model</i> Ball/Shivakumar (2006)	$ACC_t = \alpha_0 + \alpha_1 CF_t + \alpha_2 CF_{t-1} + \alpha_3 CF_{t+1} + \alpha_4 DCF_t + \alpha_5 DCF_t CF_t + \varepsilon_t$	Modification of the Dechow/Dichev (2002) model including the asymmetric timeliness of earnings; accruals are differently related to losses as compared to gains; non-linear accruals model explains more variation in accruals than equivalent linear specifications

⁵⁰² Author's illustration, cf. Dechow et al. (2010), p. 359.⁵⁰³ A similar model is presented by Kang/Sivaramakrishnan (1995).

To alleviate the omitted variables problem, most modifications of the Jones (1991) model aim at enhancing the explanatory power of the original model by introducing additional variables or different estimation procedures. Dechow et al. (1995) adjust the original Jones (1991) model for growth in credit sales. While the original Jones (1991) model presumes revenues not to be affected by discretion, the modified Jones model implicitly assumes that all changes in credit sales within the observation period result from earnings management.⁵⁰⁴ All variables in the modified Jones model are defined as in Jones (1991). ΔREC_t is net receivables in year t less net receivables in $t-1$. It is expressed by the following equation, similar to the Jones (1991) model:

$$TA_t/A_{t-1} = \beta_0 + \beta_1 (\Delta REV_t / A_{t-1} - \Delta REC_t / A_{t-1}) + \beta_2 PPE_t / A_{t-1} + \varepsilon_t \quad (3.19)$$

Concerns associated with discretionary accruals models relate to the correlation between performance and residuals.⁵⁰⁵ Kothari et al. (2005) propose the use of a performance-adjusted accruals model because normal accruals have been found to be conditional on operating performance.⁵⁰⁶ Sample firms are matched with another firm from the sample in the same industry with the closest level of return on assets (RoA) in the current or prior observation year. In a second step, discretionary accruals from the matched firm are deducted from the level of discretionary accruals estimated for the sample firm. Discretionary accruals are derived from the Jones (1991) model.⁵⁰⁷ Although the procedure in Kothari et al. (2005) may be useful if correlated performance is of concern, the use of the performance matched discretionary accruals model is not free from caveats as it may reduce the power of the test and add noise to the measure of discretionary accruals.⁵⁰⁸

⁵⁰⁴ Dechow et al. (1995), p. 199.

⁵⁰⁵ Cf. e.g. Holthausen et al. (1995); Kothari et al. (2005).

⁵⁰⁶ Evidence suggests that accruals models even tend to be misspecified for firms with extreme performance. This observations was made already by Dechow et al. (1995), p. 193 who conclude that: "all models reject the null hypothesis of no earnings management at rates exceeding the specified test levels when applied to samples of firms with extreme financial performance."

⁵⁰⁷ The model is slightly modified by including a constant term ($1/\text{Total Assets}_{t-1}$) in the regression to control for heteroskedasticity and problems from an omitted scale variable. Cf. Kothari et al. (2005), p. 173.

⁵⁰⁸ Cf. Dechow et al. (2010), p. 359.

Another important concern with the Jones (1991) model and its modifications is that accruals are estimated indirectly from balance sheet data, instead of using information from cash flow statements. This may be explained by the fact that cash flow data were not sufficiently available for longer time periods at the time when the Jones (1991) model was set up.⁵⁰⁹ Hribar/Collins (2002) show that discretionary accruals models frequently lead to biased results when the balance sheet approach is used because the data input is imprecisely measured. This particularly holds to be true in periods with acquisitions, mergers and disinvestments.⁵¹⁰ Given the arguments and results in Hribar/Collins (2002) as well as Dechow/Dichev (2002) among others, the cash flow approach builds the basis for the analysis in this study.

Dechow/Dichev (2002) propose a cash flow oriented model to estimate discretionary accruals. They consider accruals to be a function of past, current and future cash flows. Consistent with the Jones (1991) model, discretionary accruals correspond to the error term in the estimation of accruals. Hence, the model is based on the idea that the quality of accruals depends on the error in predicting cash flows because accruals are considered to separate the timing of cash flows from accounting recognition. Thereby, the model focuses on short-term working capital accruals but does not address errors in the estimation of long-term accruals. Dechow/Dichev (2002) show that the R^2 from the cash flow approach is higher than the R^2 on the basis of the modified Jones model.⁵¹¹ The Dechow/Dichev (2002) model is expressed in the following equation:

$$ACC_t = \alpha_0 + \alpha_1 CF_{t-1} + \alpha_2 CF_t + \alpha_3 CF_{t+1} + \varepsilon_t \quad (3.20)$$

Where:

ACC_t = Total Accruals in t,⁵¹² scaled by average total assets at t

CF_t = Operating cash flows at t, scaled by average total assets at t

⁵⁰⁹ The disclosure of cash flow statements became mandatory in the USA after the issuance of SFAS 95 in November 1987. In Germany, the KontraG made the disclosure of cash flow statements mandatory from 31/12/1998. To date, cash flow information is not available in many countries. This constitutes a limitation on the use of models in cross-country studies. Cf. e.g. Leuz et al. (2003), p. 509.

⁵¹⁰ Cf. Hribar/Collins (2002), p. 108-111.

⁵¹¹ Studies on the reliability of discretionary accruals models usually benchmark different models to estimate discretionary accrual against each other, cf. e.g. Guay/Kothari/Watts 1996; Kang (1999); Young (1999); McNichols (2000); Thomas/Zhang (2000); Ball/Shivakumar (2006).

⁵¹² Total accruals are earnings before extraordinary items minus operating cash flows.

CF_{t-1} = Operating cash flows at t-1, scaled by average total assets at t

CF_{t+1} = Operating cash flows at t+1, scaled by average total assets at t

Ball/Shivakumar (2006) argue that standard linear accruals models could be misspecified because they do not consider the asymmetry in the recognition of gains and losses in accruals.⁵¹³ An implicit result of the study by Basu (1997) is that gains and losses are differently associated with accruals. Accruals are found to exhibit stronger correlations with cash flows in years with ‘bad news’ as compared to years with ‘good news’.⁵¹⁴ Several studies have shown that financially distressed firms exhibit large negative abnormal accruals.⁵¹⁵ Ball/Shivakumar (2006) suggest that the finding in Kothari et al. (2005) that accruals models tend to be misspecified for firms with extreme performance could also result from timely loss recognition. Although Kothari et al. (2005) discuss the role of timely loss recognition in accruals, this relation is not included in the estimation model of performance matched accruals. However, incomplete accruals models may lead to incorrect inferences. Based on the arguments in Dechow (1994), accruals are commonly regarded as a means to reduce variance of earnings by reducing the variance in the underlying cash flows. Although this may hold in case of gains, timely loss recognition is presumed to have the opposite effect and results in a higher volatility of accruals and earnings.⁵¹⁶ Under the presumption of the standard linear accruals models timely loss recognition may then be mistakenly be interpreted as a signal of discretionary accruals or poor earnings quality.⁵¹⁷

In response to this issue, Ball/Shivakumar (2006) develop the so-called non-linear accruals model based on the linear Dechow/Dichev (2002) model. Discretionary accruals are estimated in each year and each industry using the following piecewise linear regression:

⁵¹³ Cf. Ball/Shivakumar (2006), p. 209.

⁵¹⁴ Cf. Basu (1997). The study by Basu (1997) is described in chapter 3.3.2.1.

⁵¹⁵ Cf. e.g. DeAngelo et al. (1994); Dechow et al. (1995); Butler et al. (2004); Kothari et al. (2005).

⁵¹⁶ Cf. Dichev/Tang (2008); Ball/Shivakumar (2006), p. 211. The recognition of impairment losses under IAS 36 may be regarded as primary example to illustrate this issue.

⁵¹⁷ Cf. Ball/Shivakumar (2006), p. 211.

$$ACC_t = \alpha_0 + \alpha_1 CF_t + \alpha_2 CF_{t-1} + \alpha_3 CF_{t+1} + \alpha_4 DCF_t + \alpha_5 DCF_t CF_t + \varepsilon_t \quad (3.21)$$

Where:

ACC_t = Total accruals at t, scaled by average total assets at t⁵¹⁹

CF_t = Operating cash flows at t, scaled by average total assets at t

CF_{t-1} = Operating cash flows at t-1, scaled by average total assets at t

CF_{t+1} = Operating cash flows at t+1, scaled by average total assets at t

DCF_t = One if the cash flow at t is negative, and zero otherwise

ε_t = Error term, expected to capture the proportion of unexpected or abnormal accruals.

Ball/Shivakumar (2006) show that the non-linear model which incorporates the asymmetric timeliness of earnings (i.e. via the terms DCF_t and $DCF_t CF_t$) leads to a substantial specification improvement as it explains up to three times the amount of variation in accruals as compared to equivalent linear specifications such as the Dechow/Dichev (2002) model, the Jones (1991) model or the standard cash flow model.⁵²⁰ Thereby, the model enhances the specification of non-discretionary accruals. This model is also used for the purpose of the analyses in this thesis.

As earnings management does not only lead to income-increasing, but also to income-decreasing accruals, most studies use the absolute value of the residuals ($|\varepsilon_t|$) from the estimation regression as proxy for earnings management. Signed abnormal accruals are commonly not considered because income increasing and decreasing accruals could equal themselves out. However, when there is a directed hypothesis regarding a particular direction of earnings management signed abnormal accruals may be considered as a more appropriate measure.⁵²¹ The analyses in this study – like most other studies – build on the absolute value of discretionary accruals.

Inferences drawn from discretionary accruals models are likely to be subject to type I or type II errors. Although, the modifications of the Jones (1991) model may alleviate

⁵¹⁸ The interaction term $DCF_t * CF_t$ serves as proxy for economic losses. In contrast to Ball/Shivakumar (2006) and Wang (2006) equation (1) is estimated in each industry measured based on ICB-industry codes instead of three-digit Standard Industrial Classification (SIC) Codes but also require at least 30 observations in each industry-year regression.

⁵¹⁹ Total accruals are earnings before extraordinary items minus operating cash flows.

⁵²⁰ Cf. Ball/Shivakumar (2006), p. 209, 214-222, 240. The general cash flow model expresses accruals as a function of current cash flows.

⁵²¹ Cf. e.g. Jones (1991), Han/Shiing-Wu (1998).

some of the shortcomings of the original model, omitted correlated variables bias remains the main concern regarding discretionary accruals models. Another concern relates to the firm-level estimation of discretionary accruals on a year and industry level. Firm-level estimation assumes that the parameters for the estimates are time-invariant. This assumption typically does not hold and creates bias. Furthermore, estimation on the industry level implies that it needs to be assumed that the industry level produces consistent coefficient estimates within the industry. This argument suggests the use of relatively fine-grained industry classifications may lead to higher estimation accuracy. However, this implies that the number of observations in the year and industry regressions becomes relatively small. If the industry classification does not produce consistent coefficient estimates, large residuals that arise from variation induced by industry classification may be misinterpreted as earnings management rather than measurement error. The fit of industry classifications is presumed to be particularly weak in growth industries.⁵²² Consistently, Hrazdil/Scott (2009) show that results from discretionary accruals models are contingent on industry classification. Most studies on US firms build on two-digit or three-digit SIC-codes. These studies are commonly based on a larger sample basis. The number of observations per industry and year would be very small and even insufficient for several industries when applying such a fine categorization based on the samples used in this study given that the Ball/Shivakumar (2006) model requires a minimum of 30 observations per industry and year.⁵²³ To meet this requirement, analyses in this study are run based on ICB codes as provided in Thomson One Banker instead of three digit SIC-codes. The quality of the estimation is hence contingent on the suitability of ICB-codes to produce consistent coefficients.

The dilemma of estimating discretionary accruals is summarized in Klein (2002) as follows: “Any test of earnings management is a joint test of (1) earnings management and (2) the expected accruals model used. Acceptance or rejection of the null hypothesis of no earnings management cannot be disentangled from the key methodological issue of how well the chosen expected accruals model separates total accruals into its unexpected (abnormal) and expected components.”⁵²⁴

⁵²² Cf. on this issue Dechow et al. (2010), p. 360.

⁵²³ Cf. Ball/Shivakumar (2006), p. 215.

⁵²⁴ Klein (2002), p. 381.

3.2.4 *Real Earnings Management*

3.2.4.1 *Concept*

Earnings may not only be managed through accounting choices but also through real cash flow decisions including operating, financing and investment decisions. Focusing on operating decisions real earnings management is defined by Roychowdhury (2006) as “departures from normal operational practices, motivated by managers’ desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations.”⁵²⁵

While accounting earnings management involves accounting choices to represent business activities, real earnings management involves changes in real business activities.⁵²⁶ Gunny (2010) names several reasons why managers may engage in real earnings management. Flexibility to manage accruals tends to be limited and may be constrained by accounting choices made in prior years (consistency).⁵²⁷ Furthermore, accounting choices commonly need to be made at the end of the fiscal year or in case of quarterly financial reporting at the end of the quarter. Managers may feel uncertain which effect may be achieved by accounting choices at this point in time given that accounting choices are also subject to auditor scrutiny. In case of US firms, earnings management regarding accounting choices may also be risky given class action litigation. Since real earnings management is harder to detect than accounting-based earnings management this could be another argument in favor of real earnings management. However, real activities manipulation needs to be planned and undertaken prior to fiscal year’s end whereas accounting choices may be made after fiscal year’s end. This implies that accounting choices in contrast to real cash flow choices may be made at a point in time when the need for earnings management is most certain.⁵²⁸

Some studies address the relationship between accounting and real earnings management. In a rational expectations equilibrium model Ewert/Wagenhofer (2005) show that accounting earnings management may decrease under tighter accounting standards but may be outweighed by real earnings management. Given that real earnings man-

⁵²⁵ Roychowdhury (2006), p. 367.

⁵²⁶ Cf. Gunny (2010), p. 855.

⁵²⁷ Cf. in this context Barton/Simko (2002).

⁵²⁸ Cf. Gunny (2010), p. 855-856; Roychowdhury (2006), p. 338.

agement may negatively affect firm value, earnings management under tighter accounting standards becomes more costly. The theoretical predictions in Ewert/Wagenhofer (2005) are supported by empirical evidence in Zang (2007). She models the sequentiality of real and accounting earnings management and suggests that accounting and real earnings management tend to be rather substitutes than complements. Consistent with the argument that accounting choices are commonly made after fiscal year's end, real activities manipulation is found to be determined prior to accounting earnings management. Testing for a sub-sample of firms that are subject to securities class action lawsuits, they find that managers tend to engage in more real earnings management after lawsuit filings. Securities lawsuit filings could be considered comparable to tighter accounting standards in the Ewert/Wagenhofer (2005) model since they are presumed to limit accounting choices due to greater regulatory scrutiny.

There are several studies that examine the instruments used to engage in real earnings management. These studies address:

- the deferral of research and development (R&D) expenses as well as other discretionary expenditures (e.g. advertising, maintenance, SG&A) to increase income,⁵²⁹
- the sale of profitable assets or timing of income recognition from the disposal of a long-lived asset,⁵³⁰
- inventory management and alterations of shipment schedules or overproduction to decrease cost of goods sold (COGS) expense,⁵³¹
- the cutting of prices to boost sales in the current period and other means to accelerate sales,⁵³²
- stock repurchases,⁵³³ or

⁵²⁹ Cf. e.g. Baber et al. (1991); Dechow/Sloan (1991); Holthausen et al. (1995); Bushee (1998); Bens et al. (2003); Cheng (2004); Graham et al. (2005); Gunny (2010).

⁵³⁰ Cf. Bartov (1993); Hermann/Inoue/Thomas (2003); Gunny (2010).

⁵³¹ Cf. Hunt et al. (1996); Thomas/Zhang (2002); Gunny (2010).

⁵³² Cf. Jackson/Wilcox (2000); Roychowdury (2006).

- derivative hedging and debt-equity swaps.⁵³⁴

The importance of real cash flow decisions as an instrument to manage earnings is documented in Graham et al. (2005). In a survey of US CFOs, nearly 80% state that they would decrease R&D, advertising and/or maintenance expenses, while 55% would defer a new project to smooth earnings or meet an earnings target. Managers state that there is a trade-off between the short-term need to meet earnings expectations and the maximization of long-term firm value. Evidence from the survey indicates that smooth earnings are perceived to be important by a majority of CFOs since they ease analyst forecasts. They even presume that a missed earnings target or volatile earnings culminate in the command of a risk premium by the market. As a consequence, it seems appropriate to the majority of CFOs in the survey to sacrifice a small proportion of firm value for the purpose of smooth earnings or the achievement of an earnings target since negative earnings surprises are likely to be costly.⁵³⁵

The study by Gunny (2010) fits into this context. She examines whether real earnings management is associated with target beating (prior year's and zero earnings) and finds evidence that real earnings management is positively associated with firms meeting these earnings benchmarks. In a second step, Gunny (2010) assesses consequences of real activities manipulation on subsequent performance. A negative association between meeting earnings benchmarks via real activities manipulation and stock market performance would support research suggesting that the use of earnings management is detrimental to shareholder value. In contrast, a positive association between real earnings management and performance could signal that managers attain benefits from real earnings management that allow for higher subsequent performance. Evidence found in the study is in favor of the second prediction. However, the analysis focuses on short-term subsequent performance (return on assets in the year after the firm attained an earnings benchmark) but does not allow for inferences on long-term performance and firm value.

⁵³³ Cf. Hribar et al. (2006).

⁵³⁴ Cf. Hand (1989); Barton (2001); Pincus/Rajgopal (2002).

⁵³⁵ Cf. Graham et al. (2005), p. 5.

The fact that real earnings management is hard to distinguish from normal business activities implies that it is difficult to capture real earnings management empirically.⁵³⁶ This may be one of the main reasons why real activities manipulation tends to be under-researched in accounting literature as compared to accounting earnings management.⁵³⁷ Roychowdhury (2006) proposes the first empirical approach to examine real earnings management from operating activities. This approach comprises three proxies that are described in more detail in chapter 3.2.4.2 including i) discretionary cash flows, ii) discretionary expenses and iii) discretionary production. These three proxies are presumed to capture the following real earnings management activities.⁵³⁸

i) Discretionary Cash Flows: Discretionary cash flows are presumed to result from sales manipulation. Managers may be tempted to temporarily increase sales in various ways such as the offering of ‘limited time’ price discounts or lenient credit terms. Increased sales from price discounts are presumed to vanish when the firm returns to its old prices. As a consequence, the cash inflow per sale net of price discount is lower because margins decrease. Similarly, lenient credit terms such as zero-percent financing are presumed to lower cash inflows as long as suppliers to the product do not also make discounts on the inputs needed for production. Roychowdhury (2006) expects that sales management activities are reflected in lower current period cash flows from operations and higher production costs as compared to levels common for the respective sales level.

ii) Reduction of Discretionary Expenditures: Discretionary expenditures such as R&D, advertising, and maintenance are frequently addressed as a means to affect the level of earnings. These expenditures are commonly expensed in the period in which they occur. Hence, firms can use discretionary expenditures to reduce expenses but increase earnings in the respective period.

iii) Discretionary Production: Overproduction may represent another instrument to manage earnings upwards. Higher production numbers distribute fixed costs over a larger number of units and as a consequence lower costs per unit. As long as this de-

⁵³⁶ Cf. Schipper (1989), p. 92.

⁵³⁷ Cf. DeFond (2010), p. 406.

⁵³⁸ Cf. Roychowdhury (2006), p. 340.

crease in cost per unit is not compensated by an increase in marginal cost per unit, firms are able to report more favorable margins. However, the firm incurs production and holding costs on overproduced items without corresponding sales in the respective period. As a consequence, operating cash flows are considered to be lower than considered normal for the respective sales level.

Although, there are only few empirical studies on real earnings management, it appears that the model by Roychowdhury (2006) is becoming accepted in accounting literature.⁵³⁹ However, given the difficulty to distinguish between normal business activities and real earnings management the models in Roychowdhury are very likely to be affected by an omitted correlated variables problem though these metrics produced reasonable results in previous studies. The estimation of real earnings management in Roychowdhury (2006) follows a similar methodological approach as the discretionary accruals models. Therefore, the models are subject to the same methodological issues described above including those concerning the firm-level estimation of coefficients on a year and industry basis and omitted variables bias.

3.2.4.2 Measurement

The first measure developed in Roychowdhury (2006), *discretionary cash flows* builds on the model in Dechow et al. (1998). It expresses operating cash flow as a linear function of sales and change in sales. Sales are presumed to capture real business activity. All variables used in the model are scaled by lagged total assets (A_{t-1})⁵⁴⁰:

$$CFO_t/A_{t-1} = \alpha_0 + \alpha_1 (I/A_{t-1}) + \alpha_2 (S_t/A_{t-1}) + \alpha_3 (\Delta S_t/A_{t-1}) + \varepsilon_t \quad (3.22)$$

with:

CFO_t = Cash flow from operating activities in t

A_{t-1} = Lagged total assets

S_t = Sales in t

ΔS_t = Change in sales from t-1 to t, $\Delta S_t = S_t - S_{t-1}$

⁵³⁹ Cf. DeFond (2010), p. 406. Cf. for exemplary studies Cohen/Zarowin (2010) and Gunny (2010).

⁵⁴⁰ Cf. in the following Roychowdhury (2006), S. 344.

The regression is run cross-sectionally for each industry in each year with a minimum of 15 observations per industry-year.⁵⁴¹ Normal cash flows are calculated based on the estimated coefficients from the corresponding industry-year model and the residuals correspond to discretionary accruals. Higher discretionary cash flows are presumed to indicate lower levels of real earnings management. The scaled intercept (I/A_{t-1}) is included in the equation to avoid spurious correlations between scaled cash flows from operations and scaled sales due to the variation in the scaling variable, total assets.

Discretionary Production is the second model proposed in Roychowdhury (2006).⁵⁴² In this model, production costs ($PROD_t$) are expressed as a function of sales and changes in sales. Production costs are defined as costs of goods sold in t ($COGS_t$) plus change in inventories (ΔINV_t). Normal production costs in each industry-year are calculated based on the following regression consistent with the procedure used to calculate discretionary cash flows.⁵⁴³

$$PROD_t/A_{t-1} = \alpha_0 + \alpha_1(I/A_{t-1}) + \alpha_2(S_t/A_{t-1}) + \alpha_3(\Delta S_t/A_{t-1}) + \alpha_4(\Delta S_{t-1}/A_{t-1}) + \varepsilon_t \quad (3.23)$$

Where:

$PROD_t$	=	Production costs in t ($COGS_t + \Delta INV_t$)
A_{t-1}	=	Lagged total assets
S_t	=	Sales in t
ΔS_t	=	Change in sales

Discretionary Expenses constitute the third proxy for real earnings management in Roychowdhury (2006).⁵⁴⁴ Consistent with the two other proxies for real earnings management discretionary expenses are modeled as a linear function of lagged sales.⁵⁴⁵

⁵⁴¹ Consistent with the analysis on discretionary accruals, the metrics for real earnings management are calculated based on ICB-codes in this study (cf. chapter 7).

⁵⁴² Cf. in the following Roychowdhury (2006), S. 345.

⁵⁴³ The regression is run cross-sectionally for each industry in each year with a minimum of 15 observations per industry-year.

⁵⁴⁴ Cf. in the following Roychowdhury (2006), S. 345.

⁵⁴⁵ The model on discretionary expenses is not modelled as a function of *current* sales scaled by lagged total assets. Firms may manage sales upward to increase earnings in any period. This may result in unusually low residuals in years in which earnings are not managed by reducing discretionary expenses. To mitigate this issue, discretionary expenses are modelled as a function of lagged sales. The regression is run cross-sectionally for each industry in each year with a minimum of 15 observations per industry-year.

$$DISEXP_t/A_{t-1} = \alpha_0 + \alpha_1 (I / A_{t-1}) + \alpha_2 (S_{t-1} / A_{t-1}) + \varepsilon_t \quad (3.24)$$

Where:

$DISEXP_t$ = Discretionary expenses

A_{t-1} = Lagged total assets

S_{t-1} = Sales in t-1

Discretionary expenses correspond to the sum of R&D, advertising, selling, general and administrative (SG&A) expenses. As long as SG&A expenses are available, R&D are set to zero if information on this item is missing.

3.3 Conservatism

3.3.1 Definition and Dimensions of Conservatism

The qualitative accounting characteristic of conservatism may be regarded as one of the oldest⁵⁴⁶, most influential⁵⁴⁷ but also most controversially⁵⁴⁸ debated principles in accounting literature. Accounting conservatism expresses itself in varying degrees of verification for the recognition of ‘good’ and ‘bad’ news in financial statements.⁵⁴⁹

Research on conservatism in accounting is comprehensive. The earliest stream in accounting literature primarily focused on the description of the phenomenon.⁵⁵⁰ A more recent and probably the most comprehensive stream of research relates to determinants of conservatism.⁵⁵¹ It is complemented by studies that focus on economic consequences of conservatism such as performance measurement, cost of capital or investment decisions.⁵⁵² Another strand of research addresses problems associated with the

⁵⁴⁶ Cf. Basu (1997), p. 8, Watts (2003a), p. 208. Khan/Watts (2009), p. 132 refer to accounting conservatism as an “enduring qualitative characteristic of financial reporting for at least five centuries”.

⁵⁴⁷ Conservatism is described by Beaver (1998), p. 111 as “major feature of financial reporting.”

⁵⁴⁸ Cf. Watts (2003a), p. 215.

⁵⁴⁹ Cf. Basu (1997), p. 4. A similar definition is provided by Watts (2003a), p. 207: “Conservatism is defined as the differential verifiability required for recognition of profits versus losses.”

⁵⁵⁰ Cf. e.g. Bliss (1924); Watts/Zimmerman (1978); cf. Basu (1997), p. 8-10 for an overview on early research on conservatism.

⁵⁵¹ Cf. e.g. Ahmed et al. (2002); Ahmed/Duellman (2007); Ball et al. (2000); Ball et al. (2003); Ball/Shivakumar (2005); Ball et al. (2008); Beatty et al. (2008); Beekes et al. (2004); Beuselinck et al. (2009); Bona Sánchez et al. (2009); Bushman/Piotroski (2006); Carel/Martien (2005); Chen et al. (2007); Chung/Wynn (2008); García Lara et al. (2005); García Lara et al. (2007); Gassen et al. (2006); Gigler et al. (2009); Giner/Rees (2001); Givoly/Hayn (2000); Grambovas et al. (2006); Guay (2008); Haw et al. (2009); He et al. (2008); Hui et al. (2009); Hsu et al. (2010); Iyengar/Zampelli (2010); Jenkins/Velury (2008); Jenkins et al. (2009); Kwon et al. (2001); Kwon (2005); Kwon et al. (2006); LaFond/Roychowdhury (2008); Nikolaev (2010); Peek et al. (2010); Pope/Walker (1999); Raonic et al. (2004); Shuto/Takada (2010); Xinrong (2007); Zhang (2008); Zhang (2010). For comprehensive overviews on studies on conservatism cf. Watts (2003a); Watts (2003b); Givoly et al. (2007), p. 66.

⁵⁵² Cf. e.g. Rajan et al. (2007); Biddle et al. (2009); García Lara et al. (2010); García Osma et al. (2010).

measurement of conservatism and attempts to improve extant measurement methods.⁵⁵³

Conservatism is commonly regarded as core principle of German GAAP and is explicitly codified in German accounting standards (§ 252 I No. 4 HGB). It is concretized by the impairment principle and the realization principle. The impairment principle deals with the asymmetric recognition of gains versus losses and assets versus liabilities. This is consistent with the the realization principle which demands that gains are not realized before they are earned – whereas losses need to be anticipated consistent with the impairment principle. Gains are commonly considered to be earned after goods and services have been rendered. Furthermore, the HGB demands a high degree of verifiability of accounting information.⁵⁵⁴ The purpose of German accounting standards is to ease the calculation of a detractable earnings number for the purpose of payout restriction and capital sustainment.⁵⁵⁵

While conservatism explicitly forms part of German GAAP it is not incorporated in the framework to IFRS or US GAAP as a qualitative characteristic of financial reporting.⁵⁵⁶ From an Anglo-Saxon perspective, conservatism is rather regarded as an endogenous component contingent on firms' reporting incentives.⁵⁵⁷

⁵⁵³ Cf. e.g. Ryan (2006); Givoly et al. (2007); Roychowdhury/Watts (2007); Callen et al. (2008); Ball et al. (2010); Khan/Watts (2009); Ball et al. (2010); Patatoukas/Kandathil (2010).

⁵⁵⁴ Cf. Moxter (1982), p. 26-27.

⁵⁵⁵ Cf. Leffson (1987), p. 465-470; Moxter (1984), p. 157-164; Moxter (1996).

⁵⁵⁶ Prudence or conservatism no longer forms part of the conceptual framework to IFRS or US GAAP (IASB 2010, FASB 2010). The standard setters give the following reasons for their decision: “[The framework] does not include prudence or conservatism as an aspect of faithful representation because including either would be inconsistent with neutrality. Some respondents [...] disagreed with that view. [...] They said that bias should not always be assumed to be undesirable, especially in circumstances when bias, in their view, produces information that is more relevant to some users.” (BC 3.27) “Deliberately reflecting conservative estimates of assets, liabilities, income, or equity sometimes has been considered desirable to counteract the effects of some management estimates that have been perceived as excessively optimistic. However, [...] an admonition to be prudent is likely to lead to a bias. Understating assets or overstating liabilities in one period frequently leads to overstating financial performance in later periods - a result that cannot be described as prudent or neutral.” (BC3.28) Cf. for a discussion Gassen (2008); Kothari et al. (2010); Lambert (2010).

⁵⁵⁷ Cf. Fülbier et al. (2008), p. 1318.

There are two concepts of conservatism addressed in accounting literature: *unconditional* and *conditional conservatism*.⁵⁵⁸ German accounting standards are commonly considered to lead to a high level of unconditional conservatism. Synonyms for unconditional conservatism are balance-sheet conservatism, news independent or *ex ante* conservatism.⁵⁵⁹ Unconditional conservatism means that “aspects of the accounting process determined at the inception of assets and liabilities yield expected unrecorded goodwill.”⁵⁶⁰ The non-recognition of internally developed intangibles is one of the primary examples for unconditional conservatism.⁵⁶¹ Other examples include the accelerated depreciation and amortization of property, plant and equipment prior to the end of economic life-time or the overstatement of provisions.⁵⁶²

Synonyms for conditional conservatism are income statement conservatism, news dependent or *ex post* conservatism.⁵⁶³ Conditional conservatism means that “book values are written down under sufficiently adverse circumstances but not written up under favorable circumstances, with the latter being the conservative behavior.”⁵⁶⁴ Examples for conditional conservatism include the lower of cost or markets or the recognition of impairment losses. While most accounting standards do not allow writing-up assets over a certain degree, losses need to be recognized as soon as they occur. Given that conditional conservatism is not predetermined but contingent on certain events or news and is considered to increase information content for the users of financial statements, conditional conservatism is regarded as theoretically distinct concept from unconditional conservatism. The idea that conditional conservatism may enhance decision usefulness and protect shareholders from managerial opportunism makes conditional conservatism a widely accepted accounting characteristic from an Anglo-Saxon perspective.⁵⁶⁵ Ryan (2006) argues that conditional conservatism is characterized by stronger and different ties to contracting than unconditional conservatism. This intui-

⁵⁵⁸ Cf. Beaver/Ryan (2005); Pope/Walker (1999).

⁵⁵⁹ Cf. Beaver/Ryan (2005), p. 269.

⁵⁶⁰ Beaver/Ryan (2005), p. 269.

⁵⁶¹ Cf. DeFond (2010), p. 287.

⁵⁶² Cf. Beaver/Ryan (2005), p. 269.

⁵⁶³ Cf. e.g. Ryan (2006), p. 512-513.

⁵⁶⁴ Beaver/Ryan (2005), p. 269.

⁵⁶⁵ Cf. Watts (2003a), p. 214-215.

tion builds on the view of the firm as a nexus of contracts where the participants require informative and timely accounting measures for contracting purposes – a characteristic attributed to conditional rather than unconditional conservatism. However, Ryan (2006) admits that unconditional conservatism may also have favorable consequences from a contracting perspective when relations are characterized by material risk aversion.⁵⁶⁶

Conservatism is deemed to lead to a systematic downwards bias in income and net assets (book value as compared to market value of net assets). Furthermore, the understatement of assets and/or income in one period is presumed to result in an overstatement of income and/or assets in later periods which is perceived by opponents to conservatism as intolerable bias in accounting numbers.⁵⁶⁷

Conditional and unconditional conservatism need to be regarded as interrelated constructs. Although these concepts may be distinct from a theoretical point of view,⁵⁶⁸ they are frequently difficult to distinguish in practice. The main reason is that the rationale for conditional and unconditional conservatism is not clearly expressed in accounting standards but to a large extent results from accounting behavior. As a consequence, the attitude of the preparer of financial statements plays an important role.⁵⁶⁹ It is to distinguish between conditional conservatism and discretionary behavior because the amount of the impairment is in most cases subject to estimations. Besides, some types of discretionary behavior such as ‘big bath’ accounting and the creation of hidden reserves result in asymmetric timeliness of earnings and may be misinterpreted as conditional conservatism in empirical analyses.⁵⁷⁰ Another issue is that it is not always easy to identify and clearly define the “event” that gives the impulse to conditional conservatism.⁵⁷¹ Therefore, it is likely that conservatism frequently results from a combination of both conditional and unconditional conservatism in practice. Some scholars argue that conditional conservatism may be ‘pre-empted’ by unconditional

⁵⁶⁶ Cf. Ryan (2006), p. 511, 523.

⁵⁶⁷ Cf. Watts (2003a), p. 208; IASB (2010), SFAC 8, BC 3.28.

⁵⁶⁸ Cf. e.g. Ball/Shivakumar (2005), p. 92.

⁵⁶⁹ Cf. Fülbier et al. (2008), p. 1318, 1323-1324.

⁵⁷⁰ Cf. Ball/Shivakumar (2005); 122, 125; Ryan (2006), p. 516.

⁵⁷¹ Cf. Fülbier et al. (2008), p. 1323.

conservatism.⁵⁷² This means that conditional conservatism is less frequent and/or only contributes to a small amount of conservatism as compared to unconditional conservatism.⁵⁷³ Another aspect is that ‘bad news’ is sometimes not recognized immediately because accounting standards cushion the immediate write-down to avoid volatility in the balance sheet.⁵⁷⁴ Given that studies on accounting and corporate governance commonly refer to conditional conservatism, conditional conservatism is in the focus of this study. However, it is acknowledged that conditional and unconditional conservatism may be overlapping in the empirical analysis.

Accounting literature has elaborated in depth on explanations, sources and potential consequences of conservatism. The first comprehensive survey on why conservatism arises and why it benefits users of financial reporting is presented by Watts (2003a).⁵⁷⁵ According to this survey, there are four explanations for accounting conservatism:

- contracting,
- litigation,
- taxation, and
- loss function of auditors and regulators.⁵⁷⁶

While there is a comprehensive body of research on conservatism and contracting motivations as well as litigation, evidence on the contribution of taxation and the loss function of auditors and regulators on conservatism is sparse.⁵⁷⁷

Contracting Explanation: Contracting may be regarded as main explanation for conservatism brought forward in accounting literature. Firms may be regarded as a nexus of contracts between various parties (e.g. managers, shareholders, creditors, suppliers, employees).⁵⁷⁸ Agency theory focuses on the relationship between managers, boards,

⁵⁷² Cf. Pope/Walker (1999); Beaver/Ryan (2005); Pae et al. (2005).

⁵⁷³ Cf. Ryan (2006), p. 515.

⁵⁷⁴ Cf. Beaver/Ryan (2005), p. 302; Ryan (2006), p. 515. One example is the use of the ‘corridor method’ in IAS 19 (pension accounting).

⁵⁷⁵ Cf. for a survey comparing the Anglo-Saxon and the German perspective, Fülbier et al. (2008).

⁵⁷⁶ Cf. Watts (2003a), p. 209-214.

⁵⁷⁷ Cf. García Lara et al. (2009a), p. 162.

⁵⁷⁸ Cf. Coase (1937); Jensen/Meckling (1976) .

shareholders and debtholders. Accounting information may form part of explicit and implicit contracts to alleviate agency conflicts.⁵⁷⁹ The presence of conservatism defers earnings and generates lower net assets. From a corporate governance perspective, conservatism produces accounting numbers that can be used in contracts with various parties to reduce moral hazard and protect claims of the firm's contracting parties against managerial opportunism. Accounting research largely focuses on two types of contracts: executive and debt contracts. In this context, conservatism in financial statements is presumed to lower information asymmetries between shareholders and managers by providing timely information about losses. Timely recognition of losses in accounting income requires managers to stem losses and terminate negative net present value (NPV) projects more quickly as compared to when losses are distributed and reflected in the income statement over time. Thereby, conditional conservatism may constrain opportunistic payments by managers to themselves via high bonus payments and prevent empire building.⁵⁸⁰

Managers are presumed to have incentives to report high earnings numbers to maximize their income.⁵⁸¹ In case of executive contracts, performance measures should reflect effects of managerial action on firm value on a timely basis and help to avoid dysfunctional outcomes due to limited time horizons of managers. Conservatism is considered to limit the possibilities of managers to report excessive earnings numbers and as a consequence prevent them from obtaining an inappropriate amount of compensation.⁵⁸² Managers may also be tempted to choose projects regardless of their net present value as long as these projects increase the manager's pecuniary and non-pecuniary benefits. Conservatism may mitigate this issue by lowering the attractiveness of negative net present value projects by requiring write-offs on a timelier basis.

⁵⁷⁹ Cf. Watts/Zimmerman (1978); Watts/Zimmermann (1986); for a detailed description of the use of accounting information in contracting cf. chapter 2.1.

⁵⁸⁰ Cf. Ball et al. (2000), p. 2.

⁵⁸¹ In this context, Chen et al. (2007) formally show that conservatism may prevent upwards earnings management. This is consistent with evidence found in Garcia-Lara (2010).

⁵⁸² Cf. Watts (2003a), p. 210-211. Using a limited liability setting, Kwon et al. (2001) suggest that it is a dominant strategy for principals to choose a conservative reporting system to lower executive compensation. A similar model is provided by Kim (1995).

Consistent with this prediction, several studies suggest that conservatism may serve as an instrument to mitigate overinvestment.⁵⁸³

Earnings also play an important role from a creditor's perspective. Debtholders are characterized by a different risk and reward profile than shareholders. In contrast to shareholders debtholders do not benefit from an increase in net assets but are endangered to lose the capital provided to the firm if managers and shareholders engage in risky projects. Given that shareholders are presumed to have incentives to shift investment risk to creditors, creditors are presumed to anticipate conflicts with shareholders.⁵⁸⁴ They may either price their claims or dictate particular conditions for providing the loan. In this context, creditors are presumed to demand timely, verifiable information as well as conservative accounting information. They may also make use of earnings in debt contracts to renegotiate or recall the loan when covenants are breached and to limit dividend payout.⁵⁸⁵ Several studies suggest that conditional conservatism may render debt contracting more efficient given that conditional conservatism is considered to lead to a timelier binding of leverage and dividend restrictions.⁵⁸⁶

Overall, conservatism is presumed to increase contracting efficiency between the firm and its parties.⁵⁸⁷ García Lara et al. (2009a) examine the role of conservatism in corporate governance for a sample of US firms. Evidence from their study indicates that there is a positive relation between conditional conservatism and governance characteristics that are commonly considered to be related to effective monitoring. 'Strong governance' is proxied in their study based on a composite index on corporate governance that encompasses indicators such as exposure to the market for corporate control and CEO influence on board activity as well as board independence. Tests for endoge-

⁵⁸³ Cf. García Lara et al. (2010); Francis/Martin (2010); Bushman et al. (2010).

⁵⁸⁴ Cf. Smith/Warner (1979).

⁵⁸⁵ The use of earnings in debt contracts is found to be more common in the USA or the UK as compared to Germany. Cf. chapter 2.1.5; Leuz (1998); Leuz et al. (1998).

⁵⁸⁶ Ball et al. (2000), p. 2. Studies on debt contracting and conservatism include e.g. Ahmed et al. (2002); Ball et al. (2008); Beatty et al. (2008); Guay (2008); Zhang (2008); Callen et al. (2009); Gigler et al. (2009); Nikolaev (2010).

⁵⁸⁷ Cf. García Lara et al. (2009a), p. 164.

neity suggest that governance mechanisms are not substitutes for conservatism but that causality flows from corporate governance to conservatism.⁵⁸⁸

Litigation Explanation: Given that an overstatement of net assets is more likely to lead to litigation than an understatement, litigation is considered to provide an important explanation for conservatism.⁵⁸⁹ Studies on auditor litigation suggest that most lawsuits against auditors are due to overstatements of earnings or net income due to upwards earnings management.⁵⁹⁰ Higher litigation risk is presumed to be associated with higher demand for conservatism. Regulatory changes allow some empirical discrimination between the two main explanations for the existence of conservatism contracting and litigation. An example for a regulatory initiative that significantly increased litigation risk for firms listed at US stock exchanges is the Sarbanes Oxley Act. Huijgen/Lubberink (2005) find that the introduction of said legislation led to an increase in conditional conservatism among US firms.

Income Tax Explanation: The income tax explanation particularly holds when there is a link between financial and tax reports. In Germany, taxable income is closely related to reported earnings. Therefore, income tax could provide an alternative explanation for conservatism in Germany. Evidence on the income tax explanation for conservatism is among others presented in Guenther et al. (1997) and Shackelford/Shevlin (2001). These studies suggest that conservatism helps to reduce the present value of the firm because income recognition is delayed whereas loss recognition is accelerated.⁵⁹¹

Regulatory Explanation: Regulators and standard setters are presumed to prefer conservative to neutral accounting.⁵⁹² Losses from overstated assets and income are more likely to be detected and used in the political process than gains from understated assets or income.⁵⁹³ An example in favor of this prediction is that the Securities and Ex-

⁵⁸⁸ This finding contrasts with evidence in Bushman et al. (2004) who suggest that there is a reverse relation between governance structures and conditional conservatism.

⁵⁸⁹ Cf. Watts (2003a), p. 216.

⁵⁹⁰ Cf. in this context Heninger (2001); Khurana/Raman (2004).

⁵⁹¹ Cf. Watts (2003a), p. 209.

⁵⁹² Cf. e.g. Basu (1997), p. 8.

⁵⁹³ Cf. Watts (2003a), p. 210.

change Commission banned upward valuations of assets in its first 30 years as regulatory authority.⁵⁹⁴ Given this prediction, it is surprising that the standard setters IASB and FASB explicitly reject conservatism from their conceptual framework and clearly express support for enhanced use of fair value accounting in accounting standards – even after fair value accounting was severely criticized in the light of the financial crisis.⁵⁹⁵

One of the difficulties with conservatism in empirical research is that conservatism per se is unobservable and may only be estimated not measured. Several models were developed to estimate the level of conservatism in accounting numbers. Accounting studies frequently rely on net asset measures to assess the level of balance sheet conservatism.⁵⁹⁶ The Feltham-Ohlson model and its modifications probably form the most common example in this context.⁵⁹⁷ These models assume that the book value of a firm equals its market value in the long run (residual income models). Understatement of net assets or conservatism is considered to correspond to the asymptotic deviation of the book value of equity from the market value of equity.⁵⁹⁸ Another measure for unconditional conservatism is the market to book ratio given the assumption that firms with conservative accounting numbers *ceteris paribus* have understated book values of net assets and hence higher market to book ratios.⁵⁹⁹

Conditional conservatism is presumed to be expressed by the asymmetric recognition of gains and losses and relates to income statement conservatism. Most studies on conditional conservatism rely on the Basu (1997) model and its modifications. According to Basu (1997) conservatism can be interpreted as capturing an accountant's ten-

⁵⁹⁴ Cf. Watts (2003a), p. 217.

⁵⁹⁵ Cf. on criticism of fair value accounting and the financial crisis Laux/Leuz (2009); Laux/Leuz (2010); Similarly fair value was criticized after the collapse of Enron, cf. Weil (2001).

⁵⁹⁶ For a comprehensive overview on conservatism measures, cf. Watts (2003b), p. 288-291.

⁵⁹⁷ Cf. Feltham/Ohlson (1995); Ohlson (1995); Feltham/Ohlson (1996). This metric is also frequently used to assess reporting conservatism over time cf. e.g. Ahmed et al. (2000); Beaver/Ryan (2000); Givoly/Hayn (2000).

⁵⁹⁸ Cf. on the surplus relation also referred to as *Preinreich-Lücke-Theorem*, Preinreich (1937); Lücke (1955); Feltham/Ohlson (1995).

⁵⁹⁹ Cf. Beaver/Ryan (2000). It should be noted that market-to-book ratio is also used as a measure for firm valuation (proxy for Tobin's *q*) in the finance literature, a concept that is clearly distinct from unconditional conservatism. This implies that evidence using the market-to-book ratio as a proxy needs to be interpreted with caution since there may be alternative interpretations for the results.

dency to require a higher degree of verification for recognising ‘good’ rather than ‘bad news’ in earnings.⁶⁰⁰ Therefore, ‘bad news’ tends to be reflected on a timelier basis in financial statements than ‘good news’. Building on the timing and sequencing of gains and losses with respect to their associated cash flows the resulting measures of conservatism are based on the extent to which the earnings-return association is stronger during periods of negative returns relative to periods of positive returns.⁶⁰¹ Two other metrics for conditional conservatism are applied in this thesis besides the Basu (1997) model. Ball and Shivakumar (2005) propose a metric based on the tendency-to-reverse principle in Basu (1997). This model only incorporates accounting data (cash flows and accruals) and no return data and is commonly used as a robustness check to the Basu (1997) model or when return information is not available. Given that conservatism varies on a time and firm level, Khan/Watts (2009) propose a firm-specific measure for conditional conservatism, the c-score. The c-score is calculated as firm-year conservatism measure by integrating firm specific characteristics in the Basu (1997) regression model. The conservatism metrics in Basu (1997), Ball/Shivakumar (2005) and Khan/Watts (2009) are described and discussed in the following chapter (chapter 3.3.2).

3.3.2 Measurement

3.3.2.1 Serial Dependence Model (Basu, 1997)

The Basu (1997) model is the most widely used model for conditional conservatism in accounting research.⁶⁰² According to Basu (1997) earnings tend to be conservative when ‘bad news’ are faster incorporated in earnings than ‘good news’. This implies that differences arise between periods with ‘good’ vs. ‘bad news’ regarding the timeliness and persistence of earnings. Basu (1997) makes four predictions in this context.⁶⁰³ The first prediction in Basu (1997) is that reported earnings respond more timely to ‘bad news’ as compared to ‘good news’. This is why this phenomenon is also referred

⁶⁰⁰ Cf. Basu (1997), p. 4.

⁶⁰¹ Cf. Givoly/Hayn (2000), Givoly et al. (2004).

⁶⁰² Cf. e.g. Ryan (2006), p. 514; according to GoogleScholar Basu (1997) is being cited in about 1.300 published and working papers as of February 2011. Although the Basu (1997) paper is cited far more frequently, the conservatism principle was referred to earlier in accounting literature. Predictions from the Basu (1997) model have been anticipated in certain ways in prior studies including Brooks/Buckmaster (1976); Elgers/Lo (1994); Hayn (1995).

⁶⁰³ Cf. in the following Basu (1997), p. 4-6.

to as *asymmetric timeliness of earnings* and illustrated in the paper based on changes in the estimate of the productive life of a fixed asset. While a longer productive life is not recorded as a gain under historical cost accounting, but recognized over the life time of the asset as smaller amounts of depreciation, a shorter life time is recognized immediately as a loss in the respective period. Hence, conservatism may be regarded as an accountants' predisposition to require higher levels of verification for gains as compared to losses.

The second prediction is that there is a stronger relation between current earnings and returns than between current cash flows and returns for publicly available 'bad news'. However, this relation is presumed not to hold for 'good news'. This implies that while cash flows are presumed to be related to returns in a similar way for 'good' and 'bad news', accruals are presumed to show a stronger relationship with 'bad news' than 'good news'.⁶⁰⁴

Third, when 'bad news' is recorded immediately whereas gains are only partially reflected in earnings, 'bad news' is presumed to be timelier but less persistent as compared to 'good news'. For this reason, Basu (1997) presumes that unexpected earnings increases have a higher tendency to be persistent whereas unexpected losses are more temporary (*asymmetric persistence prediction*). A fourth prediction is that abnormal returns are lower for bad earnings news as compared to good earnings news because 'good news' is more likely to "surprise" the market.⁶⁰⁵

Empirical evidence in Basu (1997) supports all four predictions. The primary prediction is the asymmetric timeliness of earnings. Basu (1997) uses positive and negative annual returns as proxies for good and 'bad news' to test for his prediction. The model is expressed by the following equation:⁶⁰⁶

$$X_{it} / P_{it} = \beta_0 + \beta_1 D_{it} + \beta_2 R_{it} + \beta_3 D_{it} R_{it} + \varepsilon_{it} \quad (3.25)$$

⁶⁰⁴ This relationship is also known as tendency-to-reverse relationship. It is used in Ball/Shivakumar (2005) to develop an alternative measure for conservatism as described in chapter 3.3.2.2.

⁶⁰⁵ Cf. Basu (1997), p. 5-6.

⁶⁰⁶ Cf. in the following Basu (1997), p. 12-15.

Where:

X_{it} / P_{it} = Earnings per share scaled by the share price at the beginning of the period⁶⁰⁷

D_{it} = Indicator variable that takes a value of one if R_{it} is negative and zero otherwise

R_{it} = Rate of return (cumulative returns three months after fiscal year's end⁶⁰⁸)

ε_{it} = Error term

The Basu (1997) model is also referred to as *reverse regression* model because the scaled earnings number on the left side of the equation is explained by returns of the same year. D_{it} is an indicator variable that indicates whether 'bad news' or 'good news' occur in the respective period and takes a value of one if returns are negative and a value of zero otherwise. Thereby, the indicator variable divides observations into 'good news' and 'bad news' depending on whether returns are positive or negative and captures intercept and slope effects for 'bad news'. The coefficient β_2 corresponds to earnings sensitivity for positive returns. Earnings sensitivity for negative returns is captured by $(\beta_2 + \beta_3)$. A positive, significant coefficient β_3 is interpreted as a signal for the presence of asymmetric timeliness of earnings ($\beta_3 > 0$). Based on regression coefficients in Basu (1997), earnings are found to be more than four and a half times as sensitive to negative returns as compared to positive returns.⁶⁰⁹ Results in Basu (1997) that earnings reflect 'bad news' in a timelier manner than cash flows extends evidence found in Dechow (1994) that earnings have a higher information value than cash flows.⁶¹⁰ However, it needs to be noted that although β_2 and β_3 are significant at the 1%-level (two-tailed), adjusted R^2 only takes a value of 10% in the model. This implies that the asymmetric timeliness of earnings "only" explains 10% of variation in the model.

⁶⁰⁷ This implies that test results are sensitive to low stock prices. In this case it is useful to take the book value of total assets or average total assets or the book value of equity as deflator, cf. Basu (1997), p. 10.

⁶⁰⁸ In the US annual reports must be published three months after fiscal year's end. Therefore, earnings information is presumed to be available at its latest three months after fiscal year's end and incorporated in returns. In Germany, firms need to publish annual reports four months after fiscal year's end. Therefore, R_{it} is cumulative returns four months after fiscal year's end in the models used in this thesis.

⁶⁰⁹ Regression coefficients for β_2 and β_3 are 0.059 and 0.216. Earnings sensitivity is compared based on $(\beta_2 + \beta_3) / \beta_2$, equal to $(0.059 + 0.216) / 0.059 = 4.66$ in the paper. The coefficient β_3 or the result from $(\beta_2 + \beta_3) / \beta_2$ are commonly referred to as 'Basu measure' in accounting literature.

⁶¹⁰ Cf. Basu (1997), p. 7.

Several papers address economic and econometric concerns regarding the validity of the Basu (1997) model.⁶¹¹ While some of the criticism relates to the Basu (1997) model in its characteristic as a return-based model other criticism concerns models on asymmetric timeliness of earnings in general. The Basu (1997) model grounds on the critical assumption of an efficient market in which all information is reflected in the value of equity. This implies that returns are considered as an efficient proxy for economic news in the model which leads to different contemporaneous earnings-return relations depending on whether ‘good news’ or ‘bad news’ occurs.⁶¹²

The assumption of information efficient capital markets does not hold in reality. In case of information efficient markets there would be no demand for conservatism because prices would reflect complete information. Given that markets are not efficient, variation in the asymmetric timeliness of earnings could also reflect “variation in the quality of the return generating process”⁶¹³ and is unlikely to be consistent across sample firms. This variation may not be captured in the model and creates a correlated omitted variables problem.⁶¹⁴

Givoly et al. (2007) explore another concern regarding the Basu (1997) model. For the purpose of their analysis, they presume that returns reflect *all* information.⁶¹⁵ They analyze effects of the firm’s information environment on the asymmetric timeliness measure that are unrelated to conservatism.⁶¹⁶ Givoly et al. (2007) find evidence that the model suffers from measurement error because results are biased by information not incorporated in earnings information. It needs to be noted that while some information regarding ‘bad news’ may be incorporated in earnings there may also be non-earnings information on ‘bad news’ which is not observed in the model such as disclo-

⁶¹¹ Cf. Ryan (2006), p. 515-516; Dietrich et al. (2007); Givoly et al. (2007); Guay (2007); Patatoukas/Kandathil (2010).

⁶¹² Cf. Ball et al. (2010), p. 1.

⁶¹³ Dechow et al. (2010), p. 363.

⁶¹⁴ For correlated omitted variables problems, cf. e.g. Wooldridge (2003), p. 82-83, 93-94.

⁶¹⁵ They also presume that the Basu (1997) model is valid and that concern raised by Dietrich et al. (2007) does not hold. Cf. Givoly et al. (2007), p. 66.

⁶¹⁶ Cf. for a similar analysis Gigler/Hemmer (2001).

sure conservatism or cash flow choices.⁶¹⁷ Furthermore, the information and disclosure environment is likely to vary across sample firms. As a consequence, the timeliness measure may not capture asymmetric timeliness of earnings but differences in information availability. This implies that differences in the information and disclosure environment between firms, time periods, countries or reporting regimes are likely to affect measurement results. It is unclear how far this issue can be mitigated by controlling for factors that proxy for differences in the environment in the regression analysis.

Asymmetric timeliness of earnings varies cross-sectional and over time. The Basu (1997) measure may either control for an industry-year based on a cross section of firms or for a firm based on a time-series of firm years.⁶¹⁸ This caveat is addressed in Khan/Watts (2009) and Callen et al. (2010) who develop firm specific metrics based on the Basu (1997) model. Another econometric concern with models on the asymmetric timeliness of earnings is multicollinearity. Surprisingly, this issue is rarely addressed in empirical studies on conservatism. Multicollinearity arises because control variables are integrated in the model using interacted variables based on the respective firm characteristics and the variables that capture the asymmetric timeliness of earnings. As a consequence, the regression consists of linear combinations of the same variables. The more control variables are integrated in the model the higher are the variance inflation factors (VIFs). Although Khan/Watts (2009) also integrate firm specific variables in the Basu (1997) model to estimate C-Score, subsequent regressions do not require the use of interacted variables. This may be regarded as an additional aspect in favor of the use of firm specific measures for conditional conservatism.

⁶¹⁷ Cf. in this context also Guay (2007). Ryan (2006), p. 516 argues that the Basu (1997) is likely to not only capture conservatism in accounting choices but to also reflect conservative cash flow choices.

⁶¹⁸ Cf. Khan/Watts (2009), p. 132-133.

Dietrich et al. (2007) argue that the use of returns as endogenous independent variable in a reverse regression leads to a fundamental bias.⁶¹⁹ Besides, using returns as sampling variable is presumed to create sample truncation bias.⁶²⁰ As a consequence, the estimation procedure is found to result in biases in the test statistics affecting coefficients and adjusted R². The magnitude of the measurement bias addressed in Dietrich et al. (2007) is critically discussed by Ball et al. (2010). They develop a model that demonstrates validity of the Basu (1997) model and argue that much of the criticism regarding the validity of the model grounds on a misconception of the research objectives regarding accounting conservatism. They also quote that the large number of empirical studies on conditional conservatism that apply the Basu (1997) model commonly find evidence consistent with hypotheses that are plausible from an economic perspective.

3.3.2.2 *Accrual-Based Asymmetry Model (Ball and Shivakumar, 2005)*

Building on the first two implications of the Basu (1997) model, Ball and Shivakumar (2005) present an alternative model to Basu's (1997) serial dependence model. Similar to the model used in Ball et al. (2003), this model does not involve stock market data but only accounting data. Thereby, the model may alleviate issues regarding the use of stock market data in the Basu (1997) model.⁶²¹

The accruals-based model in Ball/Shivakumar (2005) builds on the decomposition of earnings into cash flows and accruals.⁶²² Losses are presumed to be reflected in accruals on a timelier basis as compared to gains.⁶²³ Ball/Shivakumar (2005) use cash flows

⁶¹⁹ Further econometric concerns regarding the specification of the Basu (1997) model are raised in Patatoukas/Kandathil (2010). Their concern relates to the observation that the scale is negatively associated with variance of stock returns and deflated mean earnings.

⁶²⁰ Cf. Hausman/Wise (1977). There are several further econometric concerns brought forward in Dietrich et al. (2007) such as regressing scaled earnings that are typically left-skewed on scaled prices that are typically right-skewed. However, sample truncation bias may be considered as most serious concern addressed in the paper.

⁶²¹ Cf. e.g. the models in Ball et al. (2000); Ball/Shivakumar (2005). These models are described in more detail in chapter 3.3.2.2

⁶²² Cf. similarly Wittenberg-Moerman (2008).

⁶²³ Cf. Basu (1997).

from operations to proxy for good and ‘bad news’ instead of returns because the positive correlation between cash flows and accruals is greater in the case of losses.⁶²⁴

The model is expressed by the following piecewise-linear regression equation.⁶²⁵

$$ACC_{it} = \beta_0 + \beta_1 CF_{it} + \beta_2 D_{it} + \beta_3 D_{it} CF_{it} + \varepsilon_{it} \quad (3.27)$$

Where:

ACC_{it} = Total accruals scaled by average total assets (net income minus operating cash flows)

CF_{it} = Cash flows from operations in t, scaled by average total assets

D_{it} = Indicator Variable, equals one if CF_{it} is negative and zero otherwise

Consistent with the Basu (1997) model D_{it} denotes periods with ‘bad news’. A positive coefficient β_3 for negative cash flows is presumed to signal asymmetric timeliness of earnings based on the notion that accrued losses are more likely in periods with negative cash flows.

The Ball/Shivakumar (2005) model was found to produce consistent results with the Basu (1997) model in several studies although it only involves accounting data. This observation may be interpreted as an indicator for the validity of the Basu (1997) model.⁶²⁶ The Ball/Shivakumar (2005) model is considered to be useful for robustness tests and when return data is not available.

However, similar to the Basu (1997) model, the Ball and Shivakumar (2005) model may only capture either variation in conservatism along with the industry-year using cross-sectional data of firms or along the time-series of firm years for the respective firm. Khan/Watts (2009) propose an alternative estimation approach to examine conservatism based on the Basu (1997) model that attempts to meet the demand for a firm-level proxy for conditional conservatism. This model is described in the following chapter.

⁶²⁴ Cf. on this notion the arguments in Ball/Shivakumar (2006) regarding discretionary accruals models, chapter 3.2.3.2.

⁶²⁵ Cf. Ball/Shivakumar (2005), p. 94.

⁶²⁶ Cf. Ball et al. (2010), p. 26.

3.3.2.3 C-Score (Khan and Watts, 2009)

The Khan and Watts (2009) model builds on the original equation of the Basu (1997) model:

$$X_{it} / P_{it} = \beta_0 + \beta_1 D_{it} + \beta_2 R_{it} + \beta_3 D_{it} R_{it} + \varepsilon_{it} \quad (3.28)$$

Where:

X_{it} / P_{it} = Earnings per share scaled by the share price at the beginning of the period

D_{it} = Indicator variable that takes a value of one if R_{it} is negative and zero otherwise

R_{it} = Rate of return (cumulative, 12 months)

ε_{it} = Error term

This piecewise-linear regression is run for every observation year. In a first step, the coefficients from the Basu (1997) model capturing the timeliness of ‘good news’ (β_2) and the timeliness of ‘bad news’ (β_3) are replaced by a *G-Score* and a *C-Score*.⁶²⁷ These scores are linear functions of firm-specific characteristics found to be strongly associated with conditional conservatism in prior literature⁶²⁸: size ($Size_i$), growth (market-to-book ratio, MTB_i) and leverage (Lev_i). These firm characteristics are also presumed to capture variation in the firm’s investment opportunity set. G-Score and C-Score are defined as follows:

$$G - Score \equiv \beta_3 = \mu_1 + \mu_2 Size_i + \mu_3 MTB_i + \mu_4 Lev_i \quad (3.29)$$

$$C - Score \equiv \beta_4 = \lambda_1 + \lambda_2 Size_i + \lambda_3 MTB_i + \lambda_4 Lev_i \quad (3.30)$$

The estimators for μ_i and λ_i , $i=1$ to 4, are constant across firms and multiplied with the respective firm characteristic on a firm level.⁶²⁹ They are estimated from annual cross-sectional regressions on a yearly basis (equation 3.28) and hence vary over time. Implementing the G-Score and the C-Score equation into regression equation 3.28 yields the following annual cross-sectional regression:

⁶²⁷ Cf. Khan/Watts (2009), p. 136.

⁶²⁸ Size, market-to-book ratio and leverage are presumed to be related to the four factors addressed in Watts (2003a) in the context of conditional conservatism, contracting, litigation, taxation and regulation and serve as proxies for the investment opportunity set.

⁶²⁹ Note that equations 3.29 and 3.30 are not regression models.

$$X_i / P_i = \beta_1 + \beta_2 D_i + R_i (\mu_1 + \mu_2 Size_i + \mu_3 MTB_i + \mu_4 Lev_i) + D_i R_i (\lambda_1 + \lambda_2 Size_i + \lambda_3 MTB_i + \lambda_4 Lev_i) + (\delta_1 Size_i + \delta_2 MTB_i + \delta_3 Lev_i + \delta_4 D_i Size_i + \delta_5 D_i MTB_i + \delta_6 Lev_i) + \varepsilon_i \quad (3.31)$$

Where:

X_i / P_i = Earnings per share scaled by the share price at the beginning of the period⁶³⁰

D_i = Indicator variable that takes a value of one if R_{it} is negative and zero otherwise

R_i = Rate of return (cumulative, 12 months)

$SIZE_i$ = Total assets

MTB_i = Growth (market-to-book ratio)

LEV_i = Leverage

ε_i = Error term

The C-Score calculated on the basis of equation (3.30) serves as firm-level proxy for conditional conservatism and forms the dependent variable for the subsequent analyses. Conditional conservatism increases with C-Score. The total ‘bad news’ timeliness is equal to the sum of G-Score and C-Score.⁶³¹ Khan/Watts (2009) assess the validity of the c-score as metric for conditional conservatism based on data from the intersection of the Center for Research in Security Prices (CRSP) and Compustat for the years 1962 to 2005. They provide evidence that the C-Score produces empirical properties that are consistent with predictions on accounting conservatism from accounting literature. For example, c-score is found to decrease with firm performance (RoA) and firm age. Khan/Watts (2009) argue that the C-Score may even predict future asymmetric timeliness of earnings. Given the high prevalence of the Basu (1997) model and the convenient properties of the Khan/Watts (2009) approach, C-Score is likely to become a widely-used measure for conditional conservatism in empirical accounting studies.⁶³² Given that the Khan/Watts (2009) model is based on the Basu (1997) model, criticism regarding the Basu (1997) model addressed in chapter 3.3.2.1 equally applies to the Khan/Watts (2009) model though it mitigates one of the caveats of the original model by providing a firm-level metric for conditional conservatism.

⁶³⁰ This implies that test results are sensitive to low stock prices. In this case it is useful to take the book value of total assets or average total assets or the book value of equity as deflator, cf. Basu (1997), p. 10. I follow this modified procedure in my analyses in chapter 6 because the observation period covers a sub-period with low stock prices.

⁶³¹ Cf. Khan/Watts (2009), p. 136.

⁶³² Studies applying the C-Score include for example Chi et al. (2009) and García Lara et al. (2010).

4 Related Research on Drivers of Earnings Quality

4.1 Overview on Drivers of Earnings Quality

In a broad sense, the quality of reported earnings or earnings characteristics depend on accounting standards as well as incentives and constraints to interfere in the financial reporting process. Incentives and constraints to interfere in the financial reporting process are often closely interrelated and as a consequence hard to group into distinct categories. Drivers of earnings quality identified in prior studies include the following not mutually exclusive categories: Institutional environment, accounting standards, ownership and board structures, firm characteristics, capital market incentives, auditing as well as external factors and stakeholders. Comprehensive overviews on drivers of earnings quality are for example provided by Soderstrom/Sun (2007) and Dechow et al. (2010). While Soderstrom/Sun (2007) consider the most important reporting incentives to arise from a country's financial market development and tax system as well as from capital needs and ownership structures,⁶³³ Dechow et al. (2010) suggest that firm characteristics, financial reporting practices, governance and control, auditors, equity market incentives and external factors can be considered as main categories to distinguish determinants of earnings quality.⁶³⁴

As it is beyond the scope this chapter to provide a full overview on drivers of earnings quality identified in related literature⁶³⁵ the review in this chapter is limited to effects of differences in the institutional environment, accounting standards and ownership structures. Effects of firm characteristics on earnings management and conditional conservatism are addressed in chapter 5.4. It describes the control variables.

⁶³³ Cf. Soderstrom/Sun (2007), p. 687-688. Similarly, Ahmed et al. (2009), p. 5-6 consider the underlying economic environment and business model, managerial incentives, constraints on manager's financial reporting choices such as accounting standards, auditing, monitoring by directors and investors, enforcement mechanisms and investor protection.

⁶³⁴ Cf. Dechow et al. (2010), p. 379.

⁶³⁵ Cf. for surveys e.g. Healy/Wahlen (1999); Schipper/Vincent (2003); Dechow/Schrand (2004); Soderstrom/Sun (2007); Ronen/Yaari (2008); Dechow et al. (2010).

4.2 Institutional Environment and Earnings Quality

4.2.1 Cross-Country Differences and Earnings Management

There is relatively little comparative evidence on the level of earnings management across countries. The main study that deals with this research question is the paper by Leuz et al. (2003). The authors document systematic differences in the level of earnings smoothing across 31 countries which are grouped into clusters. Institutional characteristics for the classification include capital market development, ownership structures, investor protection and legal enforcement.⁶³⁶ Results from their analyses suggest that firms in insider-oriented economies, e.g. in Germany, with characteristics such as concentrated ownership structures, less developed stock markets and relatively weak investor protection engage in more earnings smoothing than firms in outsider-oriented economies characterized by dispersed ownership structures, more developed stock markets and higher levels of investor protection.⁶³⁷ Consistent with Leuz et al. (2003), Haw et al. (2004) find that the unsigned magnitude of discretionary accruals is lower in countries with high investor protection and strong enforcement as compared to other countries.

Differences in the institutional environment are also found to affect differences in earnings management behavior between listed and privately held firms. Based on a sample of European firms, Burgstahler et al. (2006) suggest that privately held firms engage in more earnings smoothing as compared to listed firms. Thereby, the level of earnings management is found to be affected by differences in the institutional framework and less pronounced in outside as compared to inside-oriented economies. They conclude that institutional factors such as book-tax alignment, investor protection and capital market structure affect earnings management behavior besides private versus public ownership.

Leuz et al. (2003) illustrate their results by the presumption that insiders have incentives to “mask” earnings to defend private benefits of control and prevent outside intervention. Insiders are considered to use accounting discretion to understate earnings in profitable periods and generate hidden reserves that can be used to smooth earnings

⁶³⁶ Cf. Leuz et al. (2003), p. 506-507.

⁶³⁷ Cf. Leuz et al. (2003), pp. 525-526.

in less favorable periods.⁶³⁸ This assumption could indicate that family and insider ownership may be one of the main drivers of earnings characteristics in Germany and countries with similar institutional frameworks, though the effect of ownership structures is not explicitly analyzed in Leuz et al. (2003). The analyses in chapters 6 to 8 aim to fill this research gap. While the level of investor protection increased during the observation period, family and insider ownership constitute a rather stable phenomenon in the German stock market. Therefore, it is interesting to examine whether ownership structures, particularly family and insider ownership are among the driving forces of earnings characteristics in the German stock market.

4.2.2 *Cross-Country Differences and Conservatism*

Focusing on the dimension of conditional conservatism, comparative studies find mixed evidence. While some studies suggest that conditional conservatism is more pronounced in Anglo-Saxon countries such as the USA or the UK as compared to Continental Europe,⁶³⁹ others fail to document differences between code and common law regimes with regard to the level of conditional conservatism.⁶⁴⁰ García Lara et al. (2005) argue that the level of conservatism in Continental European countries such as Germany or France is likely to be driven by earnings management rather than timeliness of earnings. This may explain why some previous studies do not find differences in the level of conservatism across countries. They argue that a certain proportion of conservatism captured by metrics such as the Basu (1997) model represents downwards earnings management not timely loss recognition. Given that German and French firms are likely to engage in downwards earnings management. García Lara et al. (2005) correct the Basu (1997) measure for earnings management using 'unmanaged earnings' as dependent variable in their regression. Unmanaged earnings are defined in the study as net income less discretionary accruals. While differences regarding the level of conditional conservatism are not significantly different across countries when the Basu (1997) model is calculated based on net income, the analysis of

⁶³⁸ Cf. Leuz et al. (2003), p. 506-507, 510.

⁶³⁹ Cf. for example the study by Ball et al. (2001) who show that conservatism is more pronounced in common law countries (Australia, Canada, UK and USA) than in code law countries (France, Germany and Japan), similarly Bushman/Piotroski (2006) provide evidence in a cross-country study that legal and political forces represent an important driver for conservatism.

⁶⁴⁰ Cf. Giner/Rees (2001); Raonic et al. (2004); García Lara/Mora (2004); Grambovas et al. (2006).

‘unmanaged’ net income supports the notion that German and French firms exhibit lower levels of conditional conservatism than UK firms.

Conservatism is considered to play different roles in Continental European as compared to Anglo-Saxon countries. Ball et al. (2000) argue that there is more demand for conditional conservatism to reduce agency costs between shareholders and managers in common law countries as compared to code law countries where firms are characterized by concentrated ownership structures.⁶⁴¹ This implies that conditional conservatism is presumed to be closely linked to the importance of capital markets and the institutional framework. When shareholders demand timely loss recognition to lower information asymmetries between themselves and the management, they are considered to reinforce their actions by the liability of auditors and demand stronger enforcement of accounting standards.⁶⁴² This explains why comparative studies on conditional conservatism presume timely loss recognition to be positively associated with investor protection.

The importance of stock market incentives as driver of conditional conservatism is also illustrated by studies on privately held versus listed firms. Comparing the level of timely loss recognition for firms in the UK, Ball/Shivakumar (2005) find more timely loss recognition in listed firms as compared to privately held firms. This evidence is confirmed in Peek et al. (2010). Based on a sample of European firms, they find higher levels of conditional conservatism for public as compared to privately held firms. Furthermore, evidence suggests that conditional conservatism is more pronounced when earnings constitute an important instrument in mitigating conflicts between debtholders and shareholders.

In stakeholder oriented economies other than shareholder oriented economies accounting income is strongly linked to payouts to different parties such as dividends to shareholders, bonuses to managers and employees as well as taxes to the government.⁶⁴³ García Lara et al. (2005) state that there are several reasons why firms from code law

⁶⁴¹ Cf. Ball et al. (2000), p. 1-3.

⁶⁴² Cf. Raonic et al. (2004), p. 118.

⁶⁴³ Cf. Ball et al. (2000), p. 3.

regimes such as Germany and France are considered to have incentives to understate earnings.⁶⁴⁴

The first argument relates to the link between dividends and earnings. Two explanations are proposed to the dividend puzzle, i.e. the question why and when firms choose certain dividend policies.⁶⁴⁵ The first explanation brought forward in an Anglo-Saxon context is that firms pay dividends to signal future profitability. Another idea which seems particularly relevant in a European context is the function of dividends in mitigating agency conflicts between inside and outside shareholders.⁶⁴⁶

Dividends are considered to play an important role in limiting expropriation by inside shareholders.⁶⁴⁷ La Porta et al. (2000b) argue that outside shareholders have a preference for dividends over retained earnings in countries with relatively weak investor protection because insiders could use profit that have not been paid out to maximize their own utility and impose investment decisions on minority shareholders.⁶⁴⁸ Harris et al. (1994) find that German firms have higher earnings payout ratios as compared to US firms. They suggest that high earnings numbers create shareholder pressure for high dividends which is likely to result in downwards earnings management by insiders. Insiders are presumed to have incentives to manage earnings downwards to maintain control over the level of retained earnings and the level of dividend payout.⁶⁴⁹ Harris et al. (1994) conclude that the link between earnings and dividends creates incentives to manage earnings for the purpose of attaining desired dividend payout ratios among German firms.⁶⁵⁰ For a sample of Finnish firms, Kasanen et al. (1996) provide evidence that smooth dividend streams expected by large shareholders create incen-

⁶⁴⁴ Cf. García Lara et al. (2005), p. 698-703.

⁶⁴⁵ Cf. Lintner (1956).

⁶⁴⁶ Cf. for exemplary studies e.g. Black (1976); Bhattacharya (1979); Easterbrook (1984); John/Williams (1985); Miller/Rock (1985); Asquith/Mullins (1986); Jensen (1986); Ambarish et al. (1987); DeAngelo et al. (1996); DeAngelo et al. (2004); Goergen et al. (2005); Faccio et al. (2001); Barclay et al. (2009); Bartram et al. (2010).

⁶⁴⁷ Cf. Faccio et al. (2001), p. 55.

⁶⁴⁸ Cf. La Porta et al. (2000b), p. 1-2.

⁶⁴⁹ Cf. La Porta et al. (2000b), p. 11.

⁶⁵⁰ Cf. Harris et al. (1994), p. 191-192.

tives for earnings management.⁶⁵¹ Evidence in Kasanen et al. (1996) for Finnish firms could be transferable to German firms given that Finland and Germany have similar corporate governance structures.

The second argument relates to the pecking order theory.⁶⁵² According to this theoretical framework, firms have a preference for internal over external funds for financing purposes. Under circumstances that require firms to raise external funds firms favor debt over equity. If the pecking order theory holds managers have incentives to retain high amounts of earnings to avoid the need for external financing.⁶⁵³ Evidence in Ehrhardt/Schmidt (2004) suggests that the pecking order theory provides an appropriate framework to describe financing behavior by German managers who are presumed to manage earnings downwards to increase internal funds. Pecking order theory is frequently addressed in studies that investigate financing behavior in family firms⁶⁵⁴ and may therefore also serve as an explanation for accounting choices in family firms.⁶⁵⁵

A stakeholder that is presumed to exert high pressure on German firms is represented by labor unions. Employee representatives also hold a substantial percentage of positions in the supervisory board of German firms. Harris et al. (1994) suggest that German managers could also seek to manage earnings downwards to weaken the power of the labor union regarding wage negotiations. This presumption is supported by evidence from empirical studies that suggest that firms have incentives to manage earn-

⁶⁵¹ Gassen et al. (2006) provide evidence consistent with the prediction that dividends create incentives to engage in earnings management. Instead of comparing how earnings smoothing and conditional conservatism vary with cross-country differences in institutional regimes, they analyze determinant models for conditional conservatism and earnings smoothing on a firm-level. They find that while conditional conservatism tends to increase with the importance of debt, earnings smoothing tends to increase with the importance of dividends among firms. Evidence from their study suggests that the factor of the legal regime even loses explanatory power when firm-specific factors are controlled for, indicating that dividend payout is strongly associated with earnings smoothing.

⁶⁵² Cf. Myers (1984); Myers/Majluf (1984).

⁶⁵³ Cf. Fama/French (2002).

⁶⁵⁴ Cf. e.g. Mahéroul (2000); Poutziouris (2001); López-Gracia/Sánchez-Andújar (2007).

⁶⁵⁵ Cf. chapter 2.3.3.

ings downwards if this affects their position in compensation negotiations though these studies do not build on samples of German but US firms.⁶⁵⁶

García Lara et al. (2005) argue that German firms only have few incentives to manage earnings upwards given that ownership structures tend to be more concentrated and that the capital market is considered to be a less important source of financing. Earnings may constitute a less important signaling device provided that information asymmetries are presumed to be lowered by private information channels.⁶⁵⁷ Capital market pressure to meet earnings targets such as analyst forecasts, management forecasts, prior year's earnings or loss avoidance are presumed to be less pronounced in countries with concentrated ownership structures.⁶⁵⁸

In summary, evidence from prior studies suggests that institutional differences affect the level of earnings management and conservatism. Differences in the institutional framework between the Anglo-Saxon and European countries influence incentives and constraints to alter earnings numbers. Comparative evidence supports the stylized picture that German firms have incentives to engage in downwards rather than upwards earnings management and have a tendency to smooth earnings.

4.2.3 Time-Series Properties of Earnings Characteristics among German Firms

Comparative studies on earnings quality frequently refer to the La Porta et al. (1998, 1999, 2000) classification and build their analysis on the stylized view of the German corporate governance system. Regulatory changes⁶⁵⁹ such as mandatory IFRS adoption, regulatory reforms on auditing and enforcement as well as the strengthening of corporate governance policies are presumed to have affected earnings properties among German firms.

⁶⁵⁶ Cf. Bowen et al. (1995); Peltier-Rivest/Swirsky (2000).

⁶⁵⁷ Cf. Leuz/Wüstemann (2004), p. 451.

⁶⁵⁸ Cf. García Lara et al. (2005), p. 702.

⁶⁵⁹ Cf. table 3 for an overview on regulatory reforms from 1998 to 2009.

Pronobis et al. (2009) address this subject and investigate time-series properties of earnings characteristics among German firms from 1997 to 2006.⁶⁶⁰ Evidence from their study suggests that some of the metrics for earnings quality such as persistence, timeliness of earnings or value relevance slightly improved during the observation period.⁶⁶¹ However, earnings management measured as absolute value of total accruals divided by total cash flows from operations does not change significantly and conditional conservatism tends to even decrease during the observation period. Earnings metrics are calculated for each year but are particularly compared between two time frames, 1997 to 2001 and 2002 to 2006. Although, the authors observe that measures for earnings management and conditional conservatism show striking values during the downturn period from 2001 to 2003 as demonstrated by the CDAX performance index, they leave a more detailed analysis regarding drivers of earnings characteristics among German firms for future research.

The observation that metrics for earnings management and conditional conservatism tend to be highly sensitive to changes in stock market performance provides an important aspect that needs to be acknowledged in analyses on effects of IFRS adoption on earnings characteristics.

Ernstberger et al. (2009) analyze effects of changes in enforcement regulation on earnings management among German firms.⁶⁶² In contrast to evidence on effects of the Sarbanes Oxley Act on earnings management behaviour by US firms,⁶⁶³ they fail to document a decrease in discretionary accruals subsequent to enhanced enforcement regulation. They conclude that enforcement mechanisms designed for firms in coun-

⁶⁶⁰ To the best of my knowledge the analysis in Pronobis et al. (2009) represents the most comprehensive analysis on earnings characteristics of German firms to date. A similar but less comprehensive analysis is provided by Dücker (2008) who analyzes consequences of the KontraG on earnings characteristics among German firms. There is a row of studies that investigate changes in investor responsiveness to earnings among German firms (e.g. value relevance), cf. Gegenfurtner (2010), p. 69-74 for an overview.

⁶⁶¹ The metrics investigated in the study include persistence and predictability, quality of accruals, earnings volatility, earnings management measured by the absolute magnitudes of accruals divided by cash flows from operations, value relevance, earnings timeliness and asymmetric timeliness of earnings measured by the Basu (1997) model.

⁶⁶² Their sample comprises observations on German, Austrian and Swiss firms from 2003 to 2006.

⁶⁶³ Cf. Bartov/Cohen (2009).

tries characterized by dispersed ownership structures may not equally apply to governance systems characterized by firms with concentrated ownership structures.

4.3 IFRS Adoption and Earnings Quality

4.3.1 *Determinants of Voluntary IFRS Adoption*

Capital market pressure is considered to be the driving force of voluntary IFRS adoption in Germany.⁶⁶⁴ Increased capital needs required German firms to raise additional funds in international capital markets in the 1990s. However, they faced the difficulty that financial statements according to HGB were scantily accepted in Anglo-Saxon countries.⁶⁶⁵ Several European stock exchanges have become more favorable towards IFRS and US GAAP during the ‘price-run-up’ in the late 1990s. In particular, stock exchanges created new market segments to provide access to public equity for small and medium-sized entrepreneurial firms particularly from the high-tech, media, telecoms and internet sectors. In Germany, the segment ‘Neuer Markt’ was set up in 1997 and required firms to prepare consolidated financial statements either under IFRS or US GAAP.⁶⁶⁶

As a reaction to the increased demand for international sets of accounting standards, i.e. IFRS and US GAAP, the German government passed the KapAEG in 1998. It is presumed that the need to raise capital in international stock markets was higher in Germany as compared to other European countries such as Italy or France.⁶⁶⁷ This explains why Germany exhibited the highest number of voluntary IFRS adopters in the European Union before IFRS adoption became mandatory due to EC regulation in 2005. IFRS and US GAAP adoption increased significantly from 1998.⁶⁶⁸ The adop-

⁶⁶⁴ Cf. Delvaille et al. (2005), p. 14; cf. chapter 2.2.5.2 for a more detailed description of the process of accounting internationalization in Germany.

⁶⁶⁵ Cf. Leuz/Verrecchia (2000), p. 95-97.

⁶⁶⁶ Cf. Goergen et al. (2008b), p. 190. There were several ‘New Markets’ in the Euro zone including the Nieuwe Markt in Amsterdam, the Nouveau Marché in Paris, the Nuovo Mercato in Milan and the EuroNM (EASDAQ) in Brussels. Cf. Achleitner/Bassen (2001) for a comprehensive overview on the regulation of the New Market (Neuer Markt) in Germany.

⁶⁶⁷ Cf. Delvaille et al. (2005), p. 158.

⁶⁶⁸ Cf. figure 5 on the percentage of firms who prepared financial statements according to HGB, IFRS and US GAAP from 1998 to 2008. The number of IFRS adopters by far exceeded the number of US GAAP adopters.

tion of international accounting standards was deemed to provide access to international capital markets, constitute a signal of professionalism vis-à-vis current and potential investors, to broaden the investor basis and increase harmonization between management and financial accounting.⁶⁶⁹

Since not all German firms voluntarily adopted IFRS or US GAAP before 2005, it is interesting to analyze firm characteristics of voluntary adopters in more detail given that these firms are likely to differ from firms who resisted IFRS until 2005. Evidence from previous research indicates that size, the percentage of foreign sales, the percentage of widely-held shares and listing age were important drivers of voluntary IFRS adoption in Europe.⁶⁷⁰ Christensen et al. (2008) find that firms who resisted IFRS adoption until 2005 have more concentrated ownership structures⁶⁷¹, a higher proportion of bank ownership, more leverage and less analyst following. In addition, companies which have not adopted IFRS voluntarily tend to be smaller, older, more profitable (return on assets) and dispose of a lower degree of internationalization as compared to voluntary adopters. Using a sample of European firms which released their annual accounts under non-local GAAP for the fiscal year 1999, Cuijpers/Buijink (2005) find that a listing in the USA, a listing at the EASDAQ⁶⁷², more geographically dispersed operations and lower local financial reporting quality are drivers of voluntary IFRS or US GAAP adoption.

Ownership structures play a fundamental role in shaping reporting incentives and are likely to affect the decision to voluntarily adopt IFRS. Previous studies concentrated on effects of general firm characteristics, whereas little is known about the role of ownership structures in driving voluntary IFRS adoption. This research question is addressed in chapter 6 of this study.

⁶⁶⁹ Cf. e.g. Rodrigues/Craig (2007) for pros and cons of IFRS adoption.

⁶⁷⁰ Cf. Cuijpers/Buijink (2005); Gassen/Sellhorn (2006); Christensen et al. (2008).

⁶⁷¹ Ownership concentration is measured by the proportion of closely held shares.

⁶⁷² The European Association of Securities Dealers Automated Quotation (EASDAQ) was one of the stock exchanges that required firms to prepare consolidated financial statements according to IFRS or US GAAP, cf. Rosen (1996).

4.3.2 *Systematization of Research on IFRS Adoption*

Effects and consequences of IFRS adoption met high attention in accounting research. Studies on IFRS adoption compare domestic GAAP and IFRS regarding

- properties of earnings such as earnings management⁶⁷³ or conditional conservatism⁶⁷⁴,
- the incorporation of earnings in returns focusing on value relevance or the mispricing of accruals⁶⁷⁵,
- economic consequences such as information asymmetries⁶⁷⁶ or the cost of capital⁶⁷⁷.

Other studies investigate stock market reactions to IFRS adoption in event studies⁶⁷⁸ or analyze if IFRS adoption led to an increase in the investment activities of foreign investors.⁶⁷⁹

The analysis in chapter 6 of this thesis contributes to the first stream of research and investigates whether IFRS influenced the level of earnings management and conservatism among German firms. Due to the fact that Germany was characterized by the highest number of voluntary IFRS adopters in the European Union before EC regulation became effective, most studies on effects of IFRS adoption on earnings quality focus on German firms or at least include a significant proportion of observations on German firms in their sample.

4.3.3 *IFRS Adoption, Earnings Management and Conservatism*

Previous studies have found that besides standards, incentives and institutional factors are important drivers of financial reporting outcomes.⁶⁸⁰ Within the debate on account-

⁶⁷³ Cf. e.g. Van Tendeloo/Vanstraelen (2005); Goncharov/Zimmermann (2007); Barth et al. (2008); Paananen/Lin (2009); Christensen et al. (2008); Ahmed et al. (2009).

⁶⁷⁴ Cf. Gassen/Sellhorn (2006); Barth et al. (2008); Paananen/Lin (2009); Christensen et al. (2008); Ahmed et al. (2009).

⁶⁷⁵ Cf. Bartov et al. 2005; Paananen/Lin (2009); Kaserer/Klingler (2008).

⁶⁷⁶ Cf. Leuz (2003); Daske et al. (2009).

⁶⁷⁷ Cf. e.g. Daske (2006); Pae et al. (2008); Horton et al. (2008).

⁶⁷⁸ Cf. e.g. Armstrong et al. (2009).

⁶⁷⁹ Cf. e.g. Beneish/Yohn (2008).

ing harmonization much attention has been paid to the relationship between the use of international accounting standards and earnings characteristics.⁶⁸¹ Most studies on IFRS adoption and earnings quality concentrate on earnings management and conservatism. Earnings that exhibit higher conditional conservatism but less earnings management are commonly considered to signal superior earnings quality.

Ball et al. (2000) state that accounting standards in code-law countries tend to leave more discretion regarding the point in time at which economic gains and losses are recorded in accounting income than accounting standards from common-law countries.⁶⁸² German GAAP were frequently criticized for too much discretion that may be used to manage income by making use of hidden reserves, also referred to as ‘cookie jar’ reserves.⁶⁸³ Barth et al. (2008) argue that IFRS may limit managerial discretion relating to accounting alternatives and provide an instrument to enhance earnings quality.⁶⁸⁴ IFRS as an investor oriented accounting system are presumed to lead to a more appropriate reflection of the firm’s ‘true’ economic performance as compared to national accounting standards such as German GAAP and to provide more timely information.

IFRS adoption is presumed to be a necessary but not a sufficient condition for ‘high quality’⁶⁸⁵ financial reporting.⁶⁸⁶ This is in line with the argument that the application of a uniform set of accounting standards does not necessarily produce uniform financial reporting. Evidence suggests that incentives are more important drivers of earnings characteristics than accounting standards.⁶⁸⁷ Financial reporting may be regarded as a combination of accounting standards, their interpretation, enforcement and litiga-

⁶⁸⁰ Cf. e.g. Joos/Lang (1994); Ball et al. (2000); Ali/Hwang (2000); Ball et al. (2003); Leuz et al. (2003).

⁶⁸¹ The focus of this study is on earnings management and conservatism. For an overview on studies that examine other dimensions of earnings quality, cf. e.g. Soderstrom/Sun (2007).

⁶⁸² Cf. Ball et al. (2000), p. 3.

⁶⁸³ Cf. Leuz/Verrecchia (2000), p. 95.

⁶⁸⁴ Cf. Barth et al. (2008), p. 468.

⁶⁸⁵ From an Anglo-Saxon perspective financial reporting is deemed ‘high quality’ if it provides information that is useful for investors to make buying, holding and selling decisions. Thereby, earnings quality is expressed by timely loss recognition and low levels of earnings management.

⁶⁸⁶ Cf. Ball et al. (2000); Ball et al. (2003).

⁶⁸⁷ Cf. Leuz et al. (2003); Ball (2006).

tion.⁶⁸⁸ The demand for accounting income is closely linked to the importance of capital markets which in turn influences the demand for investor protection including the enforcement of accounting standards. If reporting incentives of German firms remained unaltered, IFRS adoption is less likely to affect reported earnings. IFRS are presumed to reveal ‘cookie jar’ reserves but still leave ample space for discretion via implicit accounting choices. When German firms make use of these implicit accounting choices while reporting incentives remain unchanged, IFRS may only weakly affect earnings characteristics.⁶⁸⁹

Whether German GAAP or IFRS provide more opportunities to engage in earnings management may not be clearly assessed from a conceptual perspective.⁶⁹⁰ While German GAAP exhibit a considerable number of explicit accounting choices, IFRS are characterized by a large number of implicit accounting choices that allow for high degrees of discretion regarding the measurement of assets and liabilities.⁶⁹¹ The principle of consistency and the clean surplus relation can be regarded as constraints for earnings management. It appears that the principle of consistency forms part of both sets of accounting standards and that violation against the clean surplus relation occurs more frequently under IFRS than German GAAP. Examples for violations against the clean surplus relation include bookings in the other comprehensive income as well as the regulation on first-time-adoption according to IFRS 1.⁶⁹²

Since the relative importance of incentives versus standards as well as the question whether German GAAP or IFRS leave more room for discretion may not be assessed conceptually, it is subject to empirical research how IFRS affect earnings properties among German firms. While earnings management is measured in most studies as

⁶⁸⁸ Cf. Barth et al. (2008), p. 468.

⁶⁸⁹ For arguments consistent with incentives by German firms to manage earnings downwards, cf. chapter 4.2.2; García Lara et al. (2005), p. 697-703.

⁶⁹⁰ Cf. Dobler (2008), p. 266.

⁶⁹¹ Cf. for an overview of accounting choices under IFRS, Dobler (2008), p. 263; Wagenhofer (2009), p. 566-573. The level of explicit accounting choices decreased significantly after the BilMoG became effective in 2009.

⁶⁹² Cf. Dobler (2008), p. 264 for a comprehensive overview on temporary and permanent violations of the clean surplus relation under IFRS.

earnings smoothing,⁶⁹³ only some studies apply the metric of discretionary accruals.⁶⁹⁴ Most studies on effects of IFRS adoption on conservatism apply the Basu (1997) model or a probit regression based on the propensity of the firm to report large negative losses after IFRS adoption. Results from previous studies on IFRS adoption and earnings characteristics are summarized in table 5.

Table 5: Studies on IFRS Adoption and Earnings Quality⁶⁹⁵

Authors/Journal	Study Design and Sample	Main Results/Interpretation
Barth et al. (2008), <i>Journal of Accounting and Economics</i>	Comparison of earnings quality in the pre- and post- adoption period for voluntary IFRS adopters and comparison with non-adopters Sample: Voluntary IFRS adopters (part. Germany, Switzerland and China); 1994 – 2003	Firms applying IFRS generally exhibit less earnings management (smoothing) and more timely loss recognition than a matched sample of firms applying non-US domestic standards
Van Tendeloo/Vanstraelen (2005), <i>European Accounting Review</i>	Earnings management under voluntary IFRS adoption and HGB (discretionary accruals and smoothing) Sample: German firms (voluntary adoption), 1999 – 2001 with 2002 as reference year	Voluntary IFRS adoption in Germany is not associated with lower levels of discretionary accruals Interpretation: IFRS changed the set of instruments while incentives to engage in earnings management are unaltered
Gassen/Sellhorn (2006), <i>BFuP</i> 2006	Comparison of earnings quality between firms that voluntarily adopted IFRS and non-IFRS adopters (matched sample of firms applying German GAAP, excl. US GAAP) Sample: German firms (voluntary adoption), 1998 – 2004	IFRS firms have more persistent, less predictable and more conditionally conservative earnings than the matched sample of firms reporting under German GAAP Interpretation: IFRS adoption is likely to increase earnings quality among German firms

⁶⁹³ Cf. Barth et al. (2008); Paananen/Lin (2009); Christensen et al. (2008); Ahmed et al. (2009); Chen et al. (2009).

⁶⁹⁴ Cf. Van Tendeloo/Vanstraelen (2005); Goncharov/Zimmermann (2007); Callao/Jarne (2010).

⁶⁹⁵ Source: Author's illustration.

Table 5: Studies on IFRS Adoption and Earnings Quality (continued)

Authors/Journal	Study Design and Sample	Main Results/Interpretation
Goncharov/Zimmermann (2007), <i>Die Unternehmung</i>	Comparison of earnings management between German GAAP, IFRS and US-GAAP firms (discretionary accruals) Sample: German firms, DAX30, MDAX, NEMAX50; 1996 – 2002	No differences in the level of earnings management between German GAAP and IFRS; less earnings management under US GAAP Interpretation: US GAAP are considered to allow for less discretion as compared to IFRS or German GAAP
Paananen/Lin (2009), <i>The International Journal of Accounting Research</i>	Comparison of earnings smoothing and timely loss recognition during 2000 – 2002 (IAS period), 2003 – 2004 (voluntary IFRS period) and 2005 – 2006 (mandatory IFRS period) Sample: German firms; 2000 – 2006 that state to use IAS/IFRS	Smoothing: decreases from the IAS to the voluntary IFRS period but increase from the voluntary IFRS to the mandatory IFRS period; Timely loss recognition: increase from the IAS to the voluntary IFRS period; Decrease from IFRS voluntary to IFRS mandatory period Interpretation: Revisions of accounting standards during the adoption period affect earnings characteristics
Christensen et al. (2008), <i>Working Paper</i>	Comparison of earnings management and conservatism in the pre- and post-IFRS adoption period for voluntary and mandatory IFRS adopters Sample: German firms (excl. US GAAP adopters), 1993 – 2006	Voluntary adopters: decrease in income smoothing, increase in timely loss recognition Mandatory adopters: no significant change in earnings quality after IFRS adoption Interpretation: the incentive to adopt is an important driver of earnings quality
Aussenegg et al. (2008), <i>Working Paper</i>	Comparison of earnings management between voluntary IFRS adopters and non-adopters Sample: 15 EU Member States Compustat Global; 1995 – 2005	Lower levels of earnings management after IFRS adoption particularly for firms from Central European countries; however level of earnings management is unaltered for firms in the UK and Ireland Interpretation: Firms in the UK and Ireland have higher levels of legal protection and as a consequence exhibit lower levels of earnings management before and after IFRS adoption

Table 5: Studies on IFRS Adoption and Earnings Quality (continued)

Authors/Journal	Study Design and Sample	Main Results/Interpretation
Chen et al. (2009), <i>Working Paper</i>	2000 – 2007, 2005 is used as reference year to compare earnings quality in the pre- and post-adoption period	Earnings quality marginally improved after IFRS adoption, earnings smoothing tends to be even more pronounced in the post-adoption period Interpretation: Change in accounting standards is not accompanied by a change in reporting incentives, earnings quality is hardly affected
Ahmed et al. (2009), <i>Working Paper</i>	Effects of mandatory IFRS adoption on smoothness, conservatism and timeliness of accounting earnings Sample: mandatory IFRS adopters (21 countries), Compustat Industrial, 1998 – 2007	IFRS firms pre-adoption: Less smoothing, more conservative accruals, more timely loss recognition than benchmark firms IFRS firms post-adoption: Increase in income smoothing, decrease in conservatism and increase in timeliness of ‘good news’ Interpretation: Mandatory IFRS adoption shows different effects as compared to voluntary adoption given that firms lack incentives to adopt
Callao/Jarne (2010), <i>Accounting in Europe</i>	Effects of IFRS adoption on discretionary accruals Sample: IFRS adopters in 11 EU member states 2003 – 2006	Earnings management increases after IFRS adoption, level of discretionary accruals primarily explained by firm characteristics such as size, leverage and institutional environment Interpretation: Variations in earnings management driven by cultural differences and firm characteristics rather than IFRS

Evidence on IFRS Adoption and Earnings Management

Barth et al. (2008) examine the impact of IFRS adoption on income smoothing using an international sample of voluntary IFRS adopters. German firms constitute a significant proportion of firms used in their analysis (about 20%). They find that firms who voluntarily adopt IFRS engage in less income smoothing compared to the period when

firms report under national GAAP. However, Chen et al. (2009) provide evidence for a sample of European firms that the level of earnings smoothing remained largely unaltered after IFRS adoption. They conclude that although accounting standards may have changed due to IFRS adoption the incentives of European firms to smooth earnings remained unaffected and dominate accounting standards in terms of earnings management behavior. Using a sample of German firms, Van Tendeloo/Vanstraelen (2005) provide evidence that voluntary IFRS adoption is not associated with less earnings management in terms of discretionary accruals when compared to non-adopters. Similarly, Goncharov/Zimmermann (2007) find that earnings management does not decrease under IFRS but under US GAAP as compared to HGB. Paananen/Lin (2009) divide the period of IFRS adoption in Germany into three time frames: the IAS adoption period (2000 – 2002), the voluntary IFRS adoption period (2003 – 2004) and the mandatory IFRS adoption period (2005 – 2006). They find that earnings smoothing decreases from the IAS to the voluntary IFRS period but increase from the voluntary to the mandatory IFRS period. Differences in the level of earnings smoothing are attributed to revisions of accounting standards during the observation period. Aussenegg et al. (2008) apply several metrics to test for changes in earnings management after IFRS adoption using a sample of European firms. They find a decrease in earnings management for Continental European firms but not for firms from the UK and Ireland and conclude that firms in the UK and Ireland already exhibited smaller amounts of earnings management prior to IFRS adoption due to Anglo-Saxon accounting standards. As a consequence, earnings management is presumed to be less affected by IFRS adoption in these countries.⁶⁹⁶

Mandatory IFRS adoption has frequently been referred to as an ideal research setting to evaluate the relative influence of standards versus incentives as drivers of earnings quality. Christensen et al. (2008) use a similar research design like Barth et al. (2008)

⁶⁹⁶ Note that the UK and Ireland did not issue similar legislation on voluntary IFRS as Germany, Austria, France, Belgium, Finland and Luxemburg. Therefore, observations on IFRS for UK and Irish firms are probably only available for 2005 in the study which could affect the result.

and compare the extent of income smoothing in the pre- and post-adoption period for voluntary and mandatory IFRS adopters in Germany.⁶⁹⁷ They find that income smoothing decreased significantly under voluntary but not under mandatory IFRS adoption. Ahmed et al. (2009) is the first cross-country study on mandatory IFRS adoption and earnings characteristics. Using a similar sample like Barth et al. (2008), they provide evidence that earnings smoothing rather increased than decreased after IFRS adoption. Based on a sample of European firms, Callao/Jarne (2010) find an increase in discretionary accruals in the period after IFRS adoption. The studies by Christensen et al. (2008) and Ahmed et al. (2009) suggest that mandatory differ from voluntary IFRS adopters in terms of incentives to improve earnings quality. They conclude that the incentive to voluntarily adopt IFRS dominates the effect of accounting standards in determining earnings quality among German firms.

Evidence on IFRS Adoption and Conditional Conservatism

Gassen/Sellhorn (2006) use a matched sample of German firms and find that conditional conservatism is higher under IFRS as compared to German GAAP. Similarly, Barth et al. (2008) find that voluntary IFRS adopters report earnings on a timelier basis in the post- than in the pre-adoption period. Besides the Basu (1997) measure for conditional conservatism, they run logistic regressions in order to evaluate whether firms report large losses more frequently in the post- than the pre-adoption period. Results in Christensen et al. (2008) suggest an increase in conditional conservatism in the post-adoption period for voluntary but not for mandatory IFRS adopters. Similarly, Ahmed et al. (2009) document a decrease in timely loss recognition for mandatory IFRS adopters.

When results from previous studies are compared as a whole, it appears that while evidence on IFRS adoption and conditional conservatism is largely consistent, evidence on IFRS adoption and earnings management is mixed (table 6). Studies on earnings smoothing by voluntary adopters generally suggest that earnings management de-

⁶⁹⁷ It needs to be noted that the study by Christensen et al. (2008) with a sample period from 1993 to 2006 only covers few IFRS observations for the group of mandatory adopters.

creased after IFRS adoption.⁶⁹⁸ In contrast, studies using discretionary accruals as proxy for earnings management largely fail to document a significant decrease in earnings management after voluntary IFRS adoption but find an increase in discretionary accruals after mandatory adoption.⁶⁹⁹ Evidence on mandatory IFRS adoption suggests that IFRS adoption did not lead to a significant decrease in income smoothing.⁷⁰⁰

Table 6: Summary of Previous Results on IFRS Adoption and Earnings Quality⁷⁰¹

	Voluntary IFRS Adoption			Mandatory IFRS Adoption		
	Increase	Insignificant	Decrease	Increase	Insignificant	Decrease
<i>Earnings Smoothing</i>		<ul style="list-style-type: none"> • Paananen/Lin (2009) • Chen et al. (2009) 	<ul style="list-style-type: none"> • Barth et al. (2008) • Christensen et al. (2008) 	<ul style="list-style-type: none"> • Ahmed et al. (2009) 	<ul style="list-style-type: none"> • Christensen et al. (2008) 	
<i>Discretionary Accruals</i>		<ul style="list-style-type: none"> • Van Tendeloo/Vanstraelen (2005) • Goncharov/Zimmermann (2007) 	<ul style="list-style-type: none"> • Aussenegg et al. (2008) 	<ul style="list-style-type: none"> • Callao/Jarne (2010) 		
<i>Conditional Conservatism</i>	<ul style="list-style-type: none"> • Gassen/Sellhorn (2006) • Barth et al. (2008) • Christensen et al. (2008) 	<ul style="list-style-type: none"> • Paananen/Lin (2009) 			<ul style="list-style-type: none"> • Christensen et al. (2008) 	<ul style="list-style-type: none"> • Ahmed et al. (2009)

While these findings seem inconsistent at a first sight, they become more comprehensible when linked to the development of the capital market during the respective observation period. It needs to be noted that previous studies on IFRS adoption and earnings characteristics cover different observation periods characterized by different capi-

⁶⁹⁸ Cf. Barth et al. (2008); Christensen et al. (2008).

⁶⁹⁹ Cf. Van Tendeloo/Vanstraelen (2005); Goncharov/Zimmermann (2007); Callao/Jarne (2010).

⁷⁰⁰ Cf. Christensen et al. (2008); Ahmed et al. (2009). Evidence on mandatory IFRS adoption and discretionary accruals has not been presented to date. This research gap is filled in chapter 6.

⁷⁰¹ Source: Author's illustration.

tal market environments.⁷⁰² In particular, earnings characteristics may be particularly sensitive to the period of the downturn between 2001 and 2003 consistent with the findings in Pronobis et al. (2009). This issue is explored in more detail in chapter 6.

4.4 Family Governance and Earnings Quality

4.4.1 Systematization of Prior Research on Accounting in Family Firms

Studies on effects of ownership and board structures on earnings quality and financial reporting met increasing attention in recent years. Studies on accounting in family firms mainly focus on:

- earnings management,
- conditional conservatism,
- other earnings attributes such as the information content of earnings,
- accounting choices or
- disclosure.

Table 7 provides an overview on previous studies on accounting in family firms.⁷⁰³ These studies build to a large extent on the rationale of ownership concentration and insider ownership. Ownership concentration provides a fundamental basis to explain reporting behavior of family firms because the arguments on family influence and earnings quality mainly ground on the idea how the presence of large shareholders affects the prevalence of agency conflicts. This implies that the effect of ownership concentration needs to be taken into account in the analyses (chapters 7 and 8) to assess whether results are due to ownership concentration or family influence. Furthermore, it needs to be assessed whether effects of family governance on earnings characteristics rather need to be regarded as effects of family or insider ownership. The focus of this chapter is on studies that investigate effects of family influence on earnings management and conservatism.

⁷⁰² Figure 18, Appendix A illustrates the respective observation periods covered in previous studies on IFRS adoption and earnings quality.

⁷⁰³ Studies on management accounting and auditing in family firms are not summarized in table 7. For an overview on this limited body of research, cf. Salvato/Moores (2010), p. 199-200.

Table 7: Overview of Studies on Financial Reporting in Family Firms⁷⁰⁴

Accounting Quality	Family Governance	Insider Ownership	Ownership Control
<i>Earnings Management</i>	<ul style="list-style-type: none"> • Wang (2006) • Ali et al. (2007) • Tong (2007) • Jara-Bertin et al. (2008) • Prencipe et al. (2008) • Jaggi et al. (2009) • Tiscini/Di Donato (2009) • Abdolmohammadi et al. (2010) • Prencipe/Bar-Yosef (2010) • Stockmans et al. (2010) • Yang (2010) 	<ul style="list-style-type: none"> • Dhaliwal et al. (1982) • Warfield et al. (1995) • Peasnell et al. (2005) • Gabrielsen et al. (2002) • Cheng/Warfield (2005) 	<ul style="list-style-type: none"> • Kim/Yi (2006)
<i>Conditional Conservatism</i>	<ul style="list-style-type: none"> • Wang (2006) • Haw et al. (2009) 	<ul style="list-style-type: none"> • LaFond/Roychowdhury (2008) • Bona Sánchez et al. (2009) • Shuto/Takada (2010) 	<ul style="list-style-type: none"> • Haw et al. (2009)
<i>Accounting Choices</i>		<ul style="list-style-type: none"> • Smith (1976) • Dhaliwal et al. (1982) • Niehaus (1989) 	
<i>Information Content of Earnings (e.g. Value Relevance) /Other Earnings Attributes</i>	<ul style="list-style-type: none"> • Wang (2006) • Ali et al. (2007) • Zhao/Millet-Reyes (2007) • Chen et al. (2008) • Cascino et al. (2010) 	<ul style="list-style-type: none"> • Warfield et al. (1995) • Fan/Wong (2002) • Gabrielsen et al. (2002) • Jung/Kwon (2002) • Yeo et al. (2002) • Firth et al. (2007) 	<ul style="list-style-type: none"> • Francis et al. (2005)
<i>Disclosure</i>	<ul style="list-style-type: none"> • Ali et al. (2007) • Chen et al. (2008) 	<ul style="list-style-type: none"> • Sánchez-Ballesta / García-Meca (2007) 	<ul style="list-style-type: none"> • Lakhali (2005)

⁷⁰⁴ Source: Author's illustration.

4.4.2 *Family Governance and Earnings Management*

Evidence from prior studies on earnings management in family firms is summarized in table 8. While most studies solely focus on the dimension of earnings management in family firms, some complement their analysis by other dimensions of accounting quality such as the information content of earnings or disclosure.⁷⁰⁵ Most studies on earnings management in family firms focus on listed firms. Only two studies examine earnings management in privately held family firms.⁷⁰⁶ Family firm definitions in previous studies are heterogeneous. Study design and family firm definitions applied in the respective studies are summarized in table 9. Studies on earnings management in family firms either focus on family ownership⁷⁰⁷ or board influence by family members⁷⁰⁸. To the best of my knowledge no study examines if effects of family influence on earnings management needs to be attributed to family ownership or family management. This issue is explored in more detail in the analyses in chapters 7 and 8.

⁷⁰⁵ Cf. Wang (2006); Ali et al. (2007); Cascino et al. (2010).

⁷⁰⁶ Cf. Abdolmohammadi et al. (2010); Stockmans et al. (2010).

⁷⁰⁷ Cf. Wang (2006); Ali et al. (2007); Jara-Bertin/Lopez Iturriaga (2008); Tong (2007); Prencipe et al. (2008); Abdolmohammadi et al. (2010); Cascino et al. (2010); Stockmans et al. (2010).

⁷⁰⁸ Cf. Jaggi et al. (2009); Bar-Yosef/Prencipe (2011). Both studies focus on countries with one tier board systems whereas no study on a two-tier board system has been presented so far.

Table 8: Summary of Results from Studies on Earnings Management in Family Firms⁷⁰⁹

Authors/Journal	Main Results
Wang (2006), <i>Journal of Accounting Research</i>	Family firms exhibit less earnings management (lower levels of discretionary accruals) as compared to their non-family counterparts
Ali et al. (2007), <i>Journal of Accounting Research</i>	Family firms exhibit less earnings management (lower levels of discretionary accruals) as compared to their non-family counterparts
Tong (2007), <i>Advances in Accounting</i>	Family firms exhibit less earnings management (lower levels of discretionary accruals) as compared to their non-family counterparts
Jara-Bertin/Lopez Iturriaga (2008), <i>Working Paper</i>	Firms in which families serve as one of the three largest shareholders exhibit higher levels of earnings management
Prencipe et al. (2008), <i>Family Business Review</i>	Family firms are less sensitive to income-smoothing motivations than nonfamily firms but similarly motivated to manage earnings for debt covenant and leverage-related reasons
Jaggi et al. (2009), <i>Journal of Accounting and Public Policy</i>	Monitoring effectiveness of corporate boards is moderated in family-controlled firms, either through ownership concentration or the presence of family members on corporate boards
Tiscini (2009), <i>Working Paper</i>	Distribution of family influence in the board plays an important role: Lower levels of discretionary accruals in firms with family CEOs and high family influence in the board as well as in firms with external CEOs and low board influence of the family; Higher levels of discretionary accruals in firms with family CEOs and low family influence in the board as well as external CEOs and high family influence in the board
Bar-Yosef/Prencipe (2011), <i>Journal of Accounting, Auditing and Finance (forthcoming)</i>	Effects of board independence in mitigating earnings management is lower in family controlled firms; Earnings management is particularly pronounced in family firms with family CEOs
Abdolmohammadi et al. (2010), <i>Working Paper</i>	Family firms exhibit more income smoothing than non-family firms; Earnings smoothing is particularly pronounced in firms with a family CEO and mitigated by independent directors in the board

⁷⁰⁹ Source: Author's illustration

Table 8: Summary of Results from Studies on Earnings Management in Family Firms (continued)

Authors/Journal	Main Results
Cascino et al. (2010), <i>Family Business Review</i>	Family firms have smoother earnings than non-family firms
Stockmans et al. (2010), <i>Family Business Review</i>	Socioemotional wealth provides an incentive for income increasing earnings management in family firms when firm performance is poor. Earnings management is more pronounced in founder-led privately held family firms as compared to family firms in second or later generations and firms with non-family CEOs.
Yang (2010), <i>Family Business Review</i>	Earnings management increases with insider ownership and is more pronounced in firms with non-family CEOs

Table 9: Study Design in Previous Studies on Earnings Management in Family Firms⁷¹⁰

Authors/Journal	Sample	Family Firm Definition
Wang (2006), <i>Journal of Accounting Research</i>	USA, 1994 – 2002 207 family and 335 non-family firms (542 firms)	Founding family ownership (dummy for family ownership, percentage of family ownership, CEO attributes: family, descendant or hired CEO)
Ali et al. (2007), <i>Journal of Accounting Research</i>	USA, 1998 – 2002 177 family and 323 non-family firms (S&P 500 firms)	Firms are defined as family firm if the founder and/or his descendants hold positions in the top management or on the board or are among the companies' largest shareholders (Business Week Classification)
Tong (2007), <i>Advances in Accounting</i>	USA, 1992 – 2003 177 family and 323 non-family firms (S&P 500 firms)	Business Week Classification as described above
Jara-Bertin/Lopez Iturriaga (2008), <i>Working Paper</i>	European Union (11 countries), 1996 – 2000 1,208 firms (3,091 obs.)	Family/private individual is among the three largest shareholders (ultimate owner concept)
Prencipe et al. (2008), <i>Family Business Review</i>	Italy, 2001 – 2003 129 observations, firms listed on Milan Stock Exchange	Family owns - directly or indirectly - more than 50% of the equity capital, or the dominant family controls the strategic decisions of the firm, even without possessing the majority of the equity capital

⁷¹⁰ Source: Author's illustration.

Table 9: Study Design in Previous Studies on Earnings Management in Family Firms (continued)

Authors/Journal	Sample	Family Firm Definition
Jaggi et al. (2009), <i>Journal of Accounting and Public Policy</i>	Hong Kong, 1998 – 2000 141 family-controlled firms out of 269 firms (770 obs.), status 1999	Fractional family ownership, board composition: board is presumed to be family controlled when two or more members of the controlling family serve as board members
Tiscini/Di Donato (2008), <i>Working Paper</i>	Italy, 2001 – 2006 126 firms listed at Milan Stock Exchange	Family is involved in governing bodies (board involvement of the family)
Abdolmohammadi et al. (2010), <i>Working Paper</i>	Norway, 2000 – 2007 Privately held Family Firms (215,349 obs.)	Firm controlled (i.e. owned by 50 % or more) by one family (via direct or indirect ownership)
Prencipe/Bar-Yosef (2010), <i>Journal of Accounting, Auditing and Finance</i>	Italy, 2003 – 2004 171 obs. on family and 78 obs. on non-family firms (249 obs.)	Family firms are firms in which one or more families linked by kinship, close affinity or solid alliances directly or indirectly hold a sufficiently large share of the voting capital to control major decisions (>50% of voting rights)
Cascino et al. (2010), <i>Family Business Review</i>	Italy, 1998 – 2004 507 obs. on family and 271 on non-family firms (total 778 obs.)	Firms in which 50% of the voting rights or outstanding shares (either direct or indirect) are held by a family blockholder and at least one member of the controlling family holds a managerial position
Stockmans et al. (2010), <i>Family Business Review</i>	County of Flanders, 2001 Privately held firms, 132 cases	Perceived as family firm by the CEO (self-identification) and family owns more than 50% of shares
Yang (2010), <i>Family Business Review</i>	Korea, 2001 – 2008 2,795 obs. on family firms, 1,119 non-family firms (total 3,914 obs.)	Insider Ownership exceeding 10% of total shares

It appears that results from previous research differ fundamentally with regard to institutional frameworks irrespective of the focus on family ownership or family influence on the board of directors as illustrated in table 10.⁷¹¹ Studies that focus on family ownership are marked by ‘*’, whereas studies that focus on family influence in boards are denoted by ‘°’. While studies on US firms generally find that family influence leads to lower levels of earnings management, studies on European and Asian firms commonly document higher levels of earnings management in family as compared to non-family firms.⁷¹²

Table 10: Evidence on Earnings Management in Family Firms⁷¹³

Region	Effects of Family Governance on Earnings Management		
	Positive	Non-Linear	Negative
USA		<ul style="list-style-type: none"> • Wang (2006)* 	<ul style="list-style-type: none"> • Wang (2006)* • Ali et al. (2007)* • Tong (2007)*
Europe	<ul style="list-style-type: none"> • Jara-Bertin/Lopez Iturriaga (2008)* • Prencipe et al. (2008)* • Abdolmohammadi et al. (2010)* • Cascino et al. (2010)* • Stockmans et al. (2010)* • Bar-Yosef/Prencipe (2011)° 	<ul style="list-style-type: none"> • Tiscini/Di Donato (2008)° 	
Asia		<ul style="list-style-type: none"> • Jaggi et al. (2009)° • Yang (2010)* 	

⁷¹¹ Although evidence on insider ownership and earnings management is not summarized in table 9, results on managerial ownership point largely point into the same direction. Results suggest that managerial/insider ownership by trend reduces the level of earnings management in the USA and UK (cf. Dhaliwal et al. (1982); Warfield et al. (1995); Peasnell et al. (2005)) but not in non Anglo-Saxon environments, cf. Gabrielsen et al. (2002). However, Cheng/Warfield (2005) provide evidence for a sample of US firms that managers have high incentives to manage earnings to increase the value of shares to be sold.

⁷¹² Cf. Table 11.

⁷¹³ Source: Author’s illustration.

Explanations in prior studies on earnings management in family firms mainly build on the basic scenario of agency theory.⁷¹⁴ Family ownership is presumed to mitigate agency conflicts arising from the separation of ownership and control because family members frequently do not only act as large shareholders but are also involved in the management or monitor appointed executives through the board.⁷¹⁵ This so-called alignment effect is presumed to result in lower levels of earnings management as compared to non-family firms and is considered to be enhanced by long-term orientation in family firms and concerns over family reputation. Consistent with this prediction Wang (2006), Ali et al. (2007) and Tong (2007) document that earnings management decreases with family ownership.

However, the alignment effect is possibly outweighed by agency conflicts between small and large shareholders. Expropriation of minority shareholders by families is considered to result in perquisite consumption such as excessive compensation, related party transactions or the payment of special dividends.⁷¹⁶ Family shareholders are presumed to make use of private information to protect private benefits of control at the disadvantage of small shareholders which results in higher levels of earnings management as compared to non-family firms.⁷¹⁷ This prediction is consistent with evidence in Jara-Bertin/Lopez Iturriaga (2008). Jaggi et al. (2009) and Bar-Yosef/Prencipe (2011) focus on effects of family influence in the board of directors on earnings management. They find that effects of board independence in mitigating earnings management are lower when family members are involved in the board. Tiscini/Di Donato (2008) suggest that the level of earnings management is particularly high in family firms with a family CEO and weak family influence in the board as well as in firms with a non-family CEO and strong family influence on the board. Yang (2010) provides evidence that earnings management tends to be more pronounced in family firms with hired as compared to family CEOs. He concludes that non-family CEOs have

⁷¹⁴ Cf. for a summary, Salvato/Moores (2010), p. 196-198.

⁷¹⁵ Cf. Demsetz/Lehn (1985); Grossman/Hart (1986); Shleifer/Vishny (1997); Anderson/Reeb (2004); Villalonga/Amit (2006).

⁷¹⁶ Cf. Anderson/Reeb (2003), p. 1305.

⁷¹⁷ Cf. on this argumentation Wang (2006); Ali et al. (2007); Tong (2007); Cascino et al. (2010) among others.

higher incentives to engage in earnings management than family CEOs because interests between non-family CEOs and the family are discordant.⁷¹⁸

Differences in the results between studies on US firms and on European and Asian firms are two-fold and may be attributed to differences in family capitalism and in the level of investor protection. The level of family ownership in US firms is rather low compared to European or Asian firms. Wang (2006) documents that for S&P 500 firms the average percentage of common stock held by family members is around 10%.⁷¹⁹ Morck et al. (1988) suggest that the alignment effect may hold for low and high levels of managerial ownership whereas the entrenchment effect is more pronounced for medium levels of managerial ownership. Consistent with the findings in Morck et al. (1988) and Anderson/Reeb (2003), Wang (2006) tests if the relationship between family ownership and discretionary accruals is non-linear. Evidence in this study suggests that the relation between family ownership and earnings management is characterized by an inverted u-shape with an inflection point at about 34% of family ownership. The average percentage of shares held by the family in German firms is around 35%,⁷²⁰ whereas the average percentage held by managers and board members in listed Korean firms is around 21%.⁷²¹ Differences in family capitalism are closely related to differences in institutional frameworks. Private benefits of control are more pronounced in countries with high ownership concentration and low investor protection.⁷²² When interests of minority shareholders are less protected, voting rights exceed cash flow rights and financial reporting is less transparent, insiders are presumed to have stronger abilities to defend private benefits of control via earnings management.⁷²³

⁷¹⁸ Cf. Yang (2010), p. 276.

⁷¹⁹ Cf. Wang (2006), p. 635-636.

⁷²⁰ Cf. Achleitner et al. (2009b), p. 54. Most studies on earnings management in European firms concentrate on Italian firms. Listed family firms in Italy are characterized by even higher levels of family ownership though the exact percentage of common shares held by families in the Italian stock market (Milan Stock Exchange) is not provided in these studies.

⁷²¹ Cf. Yang (2010), p. 274; Jaggi et al. (2009), p. 284, show that families control around 32.1% of corporate assets in Hong Kong.

⁷²² Cf. Dyck/Zingales (2004).

⁷²³ Cf. Leuz et al. (2003).

Agency theory only provides a narrow perspective on accounting in family firms and needs to be complemented by other theories such as stewardship and behavioral theory.⁷²⁴

Family firms are presumed to be characterized by close relationships between executives⁷²⁵ as well as a long-term investment horizon⁷²⁶ and as a consequence are less affected by capital market pressure to meet short-term earnings targets.⁷²⁷ This indicates that earnings management may take on a different meaning in family as compared to non-family firms. Family firms frequently hold long-term relationships with creditors and aim at protecting family control in the firm. Prencipe et al. (2008) argue that family firms are particularly sensitive to effects of debt-related earnings targets. Based on an analysis of R&D cost capitalization they find that family firms exhibit less income-smoothing but engage in earnings management to meet debt-related earnings targets such as covenants.

Stockmans et al. (2010) refer to behavioral theory to explain earnings management in privately held family firms. Earnings management in family firms is considered to be not only driven by financial but also by non-financial aspects such as socioemotional wealth. Socioemotional wealth relates to the identification of the family with the firm, the possibility to exercise influence on the firm and the assurance of long-term survival of the firm as a family firm.⁷²⁸ Family business literature suggests that non-financial goals to maintain control over the firm lead families to make decisions that are irrational from a financial point of view and to even accept risks regarding the economic performance of the firm.⁷²⁹ Stockmans et al. (2010) predict that the level of socioemotional wealth differs across family firms with regard to family business generations, the composition of the management as well as the presence of a family CEO. Their analysis builds on survey evidence from 123 privately held Flemish firms. Evidence suggests that socioemotional wealth is an incentive for income-increasing earnings

⁷²⁴ Cf. similarly Salvato/Moores (2010), p. 198; chapter 2.3.3.

⁷²⁵ Cf. Miller/Le Breton-Miller (2006), p. 74.

⁷²⁶ Cf. James (1999); Anderson/Reeb (2003), p. 1305-1306; Anderson et al. (2003), p. 264.

⁷²⁷ Cf. Prencipe et al. (2008), p. 72.

⁷²⁸ Cf. Stockmans et al. (2010), p. 280.

⁷²⁹ Cf. Gomez-Mejia et al. (2007).

management in family firms and particularly pronounced in founder-led family firms. Although the study focuses on privately held family firms, socioemotional wealth could also serve as an explanation for earnings management behavior in listed family firms.

Salvato/Moores (2010) address several avenues for future research in the context of earnings management in family firms. The studies by Prencipe et al. (2008) and Stockmans et al. (2010) indicate that incentives to engage in earnings management may differ between family and non-family firms. Mixed evidence in prior studies raises the question if earnings management takes on different meanings in family firms than in non-family firms.⁷³⁰ Some early studies focus on effects of ownership structures on accounting choices.⁷³¹ Studies on accounting choices in family firms could provide further insights how family firms manage earnings.⁷³² An interesting research question in this context is whether family firms prefer certain strategies of earnings management. While several studies present evidence on the use of accounting or cosmetic earnings management in family firms no study has examined the extent of accounting versus real earnings management in family firms to date.⁷³³ The analyses in chapter 7 contribute to this research question.

⁷³⁰ Cf. Salvato/Moores (2010), p. 197.

⁷³¹ Cf. Smith (1976); Dhaliwal et al. (1982); Niehaus (1989).

⁷³² Evidence in Achleitner et al. (2011) for example suggests that family firms accelerate the write-off of goodwill. The CFO surveyed in the study considers the avoidance of 'hot air' in the balance sheet to be a distinct characteristic of family firms. Cf. Achleitner et al. (2011), p. 72.

⁷³³ Cf. Hutton (2007), p. 289; Salvato/Moores (2010), p. 198.

4.4.3 *Family Governance and Conservatism*

The relation between family governance, insider ownership as well as ownership concentration on conservatism met relatively little attention in accounting research to date. The only study that explicitly analyzes effects of family ownership on conservatism is Wang (2006). Conditional conservatism is one of the dimensions of earnings quality examined in his study on S&P 500 firms.⁷³⁴ Wang (2006) finds that family ownership is positively associated with conditional conservatism, a finding interpreted as signal for superior earnings quality of family as compared to non-family firms. This evidence contrasts with LaFond/Roychowdhury (2008) who examine effects of managerial ownership on conditional conservatism. They argue that demand for conservatism arises from information asymmetries between shareholders and managers. Consistent with their hypothesis that managerial ownership decreases information asymmetries, they find managerial ownership to be negatively associated with conditional conservatism. Thereby, evidence in LaFond/Roychowdhury (2008) is conflicting with results in Wang (2006) and may indicate that managerial and family ownership constitute different ownership concepts in the US.

Shuto/Takada (2010) argue that the relationship between managerial ownership and conditional conservatism may be non-linear. For a sample of Japanese firms, they find that the level of conditional conservatism decreases for low and high levels of managerial ownership, but increases for medium levels of ownership. Consistent with the argumentation in Morck et al. (1988) they suggest that interests between managers and shareholders may be aligned for low and high levels of managerial ownership whereas the ‘entrenchment’ hypothesis applies for medium levels of managerial ownership. They argue that minority shareholders could demand conditional conservatism to prevent expropriation by managers in firms with medium levels of managerial ownership.

Bona Sánchez et al. (2009) focus on the relation between ultimate ownership and earnings conservatism among listed firms in Spain. They investigate if the asymmetric timeliness of earnings is driven by a) the percentage of shares held by the controlling owner and b) the divergence between the controlling shareholder’s voting and cash flow rights. Results suggest that timely loss recognition is less pronounced in firms

⁷³⁴ For this reason, no explicit discussion how family governance may affect conservatism is presented because the argumentation is based on earnings quality in general.

with higher levels of ownership concentration and higher dispersion between voting and cash flow rights. Bona Sánchez et al. (2009) conclude that minority shareholders demand timely loss recognition to protect their claims but that this demand decreases when minority shareholders only play a minor role in the firm due to high ownership concentration or dispersion of cash flow and voting rights.

In a recent working paper Haw et al. (2009) analyze effects of ownership structures on the level of conservatism among Western European firms. Evidence from their study is conflicting with Bona Sánchez et al. (2009) because they find that dispersion between cash flow and voting rights is associated with higher levels of conservatism. Interestingly, they find that the ownership type plays a role regarding the level of conservatism. In particular, results suggest that family ownership is positively associated with conditional conservatism.⁷³⁵ They argue that minority shareholders perceive the risk of being expropriated by large shareholders. This concern is presumed to be even more pronounced when voting rights exceed cash flow rights. As a consequence minority shareholders are considered to have an increased demand for conditional conservatism.

Demand for conservatism in family firms may not only arise from the perspective of minority but also from the perspective of family shareholders. Though minority shareholders may claim for timely loss recognition to prevent expropriation, families as large shareholders may have even more demand for conservative accounting numbers due to risk aversion and the purpose of maintaining control over the business. When the family is also represented in the management board, timely loss recognition is likely to be more pronounced than in firms with external managers because family managers have lower incentives to defer 'bad news' to later periods than non-family managers. However, unconditional conservatism may overlap conditional conservatism in family firms. This implies, conservatism could be driven by downwards earnings management. Thereby, entrenchment of minority shareholders in family firms may be less likely to arise from an overstatement rather than an understatement of earnings. A systematic understatement of net assets may increase internal funds and enhance the independence of the family from external sources of financing such as capital increases and the raise of additional debt but decrease stock prices and dividends for minority

⁷³⁵ The paper is not categorized as a paper on family governance and conservatism because it more generally focuses on effects of ownership structures on conservatism.

shareholders. Though the family as large shareholder would still influence the appropriation of income through the general meeting high earnings numbers could increase shareholder pressure. For these reasons, family ownership could be positively associated with conservatism but the level of conservatism may be influenced by earnings management. In some situations, the purpose of control retention in family firms may also require the use of ‘cookie jar reserves’ to boost earnings which creates even stronger incentives for (untimely) unconditional conservatism. The relationship between family governance, earnings management and conditional conservatism is investigated in chapter 8.

4.4.4 Effects of Outside Blockholders on Earnings Management and Conservatism

Although family owners are considered as prototype of large shareholders in the finance and economics literature other large shareholders may affect properties of reported earnings among German firms and therefore need to be considered in the analysis. Outside blockholders such as banks, strategic investors, private equity and other institutional investors are presumed to have lower monitoring and expropriation incentives than inside blockholders.⁷³⁶ However, these incentives may be strong enough to monitor other shareholder groups including family shareholders as well as managers or to expropriate minority shareholders though expropriation of minority shareholders may take on a different shape.

Strategic investors constitute the main blockholder in German non-family firms. However, to the best of my knowledge no study has documented effects of shares held by strategic investors on earnings characteristics to date. Strategic shareholders hold high stakes in the firms in which they are invested and possess access to proprietary information. Therefore, strategic investors may have less demand for earnings quality. However, minority shareholders could demand earnings quality to prevent expropriation by strategic investors via tunneling.

Banks frequently hold shares in German firms or exercise proxy votes on behalf of their clients. Firms that hold close relationships with their banks could benefit from lower costs of external financing and lower monitoring costs. However, the power of banks may also lead to conflicts of interest because banks simultaneously act as share-

⁷³⁶ Cf. Villalonga/Amit (2006), p. 387.

holders, exercise voting rights via proxy rights, may control firm access to external capital markets and provide loans.⁷³⁷ Thereby, banks are not necessarily acting in the interest of minority shareholders. For example, Dittmann et al. (2010) find that banks with positions in the boards of German firms are likely to support their own business as lenders and M&A advisors, though they also provide financial expertise to the firm particularly in difficult times. Although banks are presumed to strongly affect corporate governance in German firms, no study has documented effects of bank ownership on earnings characteristics up to date. However, monitoring by banks could decrease the level of earnings management though banks have relatively low demand for earnings quality in their role as ‘quasi insiders’.

Blockholder types that were found to exercise influence on reported earnings in previous studies include institutional investors and private equity investors. While the governance role of institutional investors is acknowledged in Anglo-Saxon environments such as the USA or the UK, institutional investors other than banks still play a minor role as shareholders in German firms. Institutional investors are presumed to have a more profound knowledge of financial statements than individual investors and hence may be more efficient in detecting or preventing earnings management.⁷³⁸

Beuselinck et al. (2009) find that private equity involvement increases conditional conservatism for a sample of privately held Belgian firms.⁷³⁹ In their role as active investors private equity is presumed to have strong monitoring incentives which could lead to lower levels of earnings management and higher levels of conditional conservatism. However, in the course of an exit strategy private equity investors could also have incentives to inflate earnings to obtain high prices for their stakes. Private equity investors only hold a relatively small percentage of shares in German listed firms. As a

⁷³⁷ Cf. Kaserer/Wenger (1998); Gorton/Schmid (2000b), p. 30.

⁷³⁸ For example, Bushee (1998) provides evidence that firms with low institutional ownership are more likely to cut R&D expenditures when earnings are low. He suggests that minority shareholders are less sophisticated and as a consequence more myopically focused on total earnings rather than fundamental earnings. Chung (2002) finds that institutional investors monitor and constrain the self-serving behaviour of managers which as a consequence leads to lower levels of earnings management.

⁷³⁹ Further evidence on effects of venture capital and private equity involvement on earnings characteristics is presented in Chen et al. (2010) and Givoly et al. (2010).

consequence, the presence of private equity investors may only weakly influences earnings characteristics among listed firms in Germany.⁷⁴⁰

Provided that shares held by outside blockholders such as strategic investors, banks, private equity and institutional investors may affect earnings characteristics among German firms, robustness analyses are conducted in chapters 7 and 8 that control for effects of the presence of outside blockholders as well as particular types of outside investors.

⁷⁴⁰ However, it needs to be noted that the role of private equity investors in listed firms in Germany is acknowledged in several recent studies, cf. Achleitner et al. (2009a); Achleitner et al. (2010a); Achleitner et al. (2010b).

5 Data and Research Design

5.1 Structure and Organization of the Analyses

The analyses in this thesis build on a single country design focusing on data from the German stock market between 1998 and 2008. Cross-country studies allow for larger samples and are hence presumed to lead to results with a higher degree of generalisability. However, the use of country indices, such as the indices derived from La Porta et al. (1998), may only partially control for cross-country differences and is associated with a row of econometric problems.⁷⁴¹ While there is a large strand of research on drivers of earnings quality in shareholder-oriented corporate governance systems, drivers of earnings quality in stakeholder-oriented corporate governance systems such as Germany have met scant attention up to date. As pointed out in chapters 2 and 4, evidence found on US firms may not necessarily be transferable to countries with different institutional frameworks. Germany provides an interesting setting to analyze drivers of earnings quality in a non-Anglo-Saxon environment because the German accounting and corporate governance system is frequently regarded as primary example for a stakeholder oriented system whereas the US or UK are commonly regarded as primary examples for a shareholder oriented system.⁷⁴² Accounting regulation, enforcement and corporate governance in Germany strongly changed over the last two decades and may have affected reporting behavior of German firms. To the best of my knowledge this is the first comprehensive study on drivers of earnings management and conservatism in the German stock market.

Firstly, it focuses on effects of IFRS adoption – an accounting system derived from Anglo-Saxon environments among German firms (chapter 6). Ownership structures are presumed to affect reporting incentives. Therefore, it is interesting to analyze the role played by ownership structures in the context of voluntary IFRS adoption. IFRS adoption would be expected to lead to a decrease in earnings management and an increase in conditional conservatism given that IFRS represent an investor oriented accounting system that aims at providing a true and fair view on the firm's performance

⁷⁴¹ These issues include comparability problems due to differences in the data quality across countries, omitted variables, multicollinearity, endogeneity and limited degrees of freedom. Cf. Sloan (2001), p. 337.

⁷⁴² Cf. Joos/Lang (1994), 142; Mallin (2007), p. 162.

by unbiased and timely accounting information. However, if German firms have incentives to use discretion in IFRS to make accounting choices in line with German GAAP, earnings may remain unaltered.

Family and insider ownership are commonly regarded as particular characteristics of the German corporate governance system. Given that ownership structures are closely linked to reporting incentives, the second part of the empirical analysis (chapters 7 and 8) provides insights on how differences in governance structures among German firms affect earnings characteristics. Thereby, the analyses on effects of family governance complement the analyses on IFRS adoption and earnings characteristics. Furthermore, if German firms have incentives to manage earnings downwards as suggested in García Lara et al. (2005) conservatism and earnings management are likely to be associated. This issue is explored in more detail in chapter 8. Figure 12 illustrates the link between the empirical analyses in this thesis.

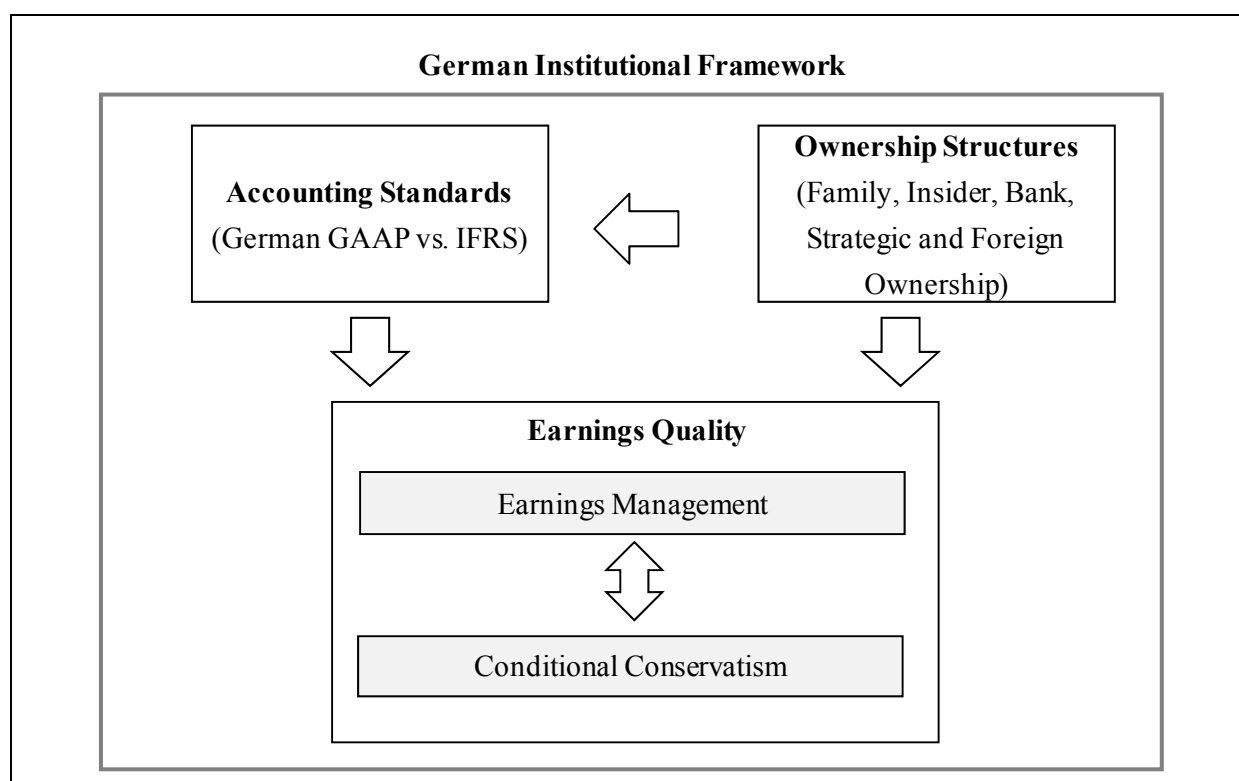


Figure 12: Structure of the Empirical Analyses⁷⁴³

⁷⁴³ Source: Authors illustration.

The panel data set used in this thesis comprises listed firms in the German Composite Index (CDAX) from 1998 to 2008. All analyses in the study are based on a main sample that is modified according to the requirements of the respective analyses (two sub-samples). The sample selection procedure as well as the differences between the two sub-samples used in chapter 6 (sub-sample 1) and chapters 7 and 8 (sub-sample 2) are described in chapter 5.2.

5.2 Sample Selection

The data used for the construction of the sample basis is derived from the German CDAX. This market segment represents a very high percentage of the market capitalization of the German stock market and can be presumed to produce representative results.⁷⁴⁴

The CDAX comprises all stocks listed in the German regulated market. This assures results to be unbiased by regulatory differences between the regulated market and the open market. Besides, the CDAX endured almost unchanged as a market segment since its introduction on April, 22, 1933.⁷⁴⁵

Firms are selected based on the yearly composition of the index. This implies that observations are only included in the sample if the firm was actually listed in the CDAX in the respective year instead of including all firms that were ever listed in the CDAX during the observation period. This selection procedure assures that the firms included in the sample face equal regulatory requirements in the observation year. Furthermore,

⁷⁴⁴ The representativeness of the CDAX in reference to all listed firms in Germany is illustrated in Gegenfurtner (2010), p. 126-127.

⁷⁴⁵ After the segment restructuring of the German Stock Exchange in 2002, the CDAX comprises the EU-regulated market as contrasted by the stock exchange regulated market. The EU-regulated market is further divided into the segments *General* and *Prime Standard* according to transparency requirements. Firms listed in the EU regulated market need to meet the following statutory transparency regulations: annual and interim reports in accordance with IFRS, publication of director's dealings, ad hoc disclosure, reporting of ownership thresholds, and compulsory offer with change of control. Firms listed in the Prime Standard have to meet further reporting requirements such as quarterly financial statements in English, corporate action timetable, analyst conference; source: Deutsche Börse based on the German Securities Trading Act (WpHG) and the Securities and Acquisition Takeover Act (WpÜG), source: <http://deutsche-boerse.com> (last accessed 03/31/2011).

selecting firms dynamically for each year on a going concern basis avoids survivorship bias as compared to when companies are selected statically.⁷⁴⁶

All analyses in this thesis refer to the observation period from 1998 to 2008. The KontraG and the KapAEG were issued in 1998 and contained fundamental regulatory reforms regarding accounting and corporate governance. These changes turn 1998 into a meaningful starting point for my analyses.⁷⁴⁷ The observation period ends in 2008 which represents the last year with complete accounting and capital market information⁷⁴⁸ as well as information on ownership and board structures.⁷⁴⁹

The analyses in this study build on an unbalanced panel data set because the sample composition changes significantly during the observation period. As a consequence, the use of a balanced panel is inappropriate and would constrain the sample significantly. Table 11 illustrates changes in the sample composition within the observation period referred to as ‘inflows’ to and ‘outflows’ from the index.⁷⁵⁰

Changes in the sample composition particularly arise from IPOs, segment changes, listings of a second stock type, delistings, legal form changes, acquisitions, or squeeze outs. The number of firms listed in the CDAX increased particularly from 1998 to 2000. In 2000 the CDAX comprises 740 firms as compared to 460 firms in 1998 which corresponds to an increase of 62.2%. This development is particularly due to high IPO-activity during the period referred to as the ‘*Neuer Markt*’. As illustrated in the table, IPOs carried out in the period from 1998 to 2001 represent 84% of all IPOs

⁷⁴⁶ This sample selection procedure is adequate to the sample selection procedure described in Gegenfurtner (2010), p. 118-129.

⁷⁴⁷ For an overview on regulatory reforms during the observation period cf. chapter 2.2.5.1.

⁷⁴⁸ As the fiscal year’s end not necessarily corresponds to the calendar year end, firm-year observations with fiscal year’s end starting from July 1st of the actual year to June 30th of the following year are attributed to the actual calendar year. For 2008 the dataset only includes data on financial statements available until 20th October 2009 (end of data collection). Since German firms need to file their annual reports within four months according to German law (§ 325 IV HGB), while the German Corporate Governance Code recommends firms to file their annual reports within three months, firm-year observations for the year 2008 should be nearly complete.

⁷⁴⁹ In contrast to accounting and capital market data, information on ownership and board structures is collected for the end of the calendar year based on the annually published information in *Hoppenstedt Aktienführer*.

⁷⁵⁰ The main sample used in the analyses is similar to the sample described in Gegenfurtner (2010). Cf. for a more detailed description of the sample composition Gegenfurtner (2010), p. 121-128.

during the observation period. From 2002 to 2003, after the downturn of the German capital market, IPO activity decreased significantly and only explains about 14% of inflows to the sample whereas IPOs from 1998 to 2001 explain about 72% of inflows to the sample. Other inflows contribute to about 14% of inflows to the CDAX and include segment changes from the open market, the listing of a second stock as well as the adoption of a company shell. Squeeze-outs are the most important source of outflows from the CDAX during the observation period besides mergers and bankruptcy. From 2002 to 2005 delistings due to squeeze out procedures contributed to about 53% of outflows from the CDAX. Squeeze out regulation was issued in 2002 and is codified in §§ 327a-327f AktG and § 39a-c WpÜG. Over the total observation period, squeeze outs explain about 41% of outflows from the CDAX. Other outflows from the CDAX include segment changes to the open market, going privates and firms that were excluded due to regulatory default.

Table 11: Changes in the Index Composition (CDAX)⁷⁵¹

Year	Inflows to the Index		Outflows from the Index			
	IPO	Other	Bankruptcy	Merger	Squeeze-Out	Other
1998	142	33	0	3	1	4
1999	151	10	1	2	1	8
2000	140	6	1	11	4	11
2001	23	3	0	7	4	14
2002	3	6	0	9	24	15
2003	0	4	1	11	18	6
2004	7	2	9	2	18	7
2005	17	5	6	2	22	6
2006	33	6	9	9	10	5
2007	25	8	12	2	17	2
2008	2	6	7	0	14	7
Total	543	89	46	58	133	85

Several criteria are applied in the sample selection process. Table 12 shows the sample selection procedure while table 13 illustrates the index composition of the CDAX on a yearly basis.⁷⁵²

⁷⁵¹ Source: Author's illustration following Gegenfurtner (2010), p. 124.

The sample basis comprises a total of 7,642 stocks (7,208 firms) within the observation period from 1998 to 2008. Only common shares are included in the sample whereas preferred shares are excluded (excl. 643 observations) even if firms are only listed with preferred but not common shares at the German stock exchange.⁷⁵³ When firms have more than one class of common shares listed in the index only the share class with the higher proportion of nominal capital is included in the sample. These adjustments are captured in the category ‘other adjustments’ in table 12. This category also includes observations for firms that only prepare individual but not consolidated financial statements. These observations were excluded to focus on data from consolidated financial statements (163 observations).

Since bank and insurance companies as well as other financial services companies face different accounting regulation, observations on financial services companies are excluded from the sample (1,057 observations).⁷⁵⁴ For all the analyses, information on the accounting standard is indispensable which is why observations for which information on the accounting standard applied was not available (634 observations) are also excluded.⁷⁵⁵

This sample selection procedure yields a *main sample* of 5,145 firm year observations. For the empirical analyses in chapters 6 to 8 further adjustments are required. As the analysis in chapter 6 focuses on a comparison of earnings under IFRS as compared to HGB, all firms that ever reported under US GAAP are excluded from the analyses (1,448 observations). Firm-year observations of firms that met the requirements by the German stock exchange concerning mandatory application of international accounting standards in special market segments (New Market firms) are not excluded from the analysis following the argumentation in Gassen/Sellhorn (2006) that these firms could switch to other market segments. In total, the sub-sample for the analysis on IFRS adoption and earnings quality comprises 3,697 observations (*sub-sample 1*). Chapters

⁷⁵² For a more detailed description regarding the composition of the CDAX during the observation period and the listing of multiple class shares, cf. Gegenfurtner (2010), p. 121-124.

⁷⁵³ These firms can mainly be attributed to the group of family firms and include for example Jil Sander AG, Villeroy and Boch AG, or Sto AG.

⁷⁵⁴ The identification of financial firms is based on the ICB industry classification in *Thomson Financial Datastream*.

⁷⁵⁵ As the data quality concerning the applied accounting standard in the *Worldscope* database is quite low, we verified this information using annual reports.

7 and 8 focus on the impact of family governance on earnings management and conditional conservatism. Therefore, the analyses require full information on the founder, ownership and board structures. In the second sub-sample, firms reporting under US GAAP are included while firms with missing information on the founder, ownership or board structures are excluded (208 observations). This leads to a subsample of 4,937 observations (*sub-sample 2*). Descriptive statistics on the two sub-samples are provided in chapters 6-8.

*Table 12: Sample Selection*⁷⁵⁶

Sample Selection		
<i>Observation Period 1998 – 2008</i>	N	
<i>Selection of the Main Sample</i>		
Stocks in the CDAX	7,642	
- Less: Preferred Shares	643	
- Less: Financial Institutions	1057	
- Less: Other Adjustments	163	
- Less: No Information on Accounting Standard Available	634	
Observations in the Main Sample	5,145	
<i>Selection of the Sub-Samples</i>	<i>Chapter 6</i>	<i>Chapter 7-8</i>
- Less: Observations of US GAAP Adopters	1,448	-
- Less: No Information on the Founder, Ownership and/or Board Structure	-	208
Observations in the Sub-Samples	3,697	4,937
	(sub-sample 1)	(sub-sample 2)

⁷⁵⁶ Source: Author's illustration and analysis.

Table 13: Index Composition (CDAX)⁷⁵⁷

Year	Firms in the Index		Stocks in the Index		
	Total	Multiple Shares	Total	Common Shares	Preference Shares
1998	460	60	520	433	87
1999	613	57	670	585	85
2000	740	50	790	717	73
2001	746	44	790	727	63
2002	711	40	751	692	59
2003	682	37	719	663	56
2004	658	34	692	640	52
2005	648	30	678	632	46
2006	655	29	684	641	43
2007	657	27	684	643	41
2008	638	26	664	627	37
Total	7,208	434	7,642	7,000	642

5.3 Data Sources

Information on the yearly composition of the CDAX is derived from the *Weighting Files* provided by the German stock exchange (*Deutsche Börse AG*). Information on changes in the index composition is derived from the *Weighting Files* and further information sources including the *DAI Factbook* provided by *Deutsches Aktieninstitut*, press research using *Lexis Nexis* or *Factiva* as well as annual reports and web research.

Accounting data comes from the *Worldscope* database as provided by *Thomson Financial*. Other data like firm age or information on cross listings is derived from *Hoppenstedt Aktienführer*. Information on the accounting standard applied in the respective year is initially derived from the *Worldscope* database and verified by hand using annual reports of the respective observation year.

Data on the founder is derived from *Hoover's Online Profile*, company archives, press research through *Factiva*, *LexisNexis* as well as annual reports and web research. Data on ownership and board structures is initially derived from *Hoppenstedt Aktienführer* which publishes annual data on ownership structures of German firms. Several further databases are used in order to verify and accomplish ownership and board information including *Bureau van Dijk's Amadeus database*, *Commerzbank's Wer gehört zu wem*,

⁷⁵⁷ Source: Author's illustration following Gegenfurtner (2010), p. 122.

the director dealings database of the *Bundesanstalt für Finanzdienstleistungsaufsicht* and web research. The data sources used to collect the variables for the analyses in this study are summarized in table 14.

Table 14: Data Sources⁷⁵⁸

Data Type	Data Sources
Information on the index composition (incl. changes in the index composition)	CDAX Weighting Files as provided by Deutsche Börse AG (German stock exchange), DAI Factbook, press research (Lexis Nexis, Factiva), annual reports, web research
Accounting and stock market information	<i>Worldscope</i> (accounting data) and <i>Datastream</i> (stock market information) as provided by <i>Thomson Financial</i> , non-financial data like firm age or information on cross-listings is derived from <i>Hoppenstedt Aktienführer</i>
Information on the accounting standard	Worldscope and annual reports of the respective observation year
Information on the founder	Hoover Online Profiles, listing prospectuses, press research (<i>Lexis Nexis, Factiva</i>), annual reports, web research
Information on ownership and board structures	Hoppenstedt Aktienführer, Commerzbank “Wer gehört zu wem” Database, Bureau van Dijks Amadeus Database, Director’s Dealings Database provided by the <i>Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin)</i> , annual reports, web research

5.4 Definition of Variables

5.4.1 Dependent Variables

The proxies for earnings management and conservatism used in the empirical analyses in chapters 6 to 8 are summarized in table 15.⁷⁵⁹

⁷⁵⁸ Source: Author’s illustration.

⁷⁵⁹ Cf. chapter 3 for a detailed description of the metrics.

Table 15: Summary on Earnings Properties Used in this Study⁷⁶⁰

Earnings Quality Metric	Conceptual Background/ Metrics	Strengths and Weaknesses
<i>Earnings Smoothing</i>	<p>Smooth earnings are a signal of earnings management</p> <p>Six proxies based on Leuz et al. (2003), Lang et al. (2006), Barth et al. (2008)</p>	<p>Pro: Common incentive for earnings management</p> <p>Contra: Hard to distinguish between smoothness arising from the fundamental earnings process and “artificial” smoothing</p>
<i>Discretionary Accruals</i>	<p>Total accruals (net income minus cash flow from operations) can be divided into “normal” accruals (i.e. fundamental accruals) and discretionary accruals (i.e. earnings management)</p> <p>Non-linear discretionary accruals model by Ball/Shivakumar (2006)</p>	<p>Pro: Frequently used metric for earnings management</p> <p>Contra: ‘Normal’ accruals are unobservable; this leads to econometric problems, particularly correlated omitted variables bias</p>
<i>Real earnings management</i>	<p>Managers change operating activities to meet an earnings target (without economic necessity)</p> <p>Proxies developed in Roychowdhury (2006)</p>	<p>Pro: Metric captures an important dimension of earnings management</p> <p>Contra: Difficult to distinguish between real earnings management and normal business activities, correlated omitted variables bias</p>
<i>Conditional conservatism</i>	<p>Prior literature identified contracting benefits of conservatism with regard to for example debt and executive compensation contracts</p> <p>Models by Basu (1997), Ball and Shivakumar (2005), Khan/Watts (2009)</p>	<p>Pro: Asymmetric recognition of gains and losses can be observed in accounting practice</p> <p>Contra: Conservatism per se is unobservable, economic and econometric concerns regarding the models may affect validity of the results</p>

⁷⁶⁰ Source: Author’s illustration.

Earnings management is measured as *earnings smoothing* (chapter 6), level of *discretionary accruals* (chapters 6-8) and *discretionary cash flows* (chapter 7).

Six proxies are used in chapter 6 to proxy for *earnings smoothing*:

- Variability in change of net income as well as variability of the residuals of change in net income
- Variability of change in net income over change in operating cash flows as well as variability of residuals of change in net income over residuals of change in operating cash flows
- Correlation between total accruals and operating cash flows as well as correlation between the residuals of total accruals and operating cash flows

The calculation of the residuals of change in net income, change in operating cash flows, total accruals and operating cash flows is described in section 6.2.3.

Discretionary accruals are calculated using the Ball and Shivakumar (2005) model throughout the analyses (chapters 6 – 8). Based on the general model described in section 3.2.3.2, discretionary accruals are estimated on a firm-level based on the coefficients derived from the following regression on an industry-year level. The error term ε_{it} is presumed to capture the level of discretionary accruals. Consistent with Ball/Shivakumar (2005), a minimum of 30 observations per industry-year regression is required.

$$ACC_t = \alpha_0 + \alpha_1 CF_t + \alpha_2 CF_{t-1} + \alpha_3 CF_{t+1} + \alpha_4 DCF_t + \alpha_5 DCF_t CF_t + \varepsilon_t^{761}$$

⁷⁶¹ In contrast to Ball/Shivakumar (2006) and Wang (2006) industry classification in the analyses in this study is not based on three-digit SIC-codes but ICB-Codes.

Where:

- ACC_t = Total accruals at t, scaled by average total assets at t⁷⁶²
 CF_t = Operating cash flows at t, scaled by average total assets at t
 CF_{t-1} = Operating cash flows at t-1, scaled by average total assets at t
 CF_{t+1} = Operating cash flows at t+1, scaled by average total assets at t
 DCF_t = One if the change in cash flows at t is less than zero, and zero otherwise⁷⁶³
 ε_t = Error term, expected to capture the proportion of unexpected or abnormal accruals

Proxies for real earnings management are derived from the models developed in Roychowdhury (2006). The analyses are mainly based on *discretionary cash flows* ($Discr_CF_{it}$) as dependent variable, whereas *discretionary expenses* and *discretionary production* are only estimated for robustness tests.⁷⁶⁴ Discretionary cash flows are estimated for each industry-year using the following regression with a minimum of 15 observations per industry-year. The proportion of discretionary cash flows is captured by the error term ε_t :

$$CFO_t/A_{t-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \alpha_2 (S_t/A_{t-1}) + \alpha_3 (\Delta S_t/A_{t-1}) + \varepsilon_t$$

Where:

- CFO_t = Cash flow from operating activities in t
 A_{t-1} = Lagged total assets
 S_t = Sales in t
 ΔS_t = Change in sales from t-1 to t, $\Delta S_t = S_t - S_{t-1}$

Three models are used to examine *conditional conservatism*⁷⁶⁵ (chapters 6 and 8):

- the serial dependence model (Basu, 1997)
- the accruals-based asymmetry model in Ball and Shivakumar (2005) and
- C-Score (Khan/Watts (2009))

⁷⁶² Total accruals are earnings before extraordinary items minus operating cash flows.

⁷⁶³ The interacted variable $DCF_t * CF_t$ serves as proxy for economic losses.

⁷⁶⁴ The calculation of these proxies is described in chapter 3.2.4.2. While discretionary cash flows produces reasonable adjusted R^2 in the analyses, adjusted R^2 for discretionary production and expenses are generally very low.

⁷⁶⁵ All models are calculated as described in chapter 3.3.2.

The Basu (1997) model is estimated based on the following equation:

$$NI_{it} = \beta_0 + \beta_1 D_{it} + \beta_2 R_{it} + \beta_3 D_{it} R_{it} + \varepsilon_{it}$$

Where:

NI_{it} = Net income before extraordinary items scaled by average total assets⁷⁶⁶

D_{it} = Indicator variable that takes a value of one if R_{it} is negative and zero otherwise

R_{it} = Rate of return (cumulative, 12 months)

ε_{it} = Error term

The coefficient on $D_{it}R_{it}$ serves as proxy for the asymmetric timeliness of earnings.

In the Ball/Shivakumar (2005) model, conditional conservatism is expressed by the term $D_{it} CF_{it}$. The model is expressed by the following regression equation.

$$ACC_{it} = \beta_0 + \beta_1 CF_{it} + \beta_2 D_{it} + \beta_3 D_{it} CF_{it} + \varepsilon_{it}$$

Where:

ACC_{it} = Total accruals scaled by average total assets (net income minus operating cash flows)

CF_{it} = Cash flows from operations in t, scaled by average total assets

D_{it} = Indicator Variable, equals one if CF_{it} is negative and zero otherwise

The C-Score (Khan/Watts, 2009) is calculated based on the yearly cross-sectional regression of the Basu (1997) model. C-Score corresponds to the sum out of the (year-level) coefficient for timely loss recognition $D_i R_i$ in the respective observation year as well as the multiplied values of the respective (year-level) timely loss recognition coefficients and firm-specific characteristics size, leverage and market-to-book ratio.

$$C - Score \equiv \beta_4 = \lambda_1 + \lambda_2 Size_i + \lambda_3 MTB_i + \lambda_4 Lev_i$$

⁷⁶⁶ Basu (1997) uses earnings per share scaled by the share price at the beginning of the period in the original model instead of net income. This implies that test results are sensitive to low stock prices. In this case, Basu (1997), p. 10 recommends to take net income and the book value of total assets, average total assets or the book value of equity as deflator. I follow this modified procedure in my analyses because the observation period covers a sub-period with low stock prices.

Implemented in the original Basu (1997) model, this procedure is expressed by the following equation:

$$\begin{aligned}
 NI_i = & \beta_1 + \beta_2 D_i + R_i (\mu_1 + \mu_2 Size_i + \mu_3 MTB_i + \mu_4 Lev_i) + \\
 & D_i R_i (\lambda_1 + \lambda_2 Size_i + \lambda_3 MTB_i + \lambda_4 Lev_i) + (\delta_1 Size_i + \delta_2 MTB_i + \delta_3 Lev_i + \\
 & \delta_4 D_i Size_i + \delta_5 D_i MTB_i + \delta_6 Lev_i) + \varepsilon_i
 \end{aligned}$$

Where:

- NI_i = Net income before extraordinary items scaled by average total assets
 D_i = Indicator variable that takes a value of one if R_{it} is negative and zero otherwise
 R_i = Rate of return (cumulative, 12 months)
 $SIZE_i$ = Total assets
 MTB_i = Growth (market-to-book ratio)
 LEV = Leverage
 ε_i = Error term

The exact estimation models are illustrated in the respective analyses because they vary according to the underlying research question. All the variables required to estimate the earnings metrics are summarized and defined in table 16.

Table 16: Definition of Variables Used in the Estimation of Earnings Quality Metrics⁷⁶⁷

Variable and Code	Description	Calculation
Net income (NI_{it})	Net income before extraordinary items at fiscal year's end (Worldscope-position WC01551) scaled by average total assets (total assets correspond to Worldscope position WC02999)	$NI_{it} = WC01551_{it} / (0.5 WC02999_{i,t-1} + 0.5 WC02999_{it})$
Change in Net Income (ΔNI_{it})	Change in net income is defined as net income in t (NI_{it}) minus net income in t-1 ($NI_{i,t-1}$)	$\Delta NI_{it} = NI_{it} - NI_{i,t-1}$
Cash flows (CF_{it})	Operating cash flow (corresponding to WC04860). ⁷⁶⁸ Cash flows are scaled by average total assets	$CF_{it} = WC04860_{it} / (0.5 WC02999_{i,t-1} + 0.5 WC02999_{it})$
Change in Cash Flows (ΔCF_{it})	Operating cash flow in t (CF_{it}) minus operating cash flows in t-1 ($CF_{i,t-1}$).	$\Delta CF_{it} = CF_{it} - CF_{i,t-1}$
Accruals (ACC_{it})	Net income comprises cash flows and accruals. Accruals are calculated directly as net income minus operating cash flows	$ACC_{it} = NI_{it} - CF_{it}$
Return (R_{it})	The return of firm i in period t is calculated as annual, cumulative return four months after fiscal year's end. It is calculated based on the Datastream position Total Return Index (RI) ⁷⁶⁹	$R_{it} = RI_{it} - RI_{i,t-1} / RI_{i,t-1}$
Size ($SIZE_{it}$)	Calculated as natural logarithm of total assets at fiscal year's end	$\log(WC02999)$
Leverage (LEV_{it})	Calculated as total debt to total assets	$LEV_{it} = WC03255_{it} / WC02999_{it}$
Market-to-Book Ratio (MTB_{it})	Calculated as the ratio of the market value of equity at fiscal year's end (WC08001) to the book value of equity (WC03501)	$MTB_{it} = WC08001_{it} / WC03501_{it}$

⁷⁶⁷ Source: Author's illustration.

⁷⁶⁸ Cash flows are directly derived from the cash flow statement and not indirectly estimated from balance sheet positions. Cf. section 3.2.3 for problems associated with the estimation of cash flow data from balance sheets.

⁷⁶⁹ The four month period after fiscal year's end relates to the period in which German firms need to file their annual reports (§ 325 IV HGB).

5.4.2 *Explanatory and Control Variables*

Accounting Standard

In the Worldscope database IFRS accounts comprise the labels ‘International standards’, ‘International standards and some EEC guidelines’ and ‘IFRS’ (WC07536). The classifications ‘Local standards’, ‘Local standards with some EEC guidelines’ and ‘Local standards with EEC and IASC guidelines’ are aggregated to German GAAP (HGB) accounts. Given that the reliability of information on the accounting standard in Worldscope is relatively low, this critical information is verified by hand using annual reports of the respective observation year.

Family Firm Heterogeneity and Ownership Structures

Several variables are used to capture family firm heterogeneity in the analyses. These variables are summarized in table 17 and also defined in chapters 7 and 8. Metrics on ownership structures are summarized in table 18.

Table 17: Definition of Family Firm Variables⁷⁷⁰

Variable	Description
Family Firm Dummy Variable (<i>Dummy_FF</i>)	This indicator variable equals one if family members hold positions in either the management and/or the supervisory board or hold at least 25% of voting rights, and zero otherwise
Family Firm Types (<i>FF_Type</i>)	Denotes particular family firm types as sub-groups of <i>Dummy_FF</i> : <ul style="list-style-type: none"> • 1: Family ownership and positions held by family members in the management • 2: Family ownership and positions held by family members in the supervisory board • 3: Family ownership but no positions held by family members in one of the boards • 4: No family ownership but family members hold position in the management board • 5: No family ownership but family members hold position in the supervisory board
Family Ownership (<i>FF_GES</i>)	Cumulative percentage of common shares held by the founder of the firm and/or members of the founding family (related to the founder by either blood or marriage)
Family Ownership & Management (<i>FF_OWN * FMB</i>)	Interacted variable out of family ownership (<i>FF_GES</i>) and a dummy variable (<i>FMB</i>) that equals one if the family is also represented in the management board and zero otherwise
Family Members in the Management Board (<i>FF_MB</i>)	Percentage of positions held by family members in the supervisory board (family members in the management board/total number of members in the management board)
Family Members in the Supervisory Board (<i>FF_SB</i>)	Percentage of positions held by family members in the supervisory board (family members in the management board/total number of members in the management board)
CEO and Chairman Attributes (<i>F_CEO</i> , <i>D_CEO</i> , <i>H_CEO</i> , <i>FF_Chair</i>)	CEO and Chairman Attributes (Dummy Variables): <ul style="list-style-type: none"> • founder CEO (<i>F_CEO</i>) • descendant CEO (<i>D_CEO</i>) • hired CEO (<i>H_CEO</i>) and • family chairman (<i>FF_Chair</i>)
Levels of Family Ownership (I)	Family firm without family ownership (<i>No_FAM</i>) Family firms with weak family ownership (<i>W_FAM</i>) and Family firms with strong family ownership (<i>S_FAM</i>) Differentiation between <i>W_FAM</i> and <i>S_FAM</i> based on the median value of family ownership in the respective year in family firms with family ownership
Levels of Family Ownership II (<i>FF 1-4</i>)	Levels of family ownership based on control thresholds in German corporations, dummy variables for 0%-25% (<i>FF_1</i>), 25%-50% (<i>FF_2</i>), 50%-75% (<i>FF_3</i>) and > 75% (<i>FF_4</i>) of family ownership

⁷⁷⁰ Source: Author's illustration

Table 18: Definition of Ownership Variables⁷⁷¹

Variables	Description
Ownership concentration (<i>Chapters 6 – 8</i>)	<ol style="list-style-type: none"> 1. Cumulative percentage of shares held by the three largest shareholders (<i>Conc</i>) 2. Herfindahl index based on the ownership percentage of the different blockholders the Herfindahl index is calculated as the sum of all squared blockholdings (<i>HERF</i>)⁷⁷² 3. Percentage of closely-held shares, calculated as (<i>Close</i>)
Percentage held by outside blockholders (<i>OO_all</i>)	Cumulative percentage held by outside-investors with an ownership stake of more than 5%
Bank ownership (<i>BANK</i>) (<i>Chapters 6 – 8</i>)	Cumulative percentage of common shares held by domestic and foreign banks
Foreign investors (<i>FOREIGN</i>) (<i>Chapter 6</i>)	Cumulative percentage of common shares held by foreign blockholders including various shareholder types such as institutional investors, private equity and venture capital investors, foreign banks, foreign insurances, foreign endowments etc.
Insider Ownership (<i>INSIDER</i>) (<i>Chapter 6</i>)	Cumulative percentage of common shares held by members of the management board or the supervisory board. This variable comprises family and non-family insider ownership
Non-Family Insider Ownership (<i>NF_INSIDER</i>) (<i>Chapters 7, 8</i>)	Cumulative percentage of common shares held by members of the management board or the supervisory board that do <i>not</i> form part of the founding family
Shares held by Strategic Investors (<i>STRAT</i>) (<i>Chapters 7, 8</i>)	Cumulative percentage of common shares held by strategic investors (i.e. non-financial firms) pursuing strategic rather than financial interests through their investment
Shares held by Institutional Investors (<i>INST</i>) (<i>Chapters 7, 8</i>)	Cumulative percentage of common shares held by (other) institutional investors such as pension funds, trusts etc.
Shares held by Private Equity Investors (<i>VCPE</i>) (<i>Chapters 7, 8</i>)	Cumulative percentage of common shares held by venture capital and private equity investors

⁷⁷¹ Source: Author's illustration.

⁷⁷² The Herfindahl index takes on values between zero and one with higher Herfindahl indices indicating higher levels of ownership concentration.

Firm Characteristics

General firm characteristics such as performance, firm size, age, growth and leverage have been found to a) influence the decision to voluntarily adopt IFRS and b) lead to central differences between family and non-family firms. These variables need to be included as control variables in the analyses since they are also likely to affect earnings characteristics. The predicted effects of these firm characteristics on earnings management and conditional conservatism are summarized in table 19, whereas the definition of the variables is summarized in table 20.⁷⁷³

Table 19: Predicted Effects of Firm Characteristics on Earnings Management and Conservatism⁷⁷⁴

Firm Characteristic	Conditional Conservatism	Earnings Management
Performance	-	-
Size	+/-	+/-
Growth	+	+/-
Age	-	-
Leverage	+/-	+/-

⁷⁷³ The use of the respective variables is explained relative to the context of the analyses in each chapters 6 to 8.

⁷⁷⁴ Source: Author's illustration. '-' denotes that evidence generally suggests that there is a negative relation between the firm characteristic and the respective earnings attributes; '+' denotes that evidence generally suggests that there is a positive relation between the firm characteristic and earnings quality; '+ / -' denotes that evidence is mixed and that no clear prediction can be made.

Table 20: Definition of Control Variables⁷⁷⁵

Variables	Description
Performance (<i>PERF</i>) (Chapters 6-8)	Net Income (NI_{it}), calculated as net income before extraordinary items divided by average total assets, corresponds to return on assets $PERF_{it} = WC18191_{it} / (0.5 WC02999_{i,t-1} + 0.5 WC02999_{it})$
Size I (<i>SIZE</i>) (Chapters 6-8)	Calculated as natural logarithm of total assets ($\log WC 02999_{it}$) at fiscal year's end
Size II (<i>MCAP</i>) (Chapters 6, 8)	Calculated as natural logarithm of market capitalization (Datastream position <i>MV</i>) $MCAP = \log (MV_{it})$
Age (<i>AGE</i>) (Chapters 6 – 8)	Calculated as listing years, i.e. observation year minus IPO year for the purpose of the analyses in chapter 6 and as incorporation age, i.e. observation year minus incorporation/founding year for the analyses in chapters 7 and 8
Growth (<i>Growth</i>) (Chapters 6 – 8)	Calculated as sales growth from period t-1 to period t based on Worldscope position (<i>WC01001</i>) for sales: $GROWTH_{it} = (WC01001_{it} - WC01001_{i,t-1}) / WC01001_{i,t-1}$
Leverage (<i>Lev</i>) (Chapters 6 – 8)	Calculated as Debt to Total Assets (Chapters 6-8) $LEV_{it} = WC03255_{it} / WC 02999_{it}$
Market to Book Ratio (<i>MTB</i>) (Chapters 6 – 8)	Calculated as market value of equity divided by book value of equity; proxy for growth opportunities $MTB_{it} = WC03501_{it} / MV_{it}$
Internationalization (<i>International</i>) (Chapter 6)	Percentage of sales obtained outside of the home market (foreign sales) $International_{it} = WC07001_{it} / WC01001_{it}$
European Listing (<i>EXL</i>) (Chapter 6)	Dummy variable, equals 1 if firm i is listed at an European stock exchange outside Germany and zero otherwise, source: <i>Hoppenstedt Aktienführer</i>
Losses (<i>Loss</i>) (Chapters 6 – 7)	Dummy variable, equals 1 if net income ($WC01551_{it}$) is negative in the observation period and zero otherwise
IFRS (<i>IFRS</i>) (Chapter 6)	Dummy variable, equals one if consolidated financial statements are prepared under International Financial Reporting Standards (IFRS)
International Accounting Standard (<i>INT_ACC</i>) (Chapters 7 – 8)	Dummy variable, equals one if consolidated financial statements are prepared under International Financial Reporting Standards (IFRS) or US-GAAP, and zero if prepared under German GAAP (HGB)
Industry Effects (Chapters 6-8)	Dummy-variables calculated based on ICB-codes (<i>Thomson Financial</i>)
Year Effects (Chapters 6-8)	Dummy variables, calculated based on the respective observation year

⁷⁷⁵ Source: Author's illustration

Performance

The impact of performance on accounting practices has already been examined quite early in empirical accounting studies. Weak performance is presumed to create incentives to engage in earnings management. This hypothesis is supported for example by evidence in DeFond/Park (1997). They find that firms engage in upwards earnings management in years with weak performance and in downwards earnings management in years with strong performance consistent with the objective to smooth earnings. Further evidence by Balsam et al. (1995)⁷⁷⁶ and Keating/Zimmerman (1999) suggests that firms choose certain accounting practices according to firm performance in the respective year.⁷⁷⁷ Consistent with evidence from previous studies that discretionary accruals are significantly affected by operating performance, return on assets is considered as control variable in the analyses on earnings management.

Conservatism is found in previous studies to be negatively associated with performance. Givoly/Hayn (2000) find that conservatism decreases cumulative earnings over time and results in cumulative negative accruals. Large write-offs are considered to affect the distribution of return on assets and non-operating accruals. Khan/Watts (2009) suggest that mean return on assets is decreasing with conservatism.⁷⁷⁸

Size

Empirical studies generally suggest that firm size is strongly associated with earnings management and conservatism. However, there is no clear prediction how firm size affects earnings management and conservatism because firm size serves as proxy for many constructs such as information environment, organizational complexity or political visibility which may affect earnings characteristics in competing ways.⁷⁷⁹

⁷⁷⁶ Balsam et al. (1995) find that firms accelerate the implementation of income increasing accounting practices when they experience low changes in return on assets. The study is based on *Fortune 500* companies in 1981 and analyzes 11 pro-mulgations out of 96 standards issued by the FASB between 1973 and 1989 as the FASB tried to minimize firms' implementation costs.

⁷⁷⁷ The relation between earnings and performance is also in the center of the analyses by DeAngelo et al. (1994); Dechow et al. (1995); Francis et al. (1996); Dechow et al. (1998); Teoh et al. (1998); Keating/Zimmerman (1999); Fields/Lys/Vincent (2001) and Kothari et al. (2005) among others.

⁷⁷⁸ Cf. Khan/Watts (2009), p. 139.

⁷⁷⁹ Cf. Dechow et al. (2010), p. 380.

Consistent with the political cost hypothesis in positive accounting theory,⁷⁸⁰ firm size can be interpreted as political visibility. Larger firms commonly raise more public attention and are more intensely followed by financial analysts and the media. This implies that larger firms are subject to additional monitoring. This monitoring effect could result in a decrease in earnings management. Political visibility also implies that larger firms are frequently more in the focus of regulatory initiatives by the government than smaller firms.⁷⁸¹ The political cost hypothesis in positive accounting theory suggests that large firms have an incentive to keep earnings down because high profits commonly draw high attention.⁷⁸² Although the political cost hypothesis indicates that large firms may have incentives to engage in income decreasing earnings management, evidence on average suggests that firm size is negatively associated with earnings management consistent with the argument that large firms are subject to higher monitoring than small firms.

Evidence on average suggests that small firms exhibit higher levels of conditional conservatism than large firms. Larger firms are presumed to be more mature and characterized by a superior information environment as compared to smaller firms not least due to higher analyst following and public attention.⁷⁸³ Lower information asymmetries between the management and shareholders are presumed to lead to lower demand for conservatism. However, firm size is also positively related to organizational complexity which leads to an increase in information asymmetries.⁷⁸⁴ Although these notions are competing, evidence generally suggests that firm size is negatively associated with information asymmetries.⁷⁸⁵ A higher degree of segment diversification is presumed to allow large firms to aggregate gains from some segments with losses from other segments and provides the opportunity to smooth or defer high earnings. This may lead to lower levels of conservatism among larger as compared to smaller firms. The life cycle of firms could serve as an alternative explanation for lower levels of conservatism in larger as compared to smaller firms because larger firms frequently

⁷⁸⁰ Cf. Watts/Zimmerman (1978); Watts/Zimmermann (1986); Watts/Zimmerman (1990).

⁷⁸¹ In case of German firms one could for example think of the DAX companies.

⁷⁸² Cf. Watts/Zimmerman (1978), p. 115.

⁷⁸³ Cf. Khan/Watts (2009), p. 135. This notion is consistent with the political cost hypothesis.

⁷⁸⁴ Cf. Bushman et al. (2004).

⁷⁸⁵ Cf. Easley et al. (2002).

exhibit smaller growth rates and typically own older asset portfolios. These assets are more comprehensively written down. Larger firms can then be expected to display less asymmetric timeliness of earnings than smaller firms because the write-off creates a pool of unrecognized assets.⁷⁸⁶

An opposite effect may arise from the perspective of litigation. Firm size is presumed to be positively associated with the probability of being sued because expected recovery is higher and larger firms are presumed to have fixed litigation costs.⁷⁸⁷ Consistently, Raonic et al. (2004) expect larger firms to be more cautious in recognising profits and to account for losses on a timelier basis than small firms to avoid litigation. Although there is no clear theoretical prediction how firm size affects earnings management and conditional conservatism, firm size can be expected by trend to be negatively associated with earnings management and conditional conservatism.

Growth and Age

Growth is found to be closely related to the accrual component of earnings and hence needs to be considered as control variable in discretionary accruals analyses.⁷⁸⁸ Otherwise, growth reflected in accruals may be misinterpreted as earnings management because firm growth affects the fundamental earnings process. Although growth may also be misinterpreted as earnings management, it needs to be noted that growth is also associated with incentives to manage earnings.⁷⁸⁹ While there is no systematical study on this issue, several studies suggest that young growth firms have particular incentives to manage earnings. Markets are found to react negatively to bad earnings surprises reported by growth firms. Growth firms are characterized by more volatile and less sustainable earnings and as a consequence are presumed to have incentives to smooth earnings to decrease perceived risk by the capital market and as consequence avoid negative consequences for the cost of raising capital for further projects.⁷⁹⁰ Be-

⁷⁸⁶ Cf. Raonic et al. (2004), p. 1300.

⁷⁸⁷ Cf. Khan/Watts (2009), p. 135.

⁷⁸⁸ Cf. e.g. Jones (1991); Dechow et al. (1995).

⁷⁸⁹ Cf. Bowen et al. (2008), p. 368-370.

⁷⁹⁰ Cf. Beaver et al. (1970); Minton/Schrand (1999); Nissim/Penman (2001); Skinner/Sloan (2002).

sides, growth firms are found to be more likely to disclose internal control weaknesses as compared to mature firms.⁷⁹¹

Growth options and firm age are presumed to be systematically related to the firm's investment opportunity set. Firms with high market-to-book ratios are commonly characterized by high growth options relative to assets-in-place and volatile stock returns. For this reason, market-to-book ratio is the most common metric to proxy for growth options in analyses on conditional conservatism. Young firms are presumed to be commonly characterized by a large proportion of growth options as compared to assets in place. This leads to higher information asymmetries between managers and shareholders as well as managers and creditors and higher litigation risk.⁷⁹² Information asymmetries lead to higher agency costs and as a consequence to more demand for conditional conservatism.⁷⁹³ Therefore, market-to-book ratio ranges among the main firm characteristics that are considered as control variables in analyses on conditional conservatism. Market-to-book ratio does not only proxy for growth options but may also be interpreted as unconditional conservatism that measures to which extent the book value understates the market value of equity. Roychowdhury/Watts (2007) suggest that higher asymmetric earnings response to returns generate higher market-to-book ratios after a certain period of time which may explain why there is a positive relation between conditional conservatism and market-to-book ratio. Consistent with prior studies, younger firms can be expected to be characterized by higher growth opportunities and to exhibit higher levels of discretionary accruals and conditional conservatism. Growth and firm age are considered as control variables in all the analyses on earnings management and conditional conservatism.

Leverage

There is a large strand of literature on effects of debt on earnings management.⁷⁹⁴ Agency conflicts between shareholders and debtholders are commonly presumed to be

⁷⁹¹ Cf. Doyle et al. (2007); Ashbaugh-Skaife et al. (2007).

⁷⁹² Cf. Khan/Watts (2009), p. 134.

⁷⁹³ Cf. for a comprehensive discussion on information asymmetries and the demand for conservatism, LaFond/Roychowdhury (2008).

⁷⁹⁴ For a comprehensive survey cf. Ronen/Yaari (2008), p. 168-170, 184-185.

more pronounced in firms with greater leverage.⁷⁹⁵ Accounting information is involved in the credit granting process and partly determines terms and conditions of the loan. Firms have incentives to prevent adverse effects on their credit ratings that may affect future loan negotiations which creates implicit contracts between the firm and the creditor. These implicit contracts and monitoring incentives by debt providers⁷⁹⁶ could lead to lower levels of earnings management.⁷⁹⁷ Accounting information may also be incorporated in covenants to limit dividend payout, particularly in Anglo-Saxon countries.⁷⁹⁸ Several studies suggest that firms manage earnings to avoid debt covenant violation and adverse effects on their credit rating.⁷⁹⁹ Although evidence is mixed, leverage is by trend expected to be negatively associated with earnings management due to strong creditor monitoring in Germany. Conservatism is presumed to facilitate contracting between debtholders and shareholders and is presumed to discipline managers by making leverage binding more quickly. As a consequence, conservatism is presumed to be positively related to the level of leverage.⁸⁰⁰ There is a considerable body of literature that examines if conservatism enhances effectiveness of debt contracting but evidence is mixed.⁸⁰¹ Nonetheless, leverage is expected to be positively related to conservatism in the analyses of this study consistent with the arguments in positive accounting theory.

Industry and Year Effects

Discretionary accruals are estimated on a year and industry level. Many accounting studies do not control for industry and year effects in analyses based on discretionary accruals. However, discretionary accruals are presumed to be sensitive to the macro-economic environment. Therefore, I control for year effects in the sensitivity analyses. Conditional conservatism is estimated cross-sectionally. Standard errors are calculated

⁷⁹⁵ Cf. Dye (2008), p. 1161. For a more detailed description of the role of accounting information in mitigating agency conflicts between creditors, shareholders and managers, cf. chapter 2.1.5.

⁷⁹⁶ Cf. e.g. Rajan (1992); Cremers/Nair (2005); Armstrong et al. (2010), p. 182-183.

⁷⁹⁷ Cf. e.g. Becker et al. (1998).

⁷⁹⁸ Cf. Leuz (1998).

⁷⁹⁹ Cf. e.g. Bowen et al. (1981); DeFond/Jiambalvo (1994); Sweeney (1994); Minton/Schrand (1999); Dichev/Skinner (2002).

⁸⁰⁰ Cf. e.g. Khan/Watts (2009), p. 135; Armstrong et al. (2010), p. 182-183.

⁸⁰¹ Cf. e.g. Ahmed et al. (2002); Gassen et al. (2006); Ball et al. (2008); Beatty et al. (2008); Guay (2008); Wittenberg-Moerman (2008); Callen et al. (2010).

as Huber-White clustered standard errors. The number of control variables increases the level of multicollinearity in the Basu (1997) and the Ball/Shivakumar (2005) model. This may explain why a lot of accounting studies only integrate a small number of control variables in these models. However, multicollinearity is less of concern in the Khan/Watts (2009) model. As a consequence, industry and year fixed effects are considered in the analyses based on C-Score but not in the main analyses based on the Basu (1997) and Ball/Shivakumar (2005) model.

5.5 Methodological Remarks

Econometric issues concerning the estimation of the dependent variables for smoothness, discretionary accruals or the proxies for real earnings management as well as the estimation of conservatism are discussed in chapter 3. The main problem that arises in connection with estimating earnings management and conservatism is that earnings quality is unobservable. Models developed to capture earnings management and conservatism empirically are likely to suffer from an omitted variables bias. The ability to draw useful inferences from the model critically depends on whether the proxy applied in the analyses is a valid metric for earnings management or conservatism. Therefore, the empirical analyses in chapters 6 to 8 involve a joint test of the hypothesis that the proxy chosen for the analysis is a valid metric and the hypothesis relating to the research question. Beyond this fundamental issue regarding studies on earnings quality, the following econometric and data issues need to be discussed:

Regression Analysis and Panel Data

As described in section 5.2 the empirical analyses in this study are based on 11 years of *unbalanced panel data*. Panel data includes a cross-sectional and a time-series dimension. Therefore, regression models to fit panel data are more complex as compared to analyses based on cross-sectional data sets. Panel data sets offer the advantage to reveal dynamics that may not be investigated based on cross-sectional data and may offer a solution to bias that arises due to unobserved heterogeneity.⁸⁰² There are four alternatives to deal with panel data in regression analyses: pooled ordinary least square models, random effects models, between effects models and firm fixed effects models. Pooled ordinary least square models (OLS) and random effects models are in principle

⁸⁰² Cf. Dougherty (2006), p. 408.

regarded as more favorable because they retain observed characteristics for the respective individual (i.e. firm) in the regression and in contrast to fixed effects models avoid the loss of degrees of freedom. Thereby, pooled ordinary least square models and random effects general least square models include weighted averages on cross-sectional and time-series variation. However, random effects models involve restrictive assumptions regarding the validity of the model. Given that the primary assumptions for the use of random effects models are not met by the data in this study⁸⁰³ the pooled OLS model is considered as main model and is complemented by robustness analyses based on (within) firm fixed effects (FE) and between effects (BE) regression models.

Firm fixed effects models include variation over time within each firm. Deviation on the mean value varies over time. Thereby, the use of firm fixed effects may solve the problem of time invariant omitted variables though they do not solve for the problem of time invariant omitted variables. Chapter 6 analyzes how variation in the accounting standard affects earnings characteristics in the respective firm. Given that IFRS adoption is analyzed in the pre- and post-adoption period for voluntary and mandatory adopters within variance is considered to be greater than between variance. Therefore, pooled OLS and firm fixed effects regressions are run for the analyses on IFRS adoption and earnings quality (*chapter 6*).

Between effects models (BE) focus on cross-sectional variation over time and mitigate concern that observations derived from the same sample firm are not independent. The use of between effects models may be appropriate if cross-sectional variation is considered to be greater than within firm variation. Family governance is presumed to be rather constant over time whereas variation across firms is considered to be considerable.⁸⁰⁴ This variation would be largely ignored in firm fixed effects models. Therefore, pooled OLS regressions and between effects models are used in the analyses on effects of family governance on earnings management and conservatism (*chapters 7 and 8*).

⁸⁰³ Breusch-Pagan Lagrange multiplier test and Durbin-Wu-Hausman specification test are rejected.

⁸⁰⁴ Cf. consistently Schmid (2010), p. 119. This is a critical assumption. Founding family ownership is presumed to be less endogenous on firm performance than insider ownership which is why between effects rather than fixed effects models are used. Cf. for a controversial discussion on the use of firm-fixed effects models in studies on insider ownership and performance, Himmelberg et al. (1999) and Zhou (2001).

Heteroskedasticity and autocorrelation problems arise because observations are dependent on a firm and year level.⁸⁰⁵ This coherence needs to be considered in the calculation of the standard errors.⁸⁰⁶ Standard errors for the pooled OLS and the firm fixed effects models are calculated as Huber-White clustered standard errors⁸⁰⁷ on a firm and year basis as suggested in Petersen (2009).⁸⁰⁸ This procedure is presumed to produce standard errors that tend to be robust in terms of serial correlation as well as heteroskedasticity.⁸⁰⁹ Between effects models involve only one observation per firm which is why the calculation of clustered standard errors is not required.

As an indicator for multicollinearity, I assess the level of variance inflation factors (VIFs). Multicollinearity is of particular concern in case of the conservatism models since the equations involve linear combinations of the dummy variable for ‘bad news’ and the return rate (Basu 1997 model) or accruals (Ball/Shivakumar 2005 model). This means that a variety of variables is included that is computed from other variables in the model. VIFs take on problematic values when a lot of control variables are included in the model using interacted terms.⁸¹⁰ Hence, it is not surprising that variance inflation factors (VIFs) increase with the number of dependent variables in the Basu (1997) and the Ball and Shivakumar (2005) model. The Khan/Watts (2009) model only involves a limited number of interacted variables in a first step to obtain the coefficients used to calculate the continuous variable C-Score and may be less subject to multicollinearity.

⁸⁰⁵ Another concern is that observations could be also correlated on an industry level. I generally do not control for this dimension in the clustered standard errors.

⁸⁰⁶ Cf. e.g. Wooldridge (2002), p. 56-58. This problem is discussed in Gow et al. (2009) with regard to accounting research.

⁸⁰⁷ Cf. White (1980).

⁸⁰⁸ The ‘cluster variable’ is calculated on the basis of the year variable and the firm identifier. The security identification number (*Wertpapierkennnummer*, *WKN*) is used as firm identifier.

⁸⁰⁹ A lot of accounting studies try to mitigate the issue of time-series correlation running Fama/MacBeth (1973) regressions. However, this procedure only corrects the estimated standard errors for one dimension of dependence, cross-sectional or time-series dependence, cf. Gow et al. (2009). In recent studies, the approach described in Petersen (2009) became the new “state of the art method” as it controls for time-series and within-firm correlation and is followed among others in García Lara et al. (2009b) and Shuto/Takada (2010).

⁸¹⁰ Although multicollinearity is an obvious concern with conservatism models, this problem is hardly addressed in accounting studies. Some accounting models even include interacted terms with up to four variables which leads to highly inflated VIFs. The models examined in chapter 6 for example take on average VIFs of around 47 due to the linear combinations in the variables.

Non-linear Effects

Consistent with prior studies that suggest non-monotonistic relations between family or managerial ownership and corporate policies or performance,⁸¹¹ reporting incentives can be presumed to equally change with the level of ownership. Hence, it may be inappropriate to presume effects of (family) ownership on earnings quality to be linear. In the context of accounting studies Wang (2006) suggests that there is a non-linear relation between family ownership and earnings management. To examine if non-linear relations are of concern in the analyses, I test for omitted variables based on Ramsey-Reset tests.⁸¹² Significance of non-linear effects is tested based on Wald tests.

Endogeneity and Overlapping Effects

The construct referred to as corporate governance is complex and different dimensions of corporate governance are likely to have opposing effects on earnings attributes.⁸¹³ While the analyses focus on effects of ownership and board structures on earnings characteristics, further internal and external governance mechanisms that may affect the results are ignored. Some papers attempt to mitigate this issue and try to cover corporate governance structures entirely by using governance indices.

However, the use of indices to proxy for corporate governance is criticized by some scholars because corporate governance is endogenous and governance indices only proxy for some dimensions of corporate governance but may not take endogeneity in governance mechanisms into account.⁸¹⁴ Furthermore, Bushman et al. (2004) suggest that asymmetric timeliness of earnings and corporate governance are endogenous. However, García Lara et al. (2009a) provide evidence that governance mechanisms

⁸¹¹ Cf. Morck et al. (1988); Himmelberg et al. (1999); Yeo et al. (2002); Anderson/Reeb (2003), Wang (2006); Shuto/Takada (2010).

⁸¹² Cf. Ramsey (1969); Wooldridge (2002), p. 124-125.

⁸¹³ Cf. Larcker et al. (2007), p. 964.

⁸¹⁴ Cf. Larcker et al. (2007), p. 964. These indices or governance ratings are available from various commercial organizations (e.g. GovernanceMetrics International, Institutional Shareholder Services, Investor Responsibility Center, Standard & Poors, and The Corporate Library). In contrast to these governance ratings, the governance index proposed by Gompers et al. (2003) is widely accepted in academic literature, although recent studies by Cremers/Nair (2005) and Core et al. (2006) indicate that the Gompers et al. (2003) index is also only weakly associated with stock performance. The Gompers et al. (2003) index has been developed in the context of the US stock market and may not be transferred to the German corporate governance system.

and conservatism are not substitutes but that causality flows from governance mechanisms to conservatism.

Market Timing

Descriptive analyses suggest that the level of earnings management and conservatism in German listed firms strongly changes over time. In particular, earnings management and timely loss recognition seem to be particularly pronounced in periods characterized by downturns. Therefore, robustness analyses are run including year dummies. Additionally, effects of differences in the market period are analyzed by splitting the sample into sub-periods. In chapter 6, analyses are run that investigate effects of IFRS adoption on earnings characteristics separately for the period of voluntary (1998 – 2004) and mandatory adoption (2005 – 2008)⁸¹⁵. Similarly, the sample is divided into two periods to assess whether effects of family governance on earnings management and conservatism differ for certain time periods: the period from 1998 to 2003 and the period from 2004 to 2008. The year 2003 corresponds to the year of the segment restructuring by the German stock exchange.

Sample Selectivity and Heterogeneity in Reporting Quality

The sample is restricted to non-financial firms⁸¹⁶ listed in the German regulated market, i.e. the German Composite index (CDAX). Thereby, the sample selection assures that sample firms face equal stock market regulation.⁸¹⁷ The large number of IPOs from 1998 – 2000 changed the proportion of family and nonfamily firms significantly which is why bias from sample selectivity cannot be entirely rejected.

IFRS standards are continuously revised during the observation period from 1998 to 2008 but are referenced in the analysis by a dummy variable that does not distinguish between different sets of IFRS.⁸¹⁸ For example, IFRS during the IAS period until

⁸¹⁵ Note that discretionary accruals are only available until 2007 because the calculation of discretionary accruals requires observations in the t+1 period.

⁸¹⁶ Financial firms are excluded because their balance sheet structure differs substantially from the balance sheet structure of their non-financial counterpart.

⁸¹⁷ This explains why listed firms that are subject to stock market regulation but not EC regulation (i.e. Entry Standard and open market) are not considered in the analysis.

⁸¹⁸ Paananen/Lin (2009); p. 34-36 provide an overview on revisions of IAS and IFRS standards from 2000 to 2006. A comprehensive list on effective dates and revision dates of IFRS is available under <http://www.iasplus.com/standard/effect.htm> (last accessed 03/31/2011).

2002, the voluntary IFRS adoption period from 2003-2004 and the mandatory adoption period are likely to differ with regard to the regulation in some accounting standards. Although earnings characteristics may be analyzed over time, it is nearly impossible to empirically assess how changes in single accounting standards affected earnings characteristics. As a consequence, bias arising from differences in IFRS standards over time cannot be ruled out.

Furthermore, the reporting of ownership structures changed due to the TUG in 2007. While firms need to report ownership thresholds of 5%, 10%, 15%, 20%, 25%, 50% and 75% from 1998 to 2006, they need to report ownership thresholds of 3%, 5%, 10%, 15%, 20%, 25%, 30%, 50% and 75% since 2007.⁸¹⁹ An additional regulation on the disclosure of ownership structures that became effective in 2002 concerns shares held by members of the management and supervisory board as well as their families (Directors' Dealings, §15 WpHG). Regulation regarding the reporting of ownership structures improved the data quality from 2002 and even more from 2007. Thereby, unreported ownership stakes below 5% are likely to be attributed to widely-held shares from 1998 to 2006 unless reported voluntarily.

Treatment of Outliers

Accounting studies commonly eliminate outliers by truncation or winsorizing. Outliers are eliminated in the analyses in this study by eliminating observations on accounting and stock market variables falling in the top or bottom 1%-percentile (truncation at the 1%-level).

⁸¹⁹ Cf. §21 I WpHG. For a more detailed description of this regulation cf. chapter 2.2.5.2.

6 IFRS Adoption, Earnings Management and Conservatism⁸²⁰

6.1 Conceptual Background and Hypotheses

6.1.1 Structure of the Analysis

The analysis in this chapter is divided into two parts (figure 13). In a first step, ownership structures are analyzed in their role as driver of voluntary IFRS adoption. In a second step, the effect of voluntary versus mandatory IFRS adoption on earnings management and conditional conservatism is examined. Previous studies argue that voluntary IFRS adoption may result in higher earnings quality than mandatory IFRS adoption because IFRS are actively chosen and firms commit to this set of accounting standards.⁸²¹ IFRS adoption evolved with changes in the stock market and regulatory environment. Differences in the market environment during voluntary as compared to voluntary IFRS adoption are likely to affect earnings characteristics and may provide an alternative interpretation to the results found on IFRS adoption and earnings characteristics in previous studies. This effect is examined in more detail in the analysis.

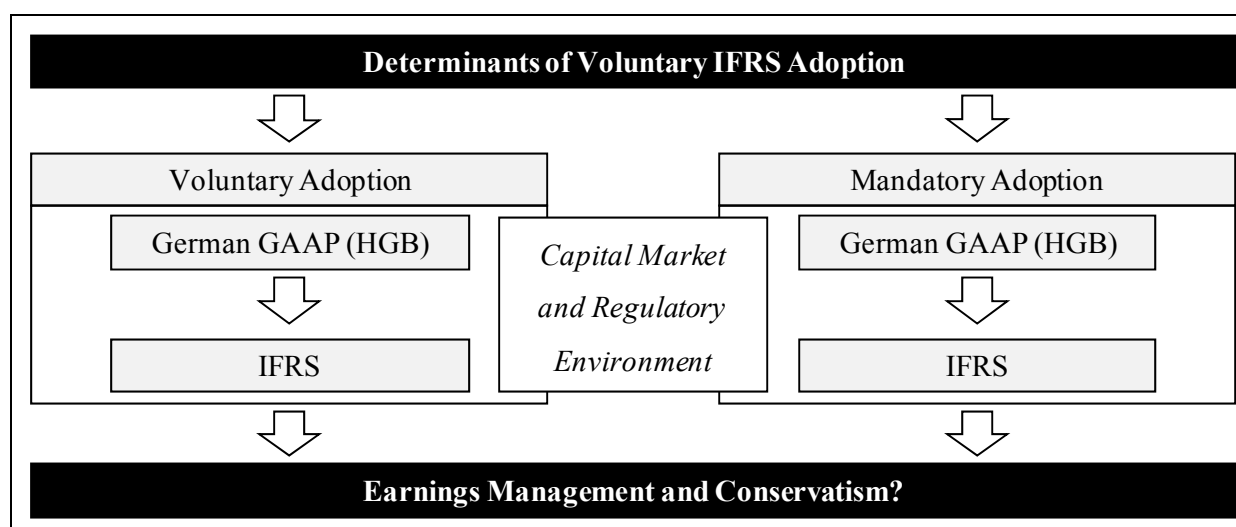


Figure 13: Voluntary vs. Mandatory IFRS adoption and Earnings Quality⁸²²

⁸²⁰ This chapter is a revised version of Günther et al. (2009). The paper was presented at the 6th Accounting Research Workshop 2009 in Bern, the 33rd Annual Congress of the European Accounting Association in Istanbul (2010) and the Annual Meeting of the American Accounting Association (2010) in San Francisco.

⁸²¹ Cf. Barth et al. (2008); Christensen et al. (2008); Ahmed et al. (2009).

⁸²² Source: Author's illustration.

6.1.2 Ownership Structures as Determinants of Voluntary IFRS Adoption

Ownership structures are likely to differ between voluntary and mandatory IFRS adopters.⁸²³ Different types of shareholders have different demands for accounting information. This study analyzes how ownership structures influenced the probability of voluntary IFRS adoption. Incentives to voluntarily adopt IFRS may differ between the early adoption period from 1998 to 2002 and the late adoption period from 2003 to 2005. Therefore, determinants of early voluntary IFRS adoption are examined as robustness analysis.

Concentrated ownership structures are considered to lower the demand for publicly available accounting information because information asymmetries may be resolved via private information channels. The key parties to the firm are presumed to have privileged access to firm information and the primary role of financial reporting is to facilitate relationships between the financing parties to the firm and internal financing.⁸²⁴ As a consequence, there is less demand for an outside-oriented accounting system. Controlling shareholders could believe that any benefit that arises from IFRS adoption would be worth less than the cost of implementing a new set of standards.⁸²⁵ Hence, the demand for IFRS can be presumed to decrease with increasing ownership concentration. However, if ownership structures are concentrated but not only large shareholders but also minority shareholders hold stakes in the firm there could be demand for IFRS as a means to lower information asymmetries between the different shareholder groups. As a consequence, there is no clear prediction regarding ownership concentration and the probability of voluntary IFRS adoption.

H₀ 6.1 The probability of (early) voluntary IFRS adoption is not associated with ownership concentration.

Besides ownership concentration bank ownership could affect the decision to voluntarily adopt IFRS among German listed firms. Banks do not only play a role as creditors in German corporations but also frequently hold shares in German firms and exercise voting rights via proxy voting. Furthermore, banks frequently hold positions in the su-

⁸²³ Cf. Schipper (2005), p. 102.

⁸²⁴ Cf. Burgstahler (2006), p. 987; Leuz (2010), p. 22.

⁸²⁵ Cf. Armstrong et al. (2009), p. 13.

pervisory board of German firms and as a consequence possess the role of quasi-insiders.⁸²⁶ Given that banks are presumed to have superior access to company information (either through debt contracts or through their role as members in the supervisory board), there could be less demand for public accounting information and bank ownership could be negatively associated with (early) voluntary IFRS adoption.

H₀ 6.2 The probability of (early) voluntary IFRS adoption is not associated with bank ownership.

Effects of shares held by insiders, i.e. members of the management and/or supervisory board may be two-fold. On the one hand, managers and members of the supervisory board have privileged access to company information. Therefore, they could try to avoid costs associated with the transition to a new set of accounting standards. As a consequence, insider ownership could be negatively related to IFRS adoption. However, insiders are presumed to have the incentive and the ability to use private information at the expense of minority shareholders.⁸²⁷ Minority shareholders could price increased information asymmetries. Therefore, insiders may use IFRS to commit ex ante not to take advantage of minority shareholders to mitigate effects of price protection.⁸²⁸ It is subject to empirical analyses if one of the effects dominates or whether both effects equal out. As a consequence, there is no clear prediction on effects of insider ownership regarding voluntary IFRS adoption.

H₀ 6.3 The probability of (early) voluntary IFRS adoption is not associated with insider ownership.

One of the incentives to voluntarily adopt IFRS is to broaden the investor basis. Therefore, voluntary IFRS adoption could relate to the goal of attracting foreign investors. Foreign investors face information costs when they have to become familiar with financial statements prepared by foreign companies according to national GAAP. The

⁸²⁶ Cf. Leuz/Wüstemann (2004), p. 454, on the role of bankers in the boards of German firms, cf. Dittmann et al. (2010).

⁸²⁷ Cf. Leuz et al. (2003), p. 506.

⁸²⁸ Cf. Armstrong et al. (2010), p. 211. This idea may also explain why IFRS or US GAAP adoption was mandatory for a listing in the New Market. Entrepreneurial firms in this market segment were characterized by high information asymmetries and in most cases exhibited significant percentages of insider ownership.

adoption of an internationally accepted set of accounting standards such as IFRS could reduce information processing costs and hence help reduce equity home bias. In this context, Covrig et al. (2007) show that foreign ownership increases in companies that adopt international accounting standards. However, Beneish/Yohn (2008) argue that although information costs are likely to be material to individual investors this may not necessarily hold for large institutional investors. Foreign investors that hold shares in German firms for a long-term period may even have become familiar with German GAAP. Another factor is uncertainty about the quality of financial reporting in foreign countries. Although IFRS may be regarded as 'high quality' accounting standards, foreign investors may be reluctant to invest in foreign firms if IFRS are weakly implemented and enforced. Hence, it is ex ante unclear whether voluntary IFRS adoption among German firms is positively associated with shares held by foreign investors in the post-adoption period.

H₀ 6.4 The probability of (early) voluntary IFRS adoption is not associated with foreign ownership

6.1.3 Voluntary vs. Mandatory IFRS Adoption and Earnings Quality

It is commonly argued that IFRS adoption leads to reduced information asymmetries between managers and shareholders through true-and-fair view oriented accounting standards and a high degree of public disclosure.⁸²⁹ Thereby, the rationale of IFRS primarily addresses agency conflicts in widely-held firms arising between managers and shareholders. German firms are largely characterized by concentrated ownership structures. While concentrated ownership structures may lower agency conflicts between managers and shareholders, they give rise to agency conflicts between the different groups of shareholders, particularly controlling and minority shareholders. In this context, Pae et al. (2008) suggest that IFRS adoption may reduce agency costs in European firms by mitigating information asymmetries between minority and majority shareholders and as a consequence contribute to the efficiency of capital markets.

From an Anglo-Saxon perspective accounting standards according to German GAAP are biased and leave ample space for discretion that enables managers to smooth earnings by making use of hidden reserves. IFRS are presumed to leave less discretion to

⁸²⁹ Cf. Barth et al. (2008), p. 471.

managers regarding the timing when gains and losses are incorporated in accounting income and thereby lead to a more appropriate reflection of the ‘true’ economic performance of the firm. Given that IFRS may limit managerial discretion in determining when to record accounting amounts, IFRS are presumed to lead to less biased and timelier accounting information.⁸³⁰ Earnings management and conditional conservatism are regarded as most appropriate earnings characteristics to examine effects of IFRS adoption on earnings quality because these dimensions are presumed to directly relate to incentive structures.⁸³¹ Given that German firms are presumed to have the tendency to smooth earnings, earnings smoothing is most frequently examined to assess the level of earnings management under German GAAP as compared to IFRS.⁸³² Under the prediction that IFRS may limit managerial discretion and lead to ‘timelier’ earnings that provide a more appropriate reflection of the economic performance of the firm than German GAAP, IFRS adoption could lead to lower levels of earnings management and higher amounts of conditional conservatism – as contrasted with unconditional conservatism under German GAAP.

However, IFRS incorporate a large number of implicit accounting choices. Financial reporting does not only reflect accounting standards but is also contingent on their interpretation. Cultural differences are considered to play an important role in this context. Based on a world-wide analysis of financial statements prepared according to IFRS, von Keitz (2005) conclude that international differences are reflected in implicit accounting choices. This finding relates to the argument that a uniform set of financial reporting standards does not necessarily produce uniform financial statements.⁸³³

This implies that incentives of German firms are likely to be reflected in earnings characteristics under IFRS. Incentives can be considered to be unlikely to change simultaneously to the adoption of a new set of standards. Given that IFRS allows for a large number of implicit accounting choices, IFRS adoption could change the set of instruments rather than the incentives that affect earnings information. It is presumed

⁸³⁰ Cf. Ball et al. (2000), p. 3; Barth et al. (2008), p. 468.

⁸³¹ Cf. Christensen et al. (2008), p. 2.

⁸³² Cf. chapter 4.3 for a comprehensive overview on previous studies on IFRS adoption and earnings quality as well as the earnings characteristics examined in these studies.

⁸³³ Cf. on this debate Ball (2006).

that voluntary IFRS adopters are more likely to use IFRS for the purpose of providing a more appropriate reflection of the economic performance of their firm in financial statements. In contrast, mandatory adopters are commonly presumed to stick to their accounting policies. Therefore, some studies suggest that mandatory IFRS adoption is unlikely to increase earnings quality if incentives are more important than accounting standards in influencing reported earnings.⁸³⁴ This prediction is challenged in the analysis in this chapter because earnings characteristics may not be necessarily influenced by the decision to voluntarily adopt IFRS but may rather depend on governance and firm characteristics as well as stock market environments.

Effects of IFRS adoption on earnings management and whether adoption effects differ between voluntary and mandatory adopters are ex ante unclear and need to be assessed empirically. Therefore, the hypotheses regarding effects of voluntary and mandatory IFRS adoption on earnings management and conditional conservatism are formulated as H_0 -hypotheses.

Hypotheses on IFRS adoption and earnings management are as follows:

H₀ 6.5: The degree of earnings management is unaffected by IFRS adoption.

H₀ 6.5a: The degree of earnings management is unaffected by voluntary IFRS adoption.

H₀ 6.5b: The degree of earnings management is unaffected by mandatory IFRS adoption.

Hypotheses on IFRS adoption and conditional conservatism are as follows:

H₀ 6.6: The degree of conditional conservatism is unaffected by IFRS adoption.

H₀ 6.6a: The degree of conditional conservatism is unaffected by voluntary IFRS adoption.

H₀ 6.6b: The degree of conditional conservatism is unaffected by mandatory IFRS adoption.

⁸³⁴ Cf. e.g. Christensen et al. (2008); Ahmed et al. (2009).

6.2 Model Specification

6.2.1 Study Design

There are two different study designs to investigate effects of IFRS adoption on earnings characteristics. Early studies on IFRS adoption and earnings characteristics compare firms that adopt IFRS with those who continue to prepare financial statements according to national accounting standards.⁸³⁵ However, firm characteristics and incentives that drive the decision to adopt IFRS are likely to affect earnings characteristics. Therefore, analyses are likely to be subject to sample selection bias also referred to as incidental truncation problems. To mitigate this issue, most of these studies use matched samples⁸³⁶ or build on two-stage least square (2SLS) estimation models (Heckman-Two-Step-Estimator) to test for endogenous sample selection.⁸³⁷

An alternative way to observe changes in earnings quality is to compare earnings characteristics under HGB/national accounting standards period (*pre-adoption period*) with earnings characteristics under the IFRS period (*post-adoption period*).⁸³⁸ This approach is presumed to offer the advantage that each firm serves as control because earnings characteristics are compared for the same firm under two sets of accounting standards.⁸³⁹ This means that ideally the same number of German GAAP and IFRS observations should be observable for sample firms in the pre- and post-adoption period. However, this condition is commonly not met in empirical analyses on IFRS adoption and earnings quality because there are different types of voluntary and mandatory IFRS adopters as illustrated in figure 14.

While some of the voluntary adopters actually switch from German GAAP to IFRS other firms that go public during the observation period enter the sample directly with IFRS observations. Within the group of mandatory IFRS adopters, some firms resist

⁸³⁵ Cf. e.g. Van Tendeloo/Vanstraelen (2005); Gassen/Sellhorn (2006); Goncharov/Zimmermann (2007); Aussenegg et al. (2008).

⁸³⁶ Cf. Gassen/Sellhorn (2006).

⁸³⁷ Cf. Heckman (1979). This procedure is applied in Van Tendeloo/Vanstraelen (2005); Goncharov/Zimmermann (2007).

⁸³⁸ Barth et al. (2008), Christensen et al. (2008) and Ahmed et al. (2009) follow this approach.

⁸³⁹ Cf. on the use of this study design Barth et al. (2008); Christensen et al. (2008); Ahmed et al. (2009).

IFRS and may have been delisted or dropped out of the sample for other reasons before EC regulation became effective. These firms are only included with observations according to German GAAP. Others form part of the sample during the observation period and adopt IFRS after 2005. These firms are included with observations on German GAAP and IFRS. Some firms enter the sample after EC regulation became effective and as a consequence are only included with IFRS observations. This illustrates that the condition required for an appropriate comparison between earnings characteristics in the pre- and post-adoption period is not met by all sample firms.

The use of balanced samples would limit the number of observations significantly and only cover a small, unrepresentative proportion of firms. Therefore, most prior studies include all types of adopters in their sample. In principle, this approach is also used in the sub-sequent analysis but is complemented by robustness analyses. Earnings smoothing is additionally examined using balanced samples with at least one observation available for the pre- and post-adoption period and firm fixed effects models are used as robustness check for discretionary accruals and conditional conservatism.

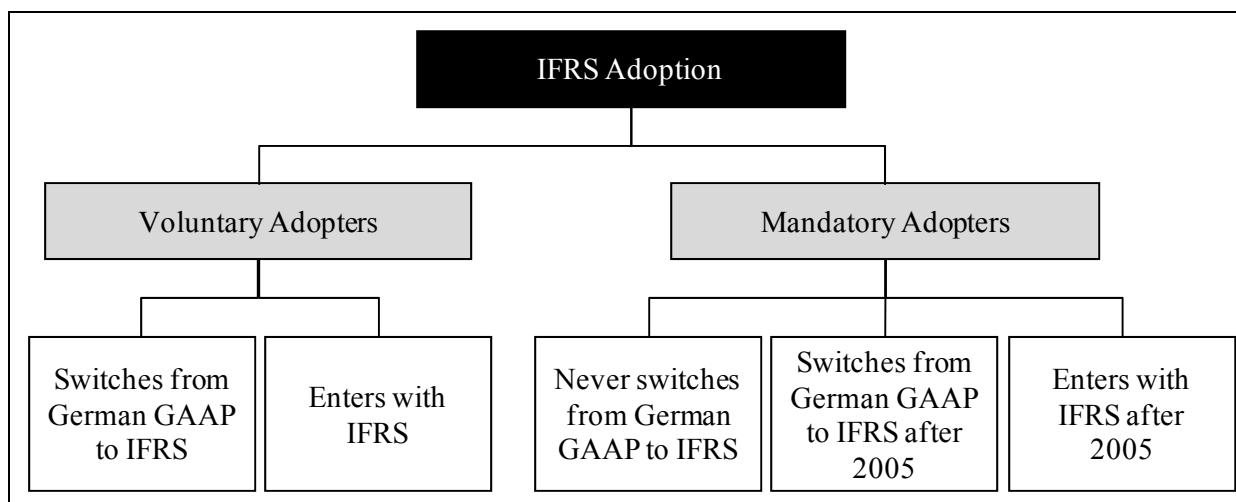


Figure 14: Groups of IFRS Adopters

Furthermore, it needs to be noted that voluntary and mandatory IFRS adoption falls into different time frames characterized by different capital market and regulatory environments. This problem is not addressed in previous studies. Differences in the capital market and regulatory environment are likely to affect earnings quality and hence need to be taken into account in the analyses. One possibility to mitigate this issue would be to compare voluntary and mandatory IFRS adopters using matched samples. This research design is inappropriate for the analysis. It would limit the sample to an

unrepresentative number of observations because there are only a small number of potential matching candidates. Therefore, in a first step voluntary and mandatory are compared separately in the pre- and post-adoption period consistent with Christensen et al. (2008). In a second step, additional analyses are exercised to proxy for effects of differences in the observation period (market timing) and sample composition.

6.2.2 Ownership Structures as Determinants of Voluntary IFRS Adoption

Following and extending prior research on the adoption of non-local GAAP, the following logistic regression is run to evaluate the influence of ownership characteristics on voluntary IFRS adoption.

$$PROBIT(IFRS = 1) = \Phi z(\alpha_0 + \alpha_1 Conc_{it} + \alpha_2 Bank_{it} + \alpha_3 FI_{it} + \alpha_4 IO_{it} + CV_{it} + \text{Industry Fixed Effects} + \text{Year Fixed Effects}) \quad (6.1)$$

The following ownership variables are included in the model:

- *Ownership concentration*: Ownership concentration is measured using the cumulative percentage of shares held by the three largest shareholders ($Conc_{it}$)⁸⁴⁰
- *Bank ownership*: Bank ownership ($Bank_{it}$) is defined as the cumulative percentage of shares held by German banks
- *Foreign investments*: The variable ‘foreign investments’ (FI_{it}) comprises the cumulative percentage of shares held by non-German investors⁸⁴¹
- *Insider ownership*: Insider ownership (IO_{it}) aggregates shares held by actual and former directors (members of the management or supervisory board) of the firm

Several control variables (CV) are included in the regression. These variables have been found to influence the probability of voluntary IFRS adoption in previous studies. Following Gassen/Sellhorn (2006), larger firms with more geographically dispersed operations can by trend be expected to have a higher probability to switch to interna-

⁸⁴⁰ As a robustness check, a Herfindahl index which is calculated as the sum of the squared shares owned by blockholders and the percentage of closely held shares are used as alternative proxies for ownership concentration in the analysis.

⁸⁴¹ This variable aggregates blocks held by the following investor groups: Foreign banks, institutional investors, venture capital and private equity investors, endowment funds, corporations and business groups, governments and insurance companies.

tional accounting standards than smaller firms. Therefore (1) firm size (*SIZE*) and (2) international exposure (*International*) are included as control variables. Size is defined as natural logarithm of total assets at fiscal year's end. International exposure is measured by the fraction of sales which are achieved outside the home market, i.e. the percentage of foreign sales. In line with Gassen/Sellhorn (2006) who show that the main percentage of voluntary IFRS adopters went public after 1995 listing years (*AGE*) are included in the regression. This variable is defined as the difference between the current observation year (*t*) and the IPO year.⁸⁴² European stock exchanges became more favorable towards IFRS in the period of the study.⁸⁴³ Therefore, an indicator variable *EXL* (*European Listing*) is included in the regression which equals one if the firm is listed on a European stock exchange outside Germany and zero otherwise.⁸⁴⁴

Several other control variables are included in the regression. Growth firms are presumed to have high financing needs and as a consequence are presumed to be more likely to voluntarily adopt IFRS. Growth (*GROWTH*) is measured by the percentage change in sales and corresponds to sales growth. Creditor rights are considered to be particularly pronounced in firms with high leverage. Leverage (*LEV*) is hence presumed to negatively affect the probability of voluntary IFRS adoption. As the Worldscope database does not deliver bank debt explicitly, bank leverage is approximated by total debt divided by total assets.⁸⁴⁵ Industry affiliation and year effects are taken into account by integrating industry and year dummies in the regression.⁸⁴⁶

Firms that adopted IFRS prior to the issuance of EC regulation 1606/2002 in 2002 could differ from those who adopted IFRS at a later point in time. The impact of own-

⁸⁴² The information concerning the IPO year is derived from *Hoppenstedt Aktienführer* as well as *Genios* and information provided by the website of *Deutsche Börse AG* (<http://deutsche-boerse.com>).

⁸⁴³ Cf. Goergen et al. (2008b), p. 190. Besides, results not tabulated in this study suggest that firms IFRS adopters are more frequently listed on European than on US stock exchanges.

⁸⁴⁴ Data on the yearly listing status of the sample firms is derived from *Hoppenstedt Aktienführer*.

⁸⁴⁵ A test for a sub-sample of Prime Standard firms for the year 2003 (which is the first year of the Prime Standard as the transparency standard with the highest disclosure requirements in Germany) shows that the correlation between hand-collected bank debt from annual reports and total leverage as reported by the Worldscope database is about 0.8.

⁸⁴⁶ Industry fixed effects are calculated using the ICB industry classification in Thomson Financial Datastream.

ership structures and firm characteristics on the timing of IFRS adoption is examined using the following binary logistic regression.

$$PROBIT (Early = 1) = \Phi z (\alpha_0 + \alpha_1 Conc_{it} + \alpha_2 Bank_{it} + \alpha_3 FI_{it} + \alpha_4 IO_{it} + CV + \text{Industry Fixed Effects} + \text{Year Fixed Effects}) \quad (6.2)$$

The indicator variable *Early* equals one for annual accounts released by firms that adopted IFRS before 2002 and zero otherwise. All other variables are defined as in equation 6.1.

6.2.3 Earnings Smoothing

Following prior literature, six different proxies for earnings smoothing are used in the analysis.⁸⁴⁷ These proxies are partly modified as compared to previous studies. The first measure for earnings smoothing is based on the variability of change in net income scaled by average total assets. A smaller variance of change in net income is interpreted as evidence for greater levels of earnings smoothing.

Change in net income is sensitive to various factors that cannot be attributed to the accounting system. Consistent with Barth et al. (2008) and Christensen et al. (2008) among others, the second measure is based on the variance of the residuals from a pooled regression of the absolute change in net income on variables identified as factors influencing the decision to voluntarily adopt IFRS. This measure is expressed as follows:

$$|\Delta NI_{it}| = \alpha_0 + \alpha_1 Conc_{it} + \alpha_2 SIZE_{it} + \alpha_3 |GROWTH_{it}| + \alpha_4 CF_{it} + \alpha_5 LEV_{it} + \alpha_6 International_{it} + \alpha_7 TURN_{it} + \alpha_8 AGE_{it} + \text{Industry Fixed Effects} + \text{Year Fixed Effects} + \varepsilon_{it} \quad (6.3)$$

⁸⁴⁷ Cf. chapter 3.2.2.2; 5.4.1 for a detailed description. These proxies are calculated following Leuz et al. (2003); Lang et al. (2003); Lang et al. (2006); Barth et al. (2008).

In contrast to the model in Barth et al. (2008) and Christensen et al. (2008), this model builds on the absolute change in net income as dependent variable because the amount rather than the direction of change in net income is expected to be explained by changing incentives around IFRS adoption.⁸⁴⁸

Based on the determinants of voluntary IFRS adoption identified in prior literature, ownership concentration (*Conc*), size (*SIZE*), leverage (*LEV*), international exposure (*International*), listing years (*AGE*) as well as industry and year fixed effects are included in the regression. Following Lang et al. (2006) and other prior literature, further control variables are considered in the regression including absolute growth (*GROWTH*) which is defined as the absolute percentage of change in sales, cash flow (*CF*) defined as annual cash flow from operating activities and turnover (*TURN*) defined as sales divided by average total assets.

The third proxy for earnings smoothing is the ratio of the variability of change in net income ΔNI over the variability of change in cash flows (ΔCF). As suggested in Barth et al. (2008) firms with volatile cash flows can be presumed to have more volatile net income. This ratio is measured based on (i) the variance of change in net income (ΔNI) divided by the variance of change in cash flows (ΔCF) and (ii) the residuals from equations (6.3) and (6.4) (measure four). Following the deliberations for the second measure, equation (6.4) is modified compared to previous studies using the absolute value of ΔCF as dependent variable and absolute growth as explanatory variable.

$$|\Delta CF_{it}| = \alpha_0 + \alpha_1 Conc_{it} + \alpha_2 SIZE_{it} + \alpha_3 |GROWTH_{it}| + \alpha_4 CF_{it} + \alpha_5 LEV_{it} + \alpha_6 International_{it} + \alpha_7 TURN_{it} + \alpha_8 AGE_{it} + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + \varepsilon_{it} \quad (6.4)$$

The fifth measure to examine the extent of earnings smoothing is based on the Spearman correlation coefficient between accruals and cash flows. It is expected that accruals and cash flows are negatively correlated given that accruals are presumed to be used with the purpose to smooth earnings. Strong negative correlations between accruals and cash flows are interpreted as a signal for high levels of earnings smoothing.

⁸⁴⁸ As equation (6.3) explains the change of a flow variable by both stock and flow variables, residuals would be overestimated if the “actual” instead of the absolute values for the flow variables are not considered because the stock variable (independent variable) does not explain the direction of the dependent flow variable. Cf. also chapter 3.2.2.2.

Consistent with the metrics above, the sixth proxy corresponds to the correlation between the residuals from the following equations (6.5) and (6.6).⁸⁴⁹

$$CF_{it} = \alpha_0 + \alpha_1 Conc_{it} + \alpha_2 SIZE_{it} + \alpha_3 |GROWTH_{it}| + \alpha_4 CF_{it} + \alpha_5 LEV_{it} + \alpha_6 International + \alpha_7 TURN + \alpha_8 AGE + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + \varepsilon_{it} \quad (6.5)$$

$$ACC_{it} = \alpha_0 + \alpha_1 Conc_{it} + \alpha_2 SIZE_{it} + \alpha_3 |GROWTH_{it}| + \alpha_4 CF_{it} + \alpha_5 LEV_{it} + \alpha_6 International + \alpha_7 TURN + \alpha_8 AGE + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + \varepsilon_{it} \quad (6.6)$$

In order to test for differences in the pre- and post-adoption period, equations (6.3) to (6.6) are estimated by pooling observations for the whole observation period for voluntary and mandatory adopters.⁸⁵⁰ In a second step, the metrics for each period are derived by classifying the residuals according to the applied accounting standard.

To test for statistical significance the following tests are applied: F-tests for proxies one and two (variation in change in net income and respective residuals) and standard tests using Fisher's z for measures five and six (Spearman correlation between cash flows and accruals and Spearman correlation between residuals of cash flows and accruals). Additionally, following Barth et al. (2008) and Christensen et al. (2008) t-tests are applied based on the empirical distribution of the differences between the pre- and post-adoption period for metrics one to four (variation in change in net income and variation in change of net income over variation in change of cash flows from operations and respective residuals). In order to obtain the distribution of the differences between the respective metric in the pre- and post-adoption period, a simulation is run that models the distribution of the basic population. Thereby, n_{Pre} firm-year observations are randomly selected for the particular group in the pre- and n_{Post} firm-year observations in the post-adoption period with replacement (bootstrapping), where n_{Pre}

⁸⁴⁹ As the dependent variables in equation (5) and (6) are not defined as changes from period t-1 to period it is not necessary to use absolute values.

⁸⁵⁰ Hence, in order to test for differences concerning earnings smoothing by voluntary adopters in the pre and post adoption period all observations belonging to the group of voluntary adopting firms are pooled.

and n_{Post} equal the number of observations of the group in the respective period. This procedure is repeated 1,000 times.

6.2.4 Discretionary Accruals

Discretionary accruals are estimated cross-sectional in each year and each industry⁸⁵¹ based on the model in Ball/Shivakumar (2006) instead of the modified Jones-model as applied in Van Tendeloo/Vanstraelen (2005) and Goncharov/Zimmermann (2007) because non-linear discretionary accruals specifications explain higher levels of variation in accruals as compared to linear model specifications.⁸⁵² Discretionary accruals are estimated as error term based on the estimated coefficients in each industry and year from the following regression:

$$ACC_{it} = \alpha_0 + \alpha_1 CF_{it} + \alpha_2 CF_{it-1} + \alpha_3 CF_{it+1} + \alpha_4 DCF_{it} + \alpha_5 DCF_{it} CF_{it} + \varepsilon_{it} \quad (6.7)^{853}$$

To test the relation between IFRS adoption and earnings management separately for voluntary and mandatory adopters, absolute discretionary accruals (ABS_ACC_{it}) are used as dependent variable in the following equation:

$$ABS_ACC_{it} = \alpha_0 + \alpha_1 IFRS_{it} + \varepsilon_{it} \quad (6.8)^{854}$$

Previous analyses largely focus on voluntary adopters and compare IFRS adopters with firms that do not adopt IFRS in the observation period. As a consequence, the models include control variables for firm characteristics that are likely to affect the level of discretionary accruals. The analysis in this study separately compares effects of IFRS adoption on discretionary accruals for voluntary and mandatory IFRS adopters from the pre- to the post-adoption period. Studies that use this research design commonly presume each firm to serve as control and as a consequence frequently do

⁸⁵¹ Discretionary accruals are based on ICB-Codes.

⁸⁵² Cf. Ball/Shivakumar (2006).

⁸⁵³ Where: ACC_{it} is total accruals at t , scaled by average total assets at t ; total accruals are earnings before extraordinary items minus operating cash flows; CF_{it} is operating cash flows at t , scaled by average total assets at t ; CF_{it-1} is operating cash flows at $t-1$, scaled by average total assets at t ; DCF_{it} is one if the change in cash flows at t is less than zero, and zero otherwise; the interaction term $DCF_{it} CF_{it}$ serves as proxy for economic losses. Cf. chapter 3.2.2.2 for detailed description of discretionary accruals models.

⁸⁵⁴ Where: ABS_ACC_{it} are absolute abnormal or discretionary accruals, $IFRS_{it}$ is an indicator variable and equally one if IFRS is applied in the respective period.

not include control variables in their models to assess effects of IFRS adoption on earnings characteristics.⁸⁵⁵ Given that there is no balanced panel with equal numbers of observations under German GAAP and IFRS as illustrated in chapter 6.2.1, analyses are run with and without control variables. Consistent with the analysis on earnings smoothing, control variables include ownership concentration (*CONC*), size (*SIZE*), leverage (*LEV*), age (*AGE*), growth (*GROWTH*), foreign sales (*International*) and turnover (*TURN*). Operating performance (*PERF*) (net income scaled by average total assets) and industry dummies are included in the model in Van Tendeloo/Vanstraelen (2005) and are found to affect discretionary accruals in previous studies. Therefore, these variables are also added as control variables. This yields the following regression equation (6.8):

$$\begin{aligned}
 ABS_ACC_{it} = & \alpha_0 + \alpha_1 IFRS_{it} + \alpha_2 CONC_{it} + \alpha_3 SIZE_{it} + \alpha_4 LEV_{it} + \alpha_5 AGE_{it} + \\
 & \alpha_6 GROWTH_{it} + \alpha_7 International_{it} + \alpha_8 TURN_{it} + \alpha_9 PERF_{it} + \\
 & Industry\ Fixed\ Effects + \varepsilon_{it}
 \end{aligned}
 \tag{6.9}$$

Furthermore, given that discretionary accruals are assessed separately for voluntary and mandatory adopters in the pre- and post-adoption period and that the model design presumes that there is low cross-sectional variation in the respective group, effects of IFRS adoption on discretionary accruals are additionally assessed based on firm fixed effects models.

6.2.5 Conditional Conservatism

Three models are used to examine effects of IFRS adoption on conditional conservatism. The Basu (1997) model is the predominant model for conditional conservatism in previous studies on IFRS adoption and earnings characteristics. To test for the robustness of the Basu (1997) model, the analyses are also run based on the Ball/Shivakumar (2005) model and the C-Score as suggested in Khan/Watts (2009).

Christensen et al. (2008) run regressions separately in the pre- and post-adoption period for voluntary and mandatory IFRS adopters to compare Basu (1997) coefficients in the pre- and post-adoption period and test for significance of pre- and post-

⁸⁵⁵ Cf. e.g. the models on timeliness and conservatism in Ahmed et al. (2009); the value relevance models in Barth et al. (2008) and the models on conservatism and persistence in Christensen et al. (2008).

differences. In contrast to Christensen et al. (2008), the estimation model in this analysis includes a dummy variable $IFRS_{it}$ into the Basu (1997) regression to denote the post-adoption period and is run separately for voluntary and for mandatory adopters consistent with the approach applied in Ahmed et al. (2009). The estimation model is as follows:

$$NI_{it} = \beta_0 + \beta_1 D_{it} + \beta_2 R_{it} + \beta_3 D_{it} R_{it} + \beta_4 IFRS_{it} + \beta_5 IFRS_{it} D_{it} + \beta_6 IFRS_{it} R_{it} + \beta_7 IFRS_{it} D_{it} R_{it} + \varepsilon_{it} \quad (6.10)$$

NI_{it} is earnings before extraordinary items scaled by average total assets. $IFRS$ is an indicator variable and equals one if IFRS are applied and zero otherwise. R_{it} is defined as the annual buy-and-hold return ending four months after fiscal year's end.⁸⁵⁶ D_{it} is an indicator variable and equals one if R_{it} is negative and zero otherwise. Following Basu (1997) earnings are timelier in reflecting publicly available 'bad news' than 'good news'. Therefore, β_3 is expected to be positive. A higher incremental coefficient on 'bad news' in the post-adoption period ($\beta_7 > 0$) is consistent with more timely loss recognition after IFRS adoption. Furthermore, it needs to be tested if the sum out of β_3 and β_7 is significantly different from zero to assess whether IFRS adoption has an incremental effect on timely loss recognition (Wald test).

The second model is based on the accruals-based asymmetry measure as introduced by Ball/Shivakumar (2006). Conditional conservatism is estimated for voluntary and mandatory adopters using the following regression:

$$ACC_{it} = \beta_0 + \beta_1 D_{it} + \beta_2 CF_{it} + \beta_3 D_{it} CF_{it} + \beta_4 IFRS + \beta_5 IFRS D_{it} + \beta_6 IFRS CF_{it} + \beta_7 IFRS D_{it} CF_{it} + \varepsilon_{it} \quad (6.11)$$

Accruals (ACC_{it}) are directly derived from cash flow statements instead of balance sheets and correspond to net income before extraordinary items less cash flow from operations scaled by average total assets.⁸⁵⁷ The indicator variable D_{it} equals one if the operating cash flow of firm i in period t is negative and zero otherwise. Consistent

⁸⁵⁶ Note that German companies need to file their annual report within four months after fiscal's year-end according to German law (§ 325 IV HGB).

⁸⁵⁷ Referring to the work of Hribar/Collins (2002), the cash flow measure provided by the cash flow statement via the Worldscope database is considered to be more accurate than a measure that is derived from balance sheet data.

with Ball/Shivakumar (2006) a positive incremental coefficient β_3 is predicted for negative cash flows following the hypothesis that accrued losses are more likely to occur in periods with negative cash flows. There is no predicted sign for the coefficient β_0 and the IFRS specific coefficient on timely loss recognition β_7 . More timely loss recognition in the post-adoption period corresponds to $\beta_7 > 0$ and is tested for significance based on the sum out of β_3 and β_7 .

In the first run, the models do not include control variables consistent with previous studies on IFRS adoption and conditional conservatism although firm characteristics are likely to affect the results. As argued in the analysis concerning discretionary accruals, previous studies may not include control variables in the model because they presume firms in each group (voluntary and mandatory) to serve as control given that earnings characteristics are analyzed in the pre- and post-adoption period.

However, since this presumption does not hold, the analysis is repeated including control variables that are generally presumed to have a significant influence on the level of conditional conservatism:⁸⁵⁸ firm size, leverage and growth options. Firm size (*SIZE*) is the natural logarithm of total assets, leverage (*LEV*) is debt to total assets and growth options are proxied by market-to-book ratio (*MTB*). Additionally, industry and year dummies are integrated in the models. Further control variables are not included because multicollinearity is of concern with the Basu (1997) and the Ball/Shivakumar (2005) model. To mitigate concern regarding multicollinearity, standard errors are not only calculated based on the procedure in Petersen (2009) but also according to the procedure by Newey/West (1987) to assess the robustness of the results.

⁸⁵⁸ Size, leverage and growth options are presumed to affect the firm's investment opportunity set and are hence considered to influence the level of conditional conservatism, cf. Khan/Watts (2009), p. 134-135.

The estimation equation for the Basu (1997) (6.11) and the Ball/Shivakumar (2005) (6.12) including control variables are as follows:

$$\begin{aligned}
 NI_{it} = & \beta_0 + \beta_1 D_{it} + \beta_2 R_{it} + \beta_3 D_{it} R_{it} + \beta_4 IFRS_{it} + \beta_5 IFRS_{it} D_{it} + \\
 & \beta_6 IFRS_{it} R_{it} + \beta_7 IFRS_{it} D_{it} R_{it} + \beta_8 SIZE_{it} + \beta_9 SIZE_{it} D_{it} + \\
 & \beta_{10} SIZE_{it} R_{it} + \beta_{11} SIZE_{it} D_{it} R_{it} + \beta_{12} LEV_{it} + \beta_{13} LEV_{it} D_{it} + \\
 & \beta_{14} LEV_{it} R_{it} + \beta_{15} LEV_{it} D_{it} R_{it} + \beta_{16} MTB_{it} + \beta_{17} MTB_{it} D_{it} + \\
 & \beta_{18} MTB_{it} R_{it} + \beta_{19} MTB_{it} D_{it} R_{it} + Industry\ Fixed\ Effects + \\
 & Year\ Fixed\ Effects + \varepsilon_{it}
 \end{aligned} \tag{6.12}$$

$$\begin{aligned}
 ACC_{it} = & \beta_0 + \beta_1 D_{it} + \beta_2 CF_{it} + \beta_3 D_{it} CF_{it} + \beta_4 IFRS + \beta_5 IFRS D_{it} + \\
 & \beta_6 IFRS CF_{it} + \beta_7 IFRS D_{it} CF_{it} + \varepsilon_i + \beta_8 SIZE_{it} + \beta_9 SIZE_{it} D_{it} + \\
 & \beta_{10} SIZE_{it} CF_{it} + \beta_{11} SIZE_{it} D_{it} CF_{it} + \beta_{12} LEV_{it} + \beta_{13} LEV_{it} D_{it} + \\
 & \beta_{14} LEV_{it} CF_{it} + \beta_{15} LEV_{it} D_{it} CF_{it} + \beta_{16} MTB_{it} + \beta_{17} MTB_{it} D_{it} + \\
 & \beta_{18} MTB_{it} CF_{it} + \beta_{19} MTB_{it} D_{it} CF_{it} + Industry\ Fixed\ Effects + \\
 & Year\ Fixed\ Effects + \varepsilon_{it}
 \end{aligned} \tag{6.13}$$

The third model is based on the C-Score as suggested in Khan/Watts (2009)⁸⁵⁹ and is expressed by the following equation:

$$C-Score_{it} = \beta_0 + \beta_1 IFRS_{it} + \varepsilon_{it} \tag{6.14}$$

A significant coefficient β_1 denotes that IFRS adoption significantly affects the level of conditional conservatism. The C-Score is calculated on a firm level for the entire sample of adopters based on coefficients of yearly regressions but regressions are run separately for voluntary and mandatory adopters. Firm size measured as natural logarithm of total assets, leverage and market to book ratio are used to estimate C-Score.

However, not considering these variables in the regression may lead to biased results. Khan/Watts (2009) recommend the use of instruments for these variables. For this purpose, the natural logarithm of the market value of equity (*MCAP*) is used to proxy for size, sales growth (*GROWTH*) is used to proxy for growth opportunities instead of market-to-book ratio and firm age (*AGE*) is used to proxy for leverage consistent with the argument in Khan/Watts (2009) that older, more mature firms tend to have higher

⁸⁵⁹ For a description of the exact calculation of the C-Score, cf. chapter 3.3.2.3.

levels of leverage.⁸⁶⁰ Additionally, I include return on assets (*PERF*) as control variable because Khan/Watts (2009) suggest that C-Score decreases in performance.⁸⁶¹

$$C\text{-Score} = \beta_0 + \beta_1 IFRS + \varepsilon_{it} \quad (6.15)$$

$$C\text{-Score} = \beta_0 + \beta_1 IFRS + \beta_2 MCAP_{it} + \beta_3 AGE_{it} + \beta_4 GROWTH_{it} + \beta_5 PERF_{it} + \\ Industry\ Fixed\ Effects + Year\ Fixed\ Effects + \varepsilon_{it} \quad (6.16)$$

Consistent with the discretionary accruals model, I additionally run firm fixed effects models to assess effects of IFRS adoption on conditional conservatism for all three estimation models.⁸⁶²

6.3 Univariate Analysis

The univariate and multivariate analyses in this chapter are based on the first sub-sample described in chapter 5.2. This sub-sample is equivalent to the basic sample less observations for firms that ever reported under US GAAP and includes 3,697 firm year observations.

Table 21 shows the sample selection on a yearly basis, the distribution of accounting standards in each year and the proportion of accounting standards followed by voluntary and mandatory IFRS adopters.⁸⁶³ The group of *voluntary adopters* subsumes all firm-year observations of firms which adopted IFRS no later than 2004 (2,160 firm year observations), whereas the group of *mandatory adopters* comprises observations of all firms that did not adopt IFRS prior to 2005 (1,537 firm year observations). Evidently, a large number of German firms adopted IFRS on a voluntary basis. While observations on German GAAP are dominant in the group of mandatory adopters, observations on IFRS overweigh in the group of voluntary adopters.

⁸⁶⁰ Cf. Khan/Watts, p. 148.

⁸⁶¹ Size, leverage and market-to-book ratio are inputs to c-score. Nevertheless, Khan/Watts (2009) recommend the use of these variables as control variables in analyses that use c-score as dependent variable.

⁸⁶² Industry dummies are not included in firm fixed effects models given that these are time invariant variables.

⁸⁶³ Based on cumulative survival rates derived from Kaplan-Meier estimates, figure 19, appendix A illustrates how the percentage of firms that reported under HGB dropped from 1998 to 2005.

Table 22 provides insights how firms who voluntarily adopted IFRS differ from those who resisted IFRS adoption until 2005 in terms of ownership structures and other firm characteristics. Variables are considered with as many observations as possible. This results in different numbers of observations for the respective variables. Summary statistics are reported separately for both accounting standards to assess whether differences are contingent on the distribution of accounts released under German GAAP versus IFRS.

Table 21: Accounting Standards Followed by Voluntary and Mandatory Adopters

Panel A: Sample Selection												
Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Pooled
# of Stocks in Index	520	670	790	790	751	719	692	678	684	684	664	7642
- # of Preferred Stocks	87	85	73	63	59	56	52	46	43	41	38	643
- # of Common Stocks Financials	77	91	98	102	97	95	91	93	102	108	103	1057
- # of Other Adjustments	11	10	14	14	18	17	16	19	18	12	14	163
# of Common Stocks of Non-Financial Firms	345	484	605	611	577	551	533	520	521	523	509	5779
- # US-GAAP Adopters	46	100	158	161	154	149	146	141	136	131	126	1448
- # No Information on Accounting Standard	16	28	32	53	62	69	74	72	68	72	88	634
# Sample Observations	283	356	415	397	361	333	313	307	317	320	295	3697
# of HGB Accounts	250	260	253	213	168	139	117	11	0	0	0	1411
# of IFRS Accounts	33	96	162	184	193	194	196	297	317	320	295	2287
# of IFRS First Time Adopters	27	65	71	33	31	15	13	98	35	19	8	415
Panel B: Accounting Standard Followed by Voluntary and Mandatory IFRS Adopters												
Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Pooled
# of Mandatory Adopters	174	186	182	161	139	124	112	108	111	124	116	1537
# of HGB Accounts	174	186	182	161	139	124	112	10	0	0	0	1088
# of IFRS Accounts	0	0	0	0	0	0	0	98	111	124	116	449
# of Voluntary Adopters	109	170	233	236	222	209	201	199	206	196	179	2160
# of HGB Accounts	76	74	71	52	29	15	5	0	0	0	0	322
# of IFRS Accounts	33	96	162	184	193	194	196	199	206	196	179	1838

Notes: Panel A describes the sample selection process. Based on the yearly composition of the CDAX the sample is formed under the following adjustments: All preferred stocks listed in the CDAX are excluded. Firms from the financial sector (based on the ICB industry classification in Thomson Financial Datastream) are excluded. Other adjustments concern e.g. elimination of a second listed common stock of a firm. The remaining sample is adjusted for firm-year observations of firms which ever reported consolidated financial statements under US-GAAP and for firm-year observations with no information on the accounting standard applied in the consolidated financial statements. Furthermore, firms that only prepare individual financial statements are excluded. The Group of "Mandatory Adopters" comprises all firm-year observations of firms which did not adopt IFRS prior to 2005. The group of "Voluntary Adopters" subsumes all firm-year observations of firms which adopted IFRS no later than 2004.

Source: Günther et al. (2009)

Table 22: Summary Statistics for Voluntary and Mandatory Adopters⁸⁶⁴

Panel A: Voluntary Adopters		Sample Period: 1998-2008							
Variable	Mean		Median		Std. Deviation		Observations		
	HGB	IFRS	HGB	IFRS	HGB	IFRS	HGB	IFRS	
Ownership Characteristics:									
Concentration (<i>Conc</i>)	0.554	0.516	0.590	0.525	0.234	0.232	316	1,810	
Bank (<i>Bank</i>)	0.025	0.012	0.000	0.000	0.073	0.053	316	1,810	
Foreign Investment (<i>FI</i>)	0.063	0.082	0.000	0.000	0.179	0.190	316	1,810	
Insider Ownership (<i>IO</i>)	0.247	0.278	0.050	0.252	0.290	0.259	316	1,810	
Other Firm Characteristics:									
Net Income (<i>NI</i>)	0.025	-0.009	0.314	0.026	0.090	0.140	306	1,727	
Change in Net Income (ΔNI)	-0.013	-0.006	-0.003	0.002	0.068	0.130	297	1,676	
Accruals (<i>ACC</i>)	-0.042	-0.059	-0.046	-0.045	0.100	0.128	295	1,711	
Change in Accruals (ΔACC)	0.000	-0.010	0.004	-0.003	0.139	0.170	275	1,651	
Cash Flow (<i>CF</i>)	0.066	0.041	0.076	0.066	0.130	0.151	300	1,756	
Change in Cash Flow (ΔCF)	-0.010	0.003	-0.006	0.003	0.114	0.122	274	1,647	
Return (<i>R</i>)	-0.017	0.005	-0.073	-0.072	0.401	0.560	294	1,672	
Performance (<i>PERF</i>)	0.006	0.002	0.007	0.005	0.011	0.017	302	1,717	
Size (<i>SIZE</i>)	5.603	5.274	5.567	5.032	0.783	0.903	307	1,756	
Foreign Sales (<i>International</i>)	0.445	0.441	0.455	0.438	0.267	0.261	215	1,143	
Listing Years (<i>AGE</i>)	19.727	13.924	9.000	7.000	20.594	17.783	322	1,836	
European Listing (<i>EXL</i>)	0.075	0.064	--	--	0.265	0.246	318	1,442	
Leverage (<i>LEV</i>)	0.231	0.199	0.233	0.176	0.160	0.161	287	1,607	
Growth (<i>GROWTH</i>)	0.172	0.170	0.086	0.076	0.462	0.436	303	1,756	
Turnover (<i>TURN</i>)	1.389	1.222	1.324	1.127	0.681	0.661	304	1,744	

Voluntary IFRS adopters are characterized by more dispersed ownership structures than voluntary IFRS adopters. Bank ownership is higher for mandatory than for voluntary IFRS adopters while insider ownership does not differ significantly between both groups of adopters. Surprisingly, mandatory IFRS adopters have a significant higher proportion of foreign ownership compared to voluntary IFRS adopters. This result is consistent for the pre- and the post-adoption period and indicates that the percentage of common shares held by foreign investors did not increase after IFRS adoption among German firms. Foreign investors may prefer to invest in German companies listed at foreign stock exchanges where these firms need to meet requirements of the respective stock exchange regulation authority such as the Securities and Exchange Commission (SEC).⁸⁶⁵

⁸⁶⁴ Source: Günther et al. (2009), the table is continued on the next page.

⁸⁶⁵ This is consistent with the observation that several German firms accessed US stock exchanges particularly at the end of the 1990s.

Table 22: Summary Statistics for Voluntary and Mandatory Adopters (continued)

Variable		Sample Period: 1998-2008							
		Mean		Median		Std. Deviation		Observations	
Applied Accounting Standard		HGB	IFRS	HGB	IFRS	HGB	IFRS	HGB	IFRS
Ownership Characteristics:									
Concentration (<i>Conc</i>)		0.703***	0.611***	0.748***	0.645***	0.232	0.253	1,057	444
Bank (<i>Bank</i>)		0.028	0.027***	0.000***	0.000**	0.107	0.11	1,057	444
Foreign Investment (<i>FI</i>)		0.147***	0.141***	0.000**	0.000***	0.321	0.257	1,057	444
Insider Ownership (<i>IO</i>)		0.251	0.293	0.000	0.178	0.308	0.307	1,057	444
Other Firm Characteristics:									
Net Income (<i>NI</i>)		0.004***	0.010**	0.020***	0.032**	0.103	0.118	1,054	403
Change in Net Income (ΔNI)		-0.001*	-0.007	0**	0.001	0.106	0.097	1,048	387
Accruals (<i>ACC</i>)		-0.053	-0.043**	-0.056**	-0.036**	0.107	0.103	919	402
Change in Accruals (ΔACC)		0.000	0.000	0.000	0.001	0.135	0.137	826	377
Cash Flow (<i>CF</i>)		0.053	0.057*	0.059***	0.068	0.131	0.129	932	408
Change in Cash Flow (ΔCF)		-0.002	-0.003	-0.002	-0.003	0.103	0.11	832	377
Return (<i>R</i>)		0.033*	-0.004	0.013**	-0.025	0.457	0.467	1,065	418
Performance (<i>PERF</i>)		0.004***	0.005***	0.005***	0.007***	0.012	0.012	1,046	433
Size (<i>SIZE</i>)		5.300***	5.314	5.287***	5.295***	0.667	0.695	1,066	436
Foreign Sales (<i>International</i>)		0.365***	0.451	0.376***	0.446	0.263	0.267	693	275
Listing Years (<i>AGE</i>)		24.061***	20.387***	14.00***	12.00***	20.498	20.342	1,082	444
European Listing (<i>EXL</i>)		0.020***	0.020**	--	--	0.141	0.139	1,082	203
Leverage (<i>LEV</i>)		0.241	0.245***	0.219	0.213***	0.19	0.183	980	409
Growth (<i>GROWTH</i>)		0.065***	0.107***	0.010***	0.058**	0.368	0.274	1,052	407
Turnover (<i>TURN</i>)		1.342	1.291*	1.292	1.233	0.733	0.74	1,037	406

Notes: *HGB* is German GAAP, *IFRS* denotes observations under IFRS. Concentration (*Conc*) is measured as the aggregate amount of stock owned by the three largest shareholders. *Bank* is defined as the cumulative percentage of stock owned by German banks. Foreign Investment (*FI*) comprises the percentage of stock held by foreign investors. Insider Ownership (*IO*) aggregates all block holdings by members of the management and/or supervisory. Net Income (*NI*) is defined as earnings before extraordinary items deflated by average total assets. Change in Net Income (ΔNI) is net income before extraordinary items in period t minus net income in period t-1 deflated by average total assets. Accruals (*ACC*) are defined as net income before extraordinary items less cash flows from operations. Change in Accruals (ΔACC) is calculated as accruals in period t less accruals in period t-1. Cash Flow (*CF*) is cash flow from operations deflated by average total assets. Change in Cash Flows (ΔCF) is cash flow in period t minus cash flows in period t-1. Return (*R*) is annual buy-and-hold stock return ending 4 months after fiscal year end. *PERF* denotes return on assets defined as net income before extraordinary items divided by total assets at fiscal year's end. *SIZE* is defined as the natural logarithm of total assets at fiscal year's end. Foreign Sales (*International*) is the percentage of foreign sales relative to total sales. European Listing (*EXL*) is an indicator variable which equals one if the firm is listed on a European Stock Exchange in the respective observation year and zero otherwise. This variable only covers the period of voluntary IFRS adoption from 1998 to 2006. Leverage (*LEV*) is defined as total debt divided by average total assets. *GROWTH* is sales growth. Turnover (*TURN*) is sales divided by average total assets. The significance of sample differences between voluntary and mandatory adopters is assessed by Chi-square tests for nominal variables and by t-tests (Wilcoxon/Mann-Whitney tests) for the means (medians) of continuous variables. *** / ** / * indicates a two-tailed level of significance of 99% / 95% / 90%.

Source: Own Analysis.

Voluntary IFRS adopters also differ decisively from mandatory IFRS adopters regarding other firm attributes. They are characterized by less listing years, more sales growth, are more frequently listed at European stock exchanges, have higher percentages of foreign sales, less leverage and turnover. It needs to be noted that voluntary adopters are only significantly larger in the pre-adoption period. Thereby, the sample of voluntary IFRS adopters comprises very large firms in the pre-adoption period but is characterized by large and small firms in the post-adoption period. This implies that voluntary IFRS adopters represent a heterogeneous group regarding firm size. The firm size heterogeneity could affect the results of the analysis on earnings characteristics because smaller firms generally exhibit more volatile earnings, higher discretionary accruals and higher levels of conditional conservatism. Mandatory IFRS adopters correspond to medium-sized firms and firm size does not differ significantly between the pre- and the post-adoption period. Therefore, differences in firm size in the pre- and post-adoption period are less likely to affect findings on IFRS adoption and earnings characteristics for this group of adopters. Previous studies do not differentiate between firm characteristics in the pre- and post-adoption period and use market capitalization of equity as a measure for firm size. This may explain why these studies generally suggest that firm size for voluntary adopters exceeds firm size for mandatory adopters.

Overall, summary statistics suggest that voluntary and mandatory IFRS adopters differ essentially in terms of central firm characteristics that could have an impact on earnings management and conservatism. These differences need to be considered as control variables in the analyses. The analysis in chapter 6.4.1 examines differences between voluntary and mandatory IFRS adopters in more detail as it analyzes which firm characteristics affected the decision to voluntarily adopt IFRS among German firms.

6.4 Multivariate Analysis

6.4.1 Ownership Structures as Determinants of Voluntary IFRS Adoption

Results on ownership structures as determinants of voluntary IFRS adoption are reported in table 23, while results on determinants of early voluntary IFRS adoption are reported in table 52.

Table 23: Impact of Ownership Structures on Voluntary IFRS Adoption

$$\text{Prob(IFRS} = 1) = \Phi z (\alpha_0 + \alpha_1 \cdot \text{Conc} + \alpha_4 \cdot \text{Bank} + \alpha_5 \cdot \text{FI} + \alpha_6 \cdot \text{MO} + \beta_n \cdot \text{CV}_n)$$

Sample Period: 1998-2004

Model	Expected Sign	(1)	(2)	(3)	(4)	(5)
N (<i>firm-years</i>)		1,303	1,303	1,303	1,303	1,303
Constant	?	-2.349*** (0.856)	-3.259*** (0.795)	-2.959*** (0.799)	-3.343*** (0.771)	-2.290*** (0.868)
<i>Conc</i>	-	-1.001*** (0.294)				-0.840** (0.331)
<i>Bank</i>	-		-1.366** (0.673)			-1.743** (0.743)
<i>FI</i>	+			-0.617** (0.290)		-0.476 (0.335)
<i>IO</i>	?				-0.0723 (0.276)	-0.155 (0.303)
Size	+	0.441*** (0.131)	0.450*** (0.131)	0.415*** (0.131)	0.434*** (0.134)	0.415*** (0.135)
Internationalization	+	0.488 (0.302)	0.483 (0.300)	0.581* (0.304)	0.505* (0.300)	0.506* (0.305)
Listing Years	-	-0.012*** (0.005)	-0.012*** (0.004)	-0.012*** (0.004)	-0.013*** (0.004)	-0.011** (0.005)
EXL	+	0.378 (0.308)	0.580* (0.315)	0.554* (0.309)	0.581* (0.313)	0.410 (0.316)
Growth	+	0.410*** (0.138)	0.440*** (0.136)	0.437*** (0.134)	0.451*** (0.138)	0.410*** (0.138)
Lev	-	-0.930** (0.415)	-0.762* (0.418)	-0.838** (0.425)	-0.751* (0.425)	-0.928** (0.428)
Industry Effects		Included	Included	Included	Included	Included
Year Effects		Included	Included	Included	Included	Included
Pseudo R ²		0.329	0.314	0.319	0.311	0.337

Notes: *IFRS* is an indicator variable which equals 1 if a firm applies IFRS and 0 otherwise. *Conc* is the aggregate amount of stock owned by the three largest shareholders. *Bank* is defined as the cumulated amount of stock owned by German banks. *FI* comprises the percentage of stock held by foreign investors. *IO* aggregates all block holdings owned members of the management/supervisory board. *CV* denotes control variables: *Size* is defined as natural logarithm of total assets at fiscal year end, *Internationalization* is the fraction of sales achieved outside the home market. *Listing years* is the difference between year *t* and the IPO year, *EXL* is defined as an indicator variable which equals 1 if the firm is listed on a European Stock Exchange in year *t* and zero otherwise, *Growth* is the relative difference of sales in period *t* and period *t-1*. *Lev* is total debt divided by average total assets. Industry and Year Fixed Effects are included. Industry Fixed Effects are calculated on the basis of ICB-industry codes. Numbers in parantheses denote clustered, standard errors following Petersen (2009). *** / ** / * indicates a two-tailed significance level of 99% / 95% / 90%.

Source: Own Analysis.

The results from the logistic regressions confirm impressions from the summary statistics. Ownership concentration significantly delayed IFRS adoption even if certain shareholder types are added as control variables to the regression. This evidence rejects H_0 6.1 and supports the prediction that controlling shareholders are tempted to avoid costs associated with the transition to a new set of standards because they primarily rely on private information channels.⁸⁶⁶ Furthermore, bank ownership was among the factors that significantly delayed IFRS adoption which rejects hypothesis H_0 6.2. This result may be due to the role of banks as quasi insiders. Consistent with the finding on the influence of bank ownership on voluntary IFRS adoption, leverage (debt to total assets) also significantly delayed IFRS adoption. Taken together, results suggest that bank influence reduces the likelihood of voluntary IFRS adoption. Insider ownership is not significantly associated with voluntary IFRS adoption in both analyses.⁸⁶⁷ Therefore, hypothesis H_0 6.3 is not rejected. This evidence may be explained by the two-fold effect that some insiders decide against voluntary IFRS adoption given that they have privileged access to company information, whereas others may use IFRS for signalling lower information asymmetries vis-à-vis minority shareholders.

Surprisingly, foreign ownership was among the factors that had a significant negative impact on IFRS adoption, particularly in the early period. Therefore, H_0 6.4 is rejected. This result could be explained by concerns of foreign investors regarding the implementation and enforcement of IFRS among German firms. Analyzing the data set in more detail shows that foreign investors hold relatively large stakes when invested in German firms. When foreign investors are long-term investors they may have gained expertise with financial statements derived under German GAAP and may have access to private information channels, for example by holding a position in the supervisory board.⁸⁶⁸ Therefore, foreign investors may have low incentives to put pressure on firms to voluntarily adopt IFRS.

⁸⁶⁶ This evidence holds true for all our measures for ownership concentration: (i) the aggregate amount held by the three largest shareholders, (ii) the Herfindahl index and (iii) the proportion of closely held shares.

⁸⁶⁷ The same result holds if family ownership is used instead of insider ownership.

⁸⁶⁸ The results could be explained by the fact that foreign investors especially US-investors might prefer to invest in companies that apply US GAAP instead of IFRS. These observations are excluded from the analysis.

Consistent with evidence from prior studies certain firm characteristics have a significant influence on voluntary IFRS adoption. Results suggest that larger firms, with more international exposure and less listing years are more likely to voluntarily adopt IFRS.

6.4.2 Voluntary vs. Mandatory IFRS Adoption and Earnings Quality

6.4.2.1 Earnings Smoothing

Table 24 presents the results comparing earnings smoothing for voluntary and mandatory IFRS adopters in the pre- and post-adoption period. The variability of change in net income, measured by the raw variable as well as the residuals, increases significantly in the post-adoption period for voluntary IFRS adopters. This change is highly significant under the F-test and the t-test (simulation) and suggests that voluntary IFRS adopters engage in less earnings smoothing in the post-adoption period. Results on earnings smoothing by mandatory IFRS adopters differ from results on voluntary adopters. All six proxies indicate an increase in earnings smoothing in the post-adoption period, whereby only the first proxy, the variability of change in net income is significant (10%-level). Based on these results one could conclude that earnings smoothing decreased under voluntary but not under mandatory IFRS adoption consistent with Christensen et al. (2008) because mandatory IFRS adopters lack the incentive to adopt. There are several reasons why this result requires additional analyses.

The result could be affected by differences in the capital market environment during voluntary as compared to mandatory IFRS adoption. It appears that the period of voluntary IFRS adoption is characterized by a volatile financial market environment. The capital market environment may serve as proxy for the business environment of the sample firms. Figure 15 shows the development of stock market performance (return index), annual return and volatility of the CDAX, while figure 16 illustrates the coherence between return volatility and variance of change in net income. It appears that the variability of change in net income is particularly high in periods characterized by volatile returns although firms have incentives to buffer volatile cash flows in these periods to smooth earnings. This finding illustrates the difficulty to distinguish between smooth earnings and earnings smoothing. Thereby, the finding that earnings smoothing decreased under voluntary IFRS adoption may also result from more volatile earnings in the post-adoption period. While voluntary adopters exhibit a considerable number of observations under German GAAP in 1998 and 1999, the number of

IFRS observations increased significantly from 2000 in parallel to the annual volatility of the capital market. The period of mandatory IFRS adoption (2005 to 2008) is characterized by less variability of change in net income than the pre-adoption period. In the pre-adoption period volatility almost equals out. When observations under German GAAP in the period from 1998 to 2004 are compared to the period from 2005 to 2008 results are likely to indicate no significant change or even an increase in earnings smoothing as displayed in table 24.

Secondly, the results could be driven by heterogeneity in the distribution of firm size among voluntary as compared to mandatory adopters. As indicated in the summary statistics, firm size decreases among voluntary adopters in the post-adoption period due to a large number of smaller firms that enter the sample with observations on IFRS. Firm size heterogeneity leads to a larger variability of change in net income in the group of voluntary IFRS adopters. Larger firms tend to have less volatile earnings because they are more mature and tend to be more diversified than smaller firms, whereas earnings of relatively small firms that tend to exhibit high growth tend to be more volatile. Although the influence of firm size is captured in the metrics that build on the residuals this effect is unlikely to be entirely filtered. However, it needs to be noted in this context that the results on differences in earnings smoothing among voluntary adopters in the pre- and post-adoption period based on the residuals are less significant as compared to the alternative metrics based on the raw variables. The sample of mandatory IFRS adopters mainly consists of medium-sized firms and does not change fundamentally from the pre- to the post-adoption period. Therefore, firm size heterogeneity is less of concern among mandatory adopters and may explain why the level of earnings smoothing remains almost unchanged when the pre- and the post-adoption period are compared.

Table 24: Earnings Smoothing by Voluntary and Mandatory Adopters

		Sample Period: 1998-2008									
Measure	Prediction	Observations		Measure		Difference		F-Test	Significance	Fisher's z	Simulation
		Pre	Post	Pre	Post	Absolute	Relative				
(1) Variability of ΔNI	Post > Pre	297	1676	0.005	0.017	0.012	265%	***	--	---	***
(2) Variability of ΔNI^*	Post > Pre	189	958	0.002	0.006	0.003	148%	***	--	---	**
(3) Variability of ΔNI over ΔCF	Post > Pre	270	1610	0.339	1.131	0.793	234%	--	--	---	***
(4) Variability of ΔNI^* over ΔCF^*	Post > Pre	182	942	0.499	1.214	0.715	143%	--	--	---	*
(5) Correlation between ACC and CF	Post > Pre	295	1711	-0.720	-0.413	0.307	43%	--	***	---	--
(6) Correlation between ACC* and CF*	Post > Pre	194	969	-0.769	-0.435	0.334	43%	--	***	---	--

		Sample Period: 1998-2008									
Measure	Prediction	Observations		Measure		Difference		F-Test	Significance	Fisher's z	Simulation
		Pre	Post	Pre	Post	Absolute	Relative				
(1) Variability of ΔNI	Post > Pre	1048	387	0.011	0.009	-0.002	-17%	**	--	---	n.s.
(2) Variability of ΔNI^*	Post > Pre	515	218	0.004	0.004	0.000	-5%	n.s.	--	---	n.s.
(3) Variability of ΔNI over ΔCF	Post > Pre	821	375	1.033	0.767	-0.266	-26%	--	--	---	n.s.
(4) Variability of ΔNI^* over ΔCF^*	Post > Pre	476	214	1.131	1.140	0.009	1%	--	--	---	n.s.
(5) Correlation between ACC and CF	Post > Pre	919	402	-0.500	-0.493	0.007	1%	--	n.s.	---	--
(6) Correlation between ACC* and CF*	Post > Pre	517	227	-0.572	-0.598	-0.026	-5%	--	n.s.	---	--

Note: $Variability\ of\ \Delta NI$ is defined as the variance of the change in net income from period t-1 to period t. $Variability\ of\ \Delta NI^*$ is defined as the variance of the residuals from the regression of absolute change in net income on control variables. $Variability\ of\ \Delta NI\ over\ \Delta CF$ is defined as the variance of change in net income from period t-1 to period t divided by the variance of the change in cash flow from period t-1 to period t. $Variability\ of\ \Delta NI^*\ over\ \Delta CF^*$ is calculated as the variance of the residuals resulting from the regression of absolute change in net income on control variables divided by the variance of the residuals from the regression of absolute change in cash flow on control variables. $Correlation\ between\ ACC\ and\ CF$ is defined as the Spearman correlation coefficient between accruals and cash flows. $Correlation\ between\ ACC^*\ and\ CF^*$ is defined as the Spearman correlation coefficient between the residuals from the regression of accruals on control variables and the residuals from the regression equation of cash flows on control variables. All measures for *net income (NI)* and *cash flows (CF)* are scaled by average total assets. 'Pre' comprises firm-year observations with consolidated accounts released under German GAAP. 'Post' comprises firm-year observations on financial statements according to IFRS. Significance in the case of simulation is tested by t-tests. *** / ** / * indicates a two-tailed level of significance of 99% / 95% / 90%, 'n.s.' denotes not significant. Source: Günther et al. (2009).

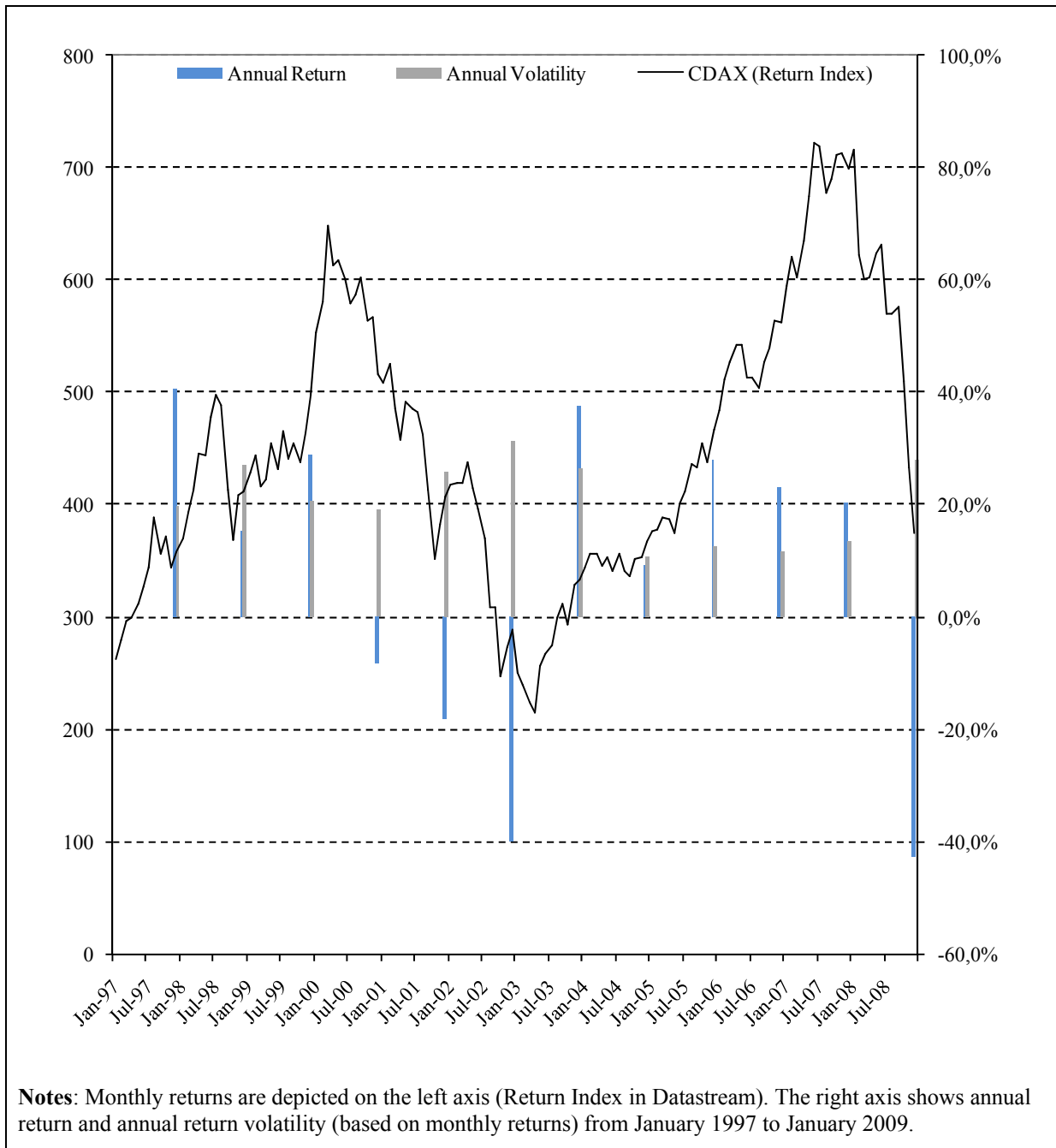


Figure 15: Annual Return and Volatility of the CDAX (1998 – 2008)⁸⁶⁹

⁸⁶⁹ Source: Own Analysis.

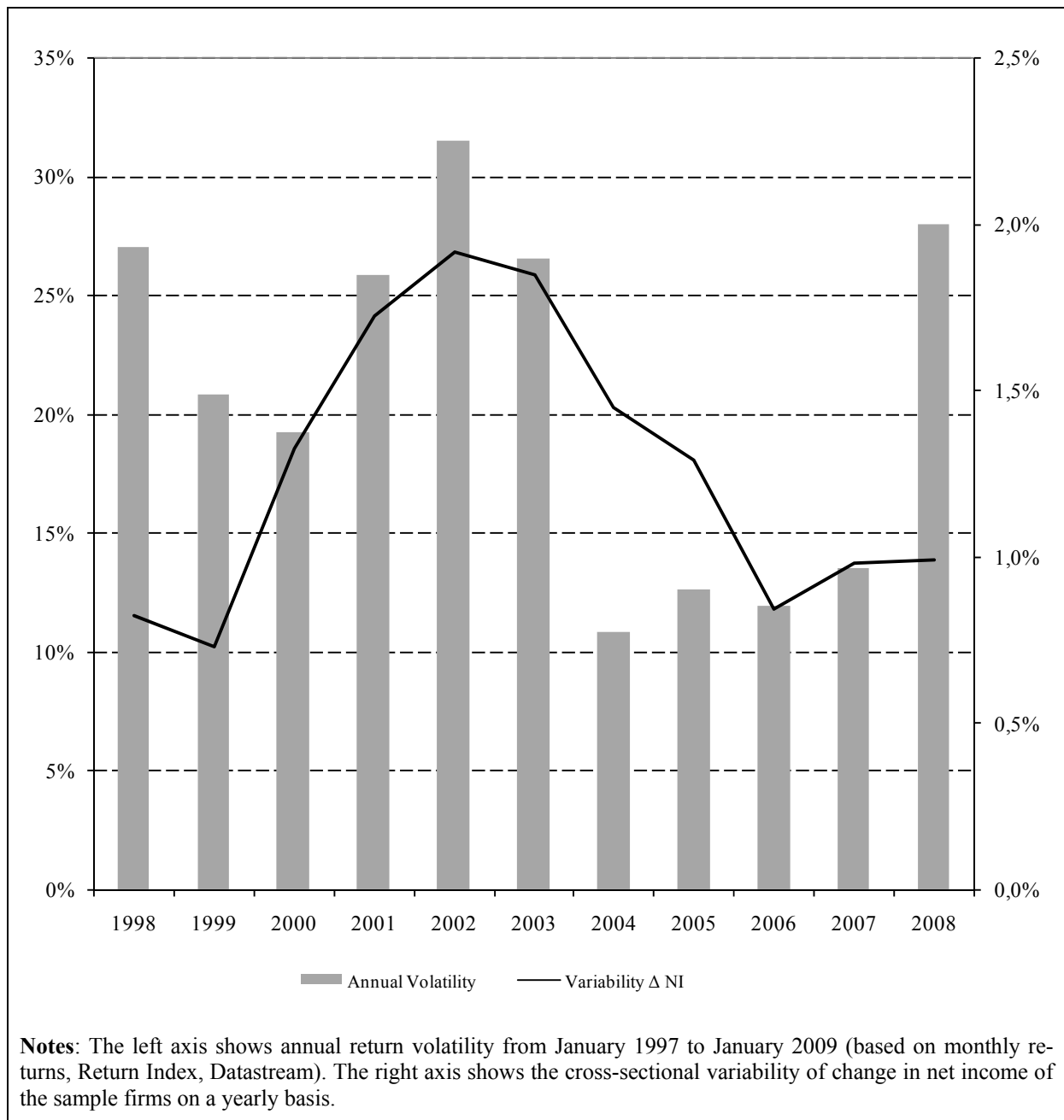


Figure 16: Variability in Change of Net Income and Annual Volatility of the CDAX (1998 – 2008)⁸⁷⁰

⁸⁷⁰ Source: Own Analysis.

To analyze the issues of changes in the stock market environment and firm size heterogeneity in more detail, sensitivity analyses are conducted to assess the robustness of results on voluntary versus mandatory adoption regarding earnings smoothing. The results of these analyses are illustrated in table 25.⁸⁷¹ At first, earnings smoothing is compared among voluntary and mandatory IFRS adopters for the period from 2005 to 2008. Results from the analysis suggest that both groups of adopters do not differ significantly in terms of earnings smoothing according to most measures during this period (table 25, *panel A*). This indicates that voluntary and mandatory adopters do not differ significantly if comparable market phases are considered. In a second robustness analysis voluntary IFRS adopters are presumed not to adopt IFRS prior to 2005 (table 25, *panel B*).⁸⁷² The analysis indicates the same trend on earnings smoothing for both groups of adopters and suggests that there is an increase instead of a decrease in income smoothing after IFRS adoption in 2005.

Finally, analyses are repeated for the variability of change in net income for a balanced panel (table 25, *panel C*). In this analysis, observations are limited to firms for which data is available the year before and after IFRS adoption. This approach focuses directly on the adoption effect, whereby each firm in the pre-adoption period serves as control for the post-adoption period. However, it needs to be mentioned that this procedure reduces the number of observations significantly and that IFRS adoption represents a particular incentive to manage earnings in the first-time adoption year. It appears that earnings smoothing did not change significantly under IFRS for voluntary adopters when balanced panels are considered. Furthermore, untabulated results suggest that differences in the level of earnings smoothing between voluntary and mandatory IFRS adopters are insignificant if the smallest firms are eliminated from the analysis based on the 0.25 percentile.

⁸⁷¹ Analyses are repeated excluding firms that went public during the period of the New Market, i.e. from 1998 to 2002. The results are largely consistent with the results in table 24 and tabulated in table 53 in appendix A, though there is less decrease in earnings smoothing for voluntary adopters.

⁸⁷² Similar results are obtained when the analysis is repeated by modelling the distribution of voluntary IFRS adoption based on observations on mandatory adopters, cf. figure 20 appendix A.

Table 25: Earnings Smoothing by Voluntary and Mandatory Adopters (Robustness)

Sample Period: 2005-2008											
Measure	Prediction	Observations		Measure		Difference		F-Test	Significance	Fisher's z	Simulation
		Vol	Mand	Vol	Mand	Absolute	Relative				
(1) Variability of ANI	Vol > Mand	752	398	0.011	0.009	-0.002	-17%	*	--	--	n.s.
(2) Variability of ΔNI^*	Vol > Mand	451	225	0.004	0.004	0.000	12%	n.s.	--	--	n.s.
(3) Variability of ANI over ACF	Vol > Mand	742	386	1.081	0.752	-0.329	-30%	--	--	--	**
(4) Variability of ANI* over ACF*	Vol > Mand	449	221	1.114	1.170	0.057	5%	--	--	--	n.s.
(5) Correlation between ACC and CF	Vol > Mand	759	414	-0.460	-0.497	-0.037	8%	--	--	--	n.s.
(6) Correlation between ACC* and CF*	Vol > Mand	453	234	-0.534	-0.614	-0.080	15%	--	--	--	n.s.
Sample Period: 1998-2008											
Measure	Prediction	Observations		Measure		Difference		F-Test	Significance	Fisher's z	Simulation
		Pre	Post	Pre	Post	Absolute	Relative				
(1) Variability of ANI	Post > Pre	1,221	752	0.017	0.011	-0.006	-37%	***	--	--	***
(2) Variability of ΔNI^*	Post > Pre	696	451	0.006	0.004	-0.002	-35%	***	--	--	***
(3) Variability of ANI over ACF	Post > Pre	1,138	742	1.009	1.081	0.072	7%	--	--	--	n.s.
(4) Variability of ANI* over ACF*	Post > Pre	675	449	1.055	1.187	0.131	12%	--	--	--	n.s.
(5) Correlation between ACC and CF	Post > Pre	1,247	759	-0.457	-0.498	-0.041	9%	--	--	--	n.s.
(6) Correlation between ACC* and CF*	Post > Pre	710	453	-0.494	-0.430	0.064	-13%	--	--	--	n.s.
Sample Period: 1998-2004											
Measure	Prediction	Observations		Measure		Difference		F-Test	Significance	Fisher's z	Simulation
		Pre	Post	Pre	Post	Absolute	Relative				
(1) Variability of ANI	Post > Pre	82	82	0.004	0.008	0.005	124%	***	--	--	n.s.
(2) Variability of ΔNI^*	Post > Pre	51	51	0.001	0.001	0.000	-3%	n.s.	--	--	n.s.
(3) Variability of ANI over ACF	Post > Pre	76	76	1.006	1.006	0.000	0%	--	--	--	n.s.
(4) Variability of ANI* over ACF*	Post > Pre	51	51	0.431	0.433	0.003	1%	--	--	--	n.s.
(5) Correlation between ACC and CF	Post > Pre	78	78	-0.697	-0.532	0.165	-24%	--	--	--	n.s.
(6) Correlation between ACC* and CF*	Post > Pre	51	51	-0.629	-0.524	0.106	-17%	--	--	--	n.s.

Note: Definition of variables as in table 24. 'Pre' comprises firm-year observations of voluntary adopters before the year 2005. 'Post' comprises firm-year observations of voluntary adopters 2005 onwards. Significance in case of the simulation is tested by t-tests. *** / ** / * indicates a two-tailed level of significance of 99% / 95% / 90%. Source: Own analysis, Panel A and B based on Günther et al. (2009).

6.4.2.2 *Discretionary Accruals*

Discretionary accruals between voluntary and mandatory IFRS adopters are compared in table 26. Consistent with Van Tendeloo/Vanstraelen (2005), results suggest that discretionary accruals did not decrease significantly under voluntary IFRS adoption but rather increased by trend (table 26, *panel A*). However, there is a significant decrease in discretionary accruals under mandatory IFRS adoption (table 26, *panel B*). As indicated in figure 17, discretionary accruals were particularly low in the period from 2005 to 2008, i.e. in the period of mandatory IFRS adoption but particularly high from 2001 to 2003. Therefore, evidence on discretionary accruals could similarly be caused by a time trend rather than voluntary or mandatory IFRS adoption. For this reason, regression analyses are repeated adding interacted variables out of the dummy variables on IFRS and the period from 2005 to 2008 to analyze the incremental impact of IFRS observations that fall into the period from 2005 to 2008 on discretionary accruals. Based on this research design, results suggest that there is a significant decrease in discretionary accruals denoted in the incremental term on IFRS adoption for the mandatory adoption period (table 26, *panel C*). Similarly, there would be a decrease for voluntary IFRS adoption if referred to the mandatory adoption period.⁸⁷³ Besides, differences in the distribution of firm size in both groups of adopters are likely to affect results. When discretionary accruals are compared between large voluntary and large mandatory adopters on the one hand as well as small voluntary and small mandatory adopters on the other hand, differences in the level of discretionary accruals between both groups of adopters become insignificant.⁸⁷⁴

⁸⁷³ Results are consistent with table 26, *panel C* and are thus untabulated.

⁸⁷⁴ Figures 21 and 22 in appendix A illustrate the development of discretionary accruals for small (lower 0.25 percentile of firm size) and large (upper 0.75 percentile of firm size) voluntary and mandatory adopters.

Table 26: Earnings Management by Voluntary and Mandatory Adopters (Discretionary Accruals)

Panel A: Voluntary Adopters			Panel B: Mandatory Adopters		
I	Coef.	Std. Err.	I	Coef.	Std. Err.
IFRS	0.115***	0.004	IFRS	-0.010***	0.003
adj. R ²	0.007		adj. R ²	0.009	
N	1,527		N	936	
II	Coef.	Std. Err.	II	Coef.	Std. Err.
IFRS	0.002	0.004	IFRS	-0.006	0.004
adj. R ²	0.197		adj. R ²	0.090	
N	936		N	581	
III	Coef.	Std. Err.	III	Coef.	Std. Err.
IFRS	-0.010	0.006	IFRS	-0.018**	0.008
adj. R ²	0.156		adj. R ²	0.067	
N	936 (171 firm)		N	581 (127 firms)	

Panel C: Discretionary Accruals and Time Trend		
I	Coef.	Std. Err.
IFRS	0.010***	0.003
Dummy * IFRS	-0.014***	0.003
adj. R ²	0.013	
N	2,463	
II	Coef.	Std. Err.
IFRS	0.001	0.003
Dummy * IFRS	-0.005	0.003
adj. R ²	0.162	
N	1,517	
III	Coef.	Std. Err.
IFRS	-0.009**	0.005
Dummy * IFRS	-0.011**	0.005
adj. R ²	0.123	
N	1,517 (298 firms)	

Models:

I: $ABS_ACC_{it} = \beta_0 + \beta_1 \cdot IFRS_{it} + \varepsilon_{it}$ (OLS)

II: $ABS_ACC_{it} = \beta_0 + \beta_1 \cdot IFRS_{it} + CV + \varepsilon_{it}$ (OLS)

III: $ABS_ACC_{it} = \beta_0 + \beta_1 \cdot IFRS_{it} + CV + \varepsilon_{it}$ (FE)

Notes: The variables are defined as follows: ABS_ACC_{it} are absolute discretionary accruals measured by the approach by Ball and Shivakumar (2005). $IFRS_{it}$ is a dummy variable which equals one if the firm-year observation belongs to the post-adoption period and zero otherwise. CV denotes the control variables included in the model (ownership concentration, size, leverage, growth, foreign sales, turnover, return on assets and industry dummies). Industry dummies are not included as control variables in the fixed effects model (FE). Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicates a two-tailed significance level of 99% / 95% / 90%. Source: Own Analysis.

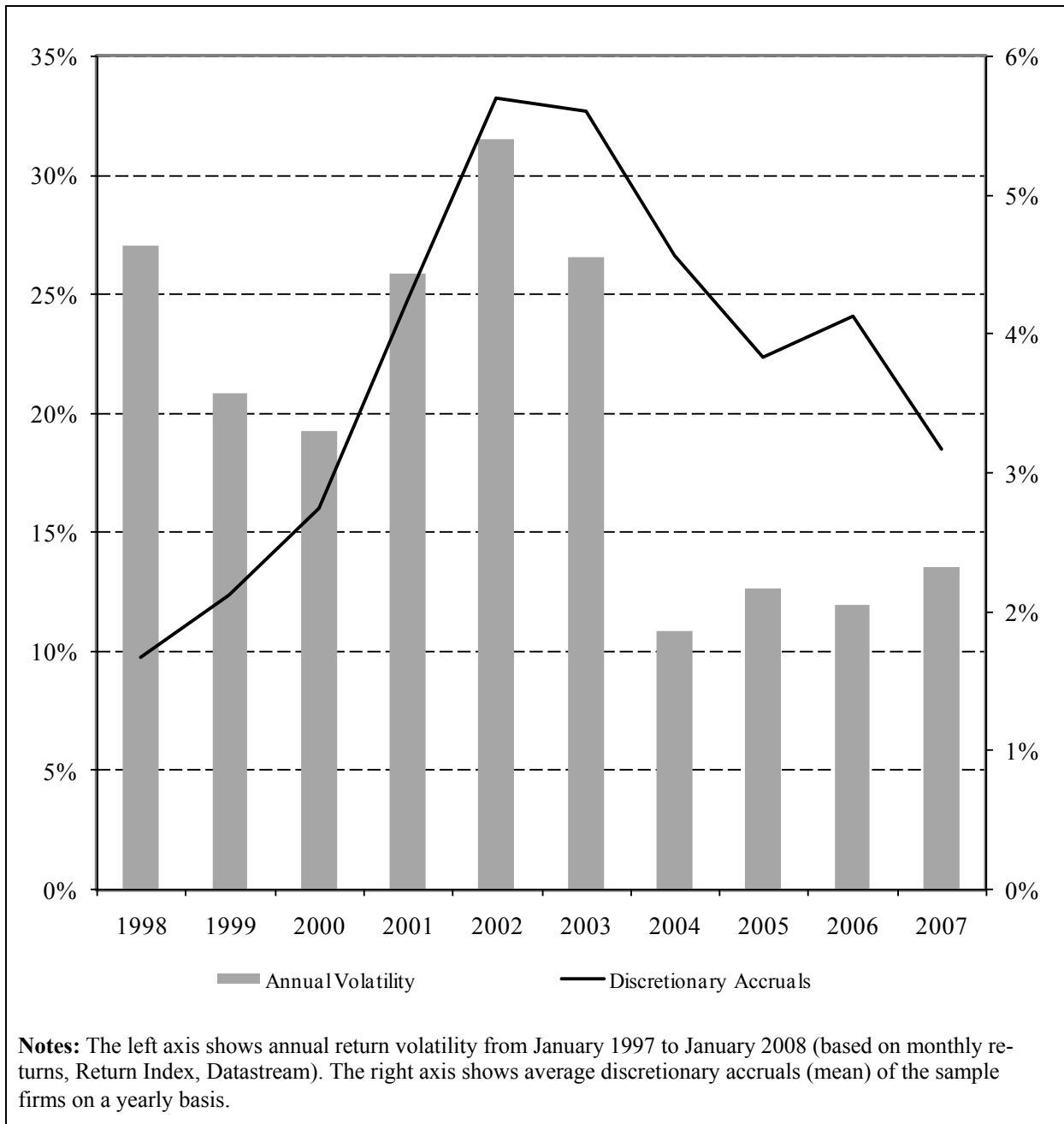


Figure 17: Average Discretionary Accruals and Annual Return Volatility of the CDAX (1998-2008)⁸⁷⁵

⁸⁷⁵ Source: Own Analysis.

Furthermore, it needs to be noted that there seems to be a link between the level of stock market volatility and earnings characteristics such as discretionary accruals and variance of change in net income. It appears that inferences drawn on IFRS adoption and earnings management critically depend on the metric applied in the analysis. Variability in change of net income is larger in periods with volatile stock market performance. This metric is commonly interpreted as an indicator for lower levels earnings management. However, discretionary accruals appear to be particularly high in periods with high variance of change in net income and stock market variability (figure 17) and are commonly interpreted as signal for higher levels of earnings management. This result is not necessarily contradictory when firms use earnings management to smooth earnings in periods with higher volatility but may indicate that discretionary accruals are more appropriate to detect earnings management than the metrics for earnings smoothing.

Results from the analyses on earnings smoothing and discretionary accruals indicate that the null hypothesis that IFRS adoption does not affect the extent of earnings management (H_0 6.5) may not be rejected. Differences in the stock market environment and firm size distribution among voluntary and mandatory IFRS adopters appear to provide a more powerful explanation to the findings than voluntary as compared to mandatory IFRS adoption. Therefore, one could conclude that earnings management by German firms is likely to be associated with differences in governance structures and firm characteristics rather than the decision to voluntarily adopt IFRS.

6.4.2.3 Conditional Conservatism

Table 27 presents the results regarding changes in conditional conservatism for voluntary adopters while results for mandatory IFRS adopters are presented in table 28.

For model one, which is based on the Basu (1997) model, the regression coefficient β_6 shows no significant increase regarding the recognition of ‘bad news’ in the post-adoption period for voluntary and mandatory adopters. However, it needs to be noted that the sum out of β_5 and β_6 is significantly different from zero in the pooled OLS-regressions including control variables and the fixed effects regression model for voluntary adopters.⁸⁷⁶ Consistent with the Basu (1997) model the Khan/Watts (2009) model does not suggest that IFRS adoption significantly affects the level of conditional conservatism when control variables are included in the regression models. However, based on the Ball/Shivakumar (2005) one could argue that conditional conservatism increases for voluntary but not for mandatory IFRS adopters consistent with the results in Christensen et al. (2008).⁸⁷⁷

Similar to the analyses on earnings management, there are two main factors that could play a role in this context: differences in firm characteristics and market timing. Based on the Ball/Shivakumar (2005) model that documents differences in the level of conservatism from the pre- to the post-adoption period, analyses are repeated whereby the smallest firms are eliminated based on the lower 0.25 percentile. The results are displayed in table 29. While results remain unchanged for mandatory adopters, it appears the level of significance strongly decreases in the group of voluntary adopters. Evidence from the analysis suggests that there is even a decrease rather than an increase in

⁸⁷⁶ It appears that the control variables size (*SIZE*), leverage (*LEV*) and market to book ratio (*MTB*) contribute significantly to the explanatory power of the Basu (1997) and the Ball/Shivakumar (2005) model. The level of conditional conservatism in both models is found to be particularly affected by firm size. This notion is even stronger for voluntary than for mandatory adopters. Similar to the analyses on earnings smoothing and discretionary accruals, the heterogeneity in firm size distribution among voluntary adopters is likely to affect results on IFRS adoption and conservatism and needs to be investigated in more detail.

⁸⁷⁷ Christensen et al. (2008) apply a different research design. Their findings are solely based on the Basu (1997) model. Regressions are run separately in the pre- and post-adoption period for the group of voluntary and mandatory adopters respectively. Time-series and cross-sectional variation are not considered in the analysis. Not correcting for time-series and cross-sectional variation via clustered standard errors is likely to produce biased results and may lead to higher levels of significance in conservatism as illustrated in Gow et al. (2010).

conditional conservatism under IFRS adoption if control variables are taken into account.

Market timing may also play a role in the context of the analysis given that timely loss recognition is generally found to decrease with performance. Losses occurred more frequently in the period of voluntary as compared to the period of mandatory IFRS adoption.⁸⁷⁸ Therefore, the sample period is divided into the period of voluntary adoption (1998 – 2004) and mandatory adoption (2005 – 2008) and only considers the larger firms based on the upper 0.75 percentile. Instead of IFRS, I add a dummy variable to the model that denotes the effect of voluntary adoption on conditional conservatism. For the voluntary adoption period, the coefficient on timely loss recognition β_3 is significantly different from zero at the 1%-level,⁸⁷⁹ whereas β_3 is not significantly different from zero in the period of mandatory IFRS adoption⁸⁸⁰. The incremental value of voluntary IFRS adoption on the level of conditional conservatism is insignificant regardless of whether the period of voluntary adoption (1998 – 2004) or mandatory IFRS adoption (2005 – 2008) is analyzed. Based on these results, one could conclude that the hypothesis H_0 6.6 that conditional conservatism is not affected by IFRS adoption may not be rejected. Similar to the findings on earnings management, results suggest that the level of conditional conservatism among German firms is more likely to be influenced by differences in governance structures, firm characteristics and the capital market environment rather than voluntary or mandatory IFRS adoption.

⁸⁷⁸ Cf. table 54, appendix A.

⁸⁷⁹ The coefficient is 4.173 with a clustered standard error of 1.552.

⁸⁸⁰ The coefficient is 2.161 with a clustered standard error of 2.340.

Table 27: Conditional Conservatism by Voluntary Adopters

Model 1 (Basu, 1997)									
		OLS (No CV)		OLS (CV)		OLS-NW (CV)		FE (CV)	
	Pred.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
β_2	?	0.022	0.018	-0.030	0.064	-0.030	0.064	-0.032	0.049
β_3	+	0.144***	0.053	0.883***	0.173	0.883***	0.163	0.770***	0.144
β_7	+	0.126***	0.059	0.076	0.063	0.076	0.061	0.052	0.050
$\beta_3+\beta_7$	+	0.270	0.026	0.959***	0.166	0.959***	0.160	0.821***	0.140
adj. R ²		0.157		0.314		0.314			
Overall R ²								0.270	
N		1,879		1,641		1,641		1,641 (265 firms)	
Model 2 (Ball/Shivakumar, 2005)									
		OLS (No CV)		OLS (CV)		OLS-NW (CV)		FE (CV)	
	Pred.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
β_2	-	-0.613***	0.078	-0.718**	0.306	-0.718**	0.293	-0.130	0.375
β_3	+	0.252	0.238	2.536***	0.844	2.536***	0.819	1.712*	0.974
β_7	+	0.146	0.235	0.532***	0.174	0.532***	0.179	0.415**	0.199
$\beta_3+\beta_7$	+	0.398***	0.110	3.068***	0.813	3.068***	0.792	2.127**	0.922
adj. R ²		0.156		0.374		0.374			
Overall R ²								0.281	
N		2,006		1,744		1,744		1,744 (269 firms)	
Model 3 (Khan/Watts, 2009)									
		OLS		FE		OLS (CV)		FE (CV)	
	Pred.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
β_1	?	0.041***	0.013	-0.045***	0.014	0.024*	0.012	0.005	0.017
adj. R ²		0.003				0.550			
Overall R ²				0.003				0.470	
N		1,604		1,604 (265 firms)		1,570		1579 (259 firms)	

Notes: OLS denotes that ordinary least squares regressions are run that may either include control variables (CV) or only focus on the effect of IFRS adoption. OLS-NW refers to OLS regressions where standard errors are calculated based on the procedure in Newey/West (1987). For all the other models, standard errors are clustered on a year and firm level following Petersen (2009). FE indicates the use of firm fixed effects regression models. Control variables (CV) are as described in the model specification. *** / ** / * indicates a two-tailed significance level of 99% / 95% / 90%. Source: Own Analysis.

Table 28: Conditional Conservatism by Mandatory Adopters

Model 1 (Basu, 1997)									
		OLS (No CV)		OLS (CV)		OLS-NW (CV)		FE (CV)	
	Pred.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
β_2	?	-0.001	0.011	0.001	0.078	0.001	0.081	-0.021	0.065
β_3	+	0.200***	0.028	0.619**	0.248	0.619**	0.250	0.4889**	0.243
β_7	+	-0.069	0.066	0.010	0.067	0.010	0.066	-0.015	0.048
$\beta_3+\beta_7$	+	0.1305**	0.058	0.627	0.264	0.627	0.268	0.474**	0.239
adj. R ²		0.126		0.226		0.226			
Overall R ²								0.194	
N		1,428		1,238		1,238		1,238 (232 firms)	
Model 2 (Ball/Shivakumar, 2005)									
		OLS (No CV)		OLS (CV)		OLS-NW (CV)		FE (CV)	
	Pred.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
β_2	-	-0.596***	0.085	-0.413	0.462	-0.413	0.441	0.432	0.551
β_3	+	0.380	0.230	0.187	0.999	0.187	0.942	-1.603	1.159
β_7	+	0.075**	0.020	0.412*	0.232	0.412*	0.252	0.130	0.237
$\beta_3+\beta_7$	+	0.455***	0.165	0.600	0.953	0.600	0.914	-1.473	1.145
adj. R ²		0.195		0.333		0.333			
Overall R ²								0.438	
N		1,321		1,177		1,177		1,177 (225 firms)	
		0.195							
Model 3 (Khan/Watts, 2009)									
		OLS		FE		OLS (CV)		FE (CV)	
	Pred.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
β_1	?	-0.070***	0.019	-0.085***	0.019	-0.097	0.088	-0.051	0.086
adj. R ²		0.015				0.559			
Overall R ²				0.021				0.557	
N		1,217		1217 (232 firms)		1,160		1160 (227 firms)	

Notes: OLS denotes that ordinary least squares regressions are run that may either include control variables (CV) or only focus on the effect of IFRS adoption. OLS-NW refers to OLS regressions where standard errors are calculated based on the procedure in Newey/West (1987). For all the other models, standard errors are clustered on a year and firm level following Petersen (2009). FE indicates the use of firm fixed effects regression models. Control variables (CV) are as described in the model specification. *** / ** / * indicates a two-tailed significance level of 99% / 95% / 90%. Source: Own Analysis.

Table 29: Conditional Conservatism for Large Voluntary and Mandatory Adopters⁸⁸¹**Panel A: Conditional Conservatism by Voluntary Adopters**

Model 2 (Ball/Shivakumar, 2005)					
	OLS (No CV)			OLS (CV)	
	Pred.	Coef.	Std. Err.	Coef.	Std. Err.
β_3	-	-0.685***	0.082	-0.861*	0.455
β_5	+	0.146	0.341	6.698***	1.928
β_6	+	0.013	0.403	-0.414*	0.236
$\beta_5+\beta_6$	+	0.159	0.233	6.284***	1.839
adj. R ²		0.2770		0.4591	
N		1,415		1,314	

Panel B: Conditional Conservatism by Mandatory Adopters

Model 2 (Ball/Shivakumar, 2005)					
	OLS (No CV)			OLS (CV)	
	Pred.	Coef.	Std. Err.	Coef.	Std. Err.
β_3	-	-0.579***	0.080	-0.068	0.630
β_5	+	0.063	0.226	-1.671	1.422
β_6	+	0.017	0.405	0.213	0.334
$\beta_5+\beta_6$	+	0.080	0.366	-1.458	1.569
adj. R ²		0.290		0.409	
N		1,081		985	

Notes: Ordinary least squares regressions (OLS) are run without (No CV) and including control variables (CV). Large firms are selected based on the upper 0.75 percentile of total assets on a yearly basis. Standard errors are clustered White (1980) heteroskedasticity-robust standard errors, clustered on a year and firm level following Petersen (2009). FE indicates the use of firm fixed effects regression models. Control variables (CV) are as described in the model specification. *** / ** / * indicates a two-tailed significance level of 99% / 95% / 90%. Source: Own Analysis.

6.5 Summary of Results

IFRS have become the most widely accepted set of accounting standards in the world. Germany provides an interesting institutional framework to observe if IFRS adoption, a set of accounting standards derived from common law accounting traditions, affects earnings characteristics in a code law country because the German accounting system is frequently referred to as counterexample to the Anglo-Saxon accounting philosophy.⁸⁸² A large number of German firms adopted IFRS voluntarily before IFRS became mandatory due to EC regulation for consolidated financial statements from 2005. This research setting not only allows the observation of effects of IFRS adoption on

⁸⁸¹ Source: Author's illustration and analysis.

⁸⁸² Cf. Joos/Lang (1994), p. 142.

earnings characteristics among German firms over a relatively long period of time but also provides the opportunity to analyze if the decision to voluntarily adopt IFRS is an important driver of earnings quality in Non-Anglo-Saxon environments.

Consistent with previous studies, results in this study suggest that size, leverage and age are important firm characteristics that influenced the decision to voluntarily adopt IFRS among German firms. Ownership concentration and bank ownership negatively influenced the probability of voluntary IFRS adoption in Germany. Foreign ownership has been a factor that delayed IFRS adoption, particularly among early adopters. These investors hold rather large stakes in German firms and may therefore have access to private information channels and have become familiar with German GAAP. Insider ownership is not systematically associated with voluntary IFRS adoption. This result may be due to the fact that the demand for IFRS adoption in firms with insider ownership is ambiguous. Insiders have privileged access to private information which lowers the demand for public accounting information. However, outside shareholders have increased demand for public accounting information because they face high information asymmetries opposite to inside shareholders. Information asymmetries may be priced by outside shareholders. As a result, inside shareholders may commit to lower information asymmetries by voluntarily adopting IFRS.

Evidence on effects of IFRS adoption on earnings characteristics from previous studies is mixed.⁸⁸³ Most studies on voluntary IFRS adoption find that IFRS decreases earnings smoothing, increases timely loss recognition but does not affect the level of discretionary accruals. In contrast, studies on mandatory IFRS adoption generally suggest that IFRS adoption decreases the level of discretionary accruals but does not affect the level of earnings smoothing and timely loss recognition. A decrease in earnings smoothing and discretionary accruals is commonly interpreted as a signal for less earnings management and hence higher earnings quality. Accordingly, timely loss recognition is considered to lower information asymmetries between managers and shareholders which in turn can be interpreted as a signal for higher earnings quality.

Results on effects of IFRS adoption on earnings management and conservatism in this study allow replicating evidence from prior studies. The main contribution is that the

⁸⁸³ Cf. chapter 4, table 6.

analysis provides additional insights how market timing and firm size heterogeneity may have affected the results found in previous studies. Voluntary IFRS adoption falls into a capital market environment that is characterized by high return volatility. In addition, the group of voluntary adopters is characterized by firm size heterogeneity. While some large global players changed standards from German GAAP to IFRS, a significant proportion of smaller firms that went public during the period of IFRS adoption entered the sample directly with IFRS. Mandatory IFRS adoption falls into a rather stable capital market environment and the group of mandatory IFRS adopters is largely characterized by medium sized firms in the pre- and the post-adoption period.

Metrics for earnings smoothing such as the variability of change in net income, discretionary accruals and conditional conservatism are sensitive to changes in the stock market environment and firm size which is likely to affect the results found in previous studies. When differences in market timing and firm size heterogeneity are considered in the analysis, results suggest that IFRS adoption did not affect the level of earnings management and conditional conservatism among German firms regardless of voluntary or mandatory IFRS adoption. Therefore, one could argue that the common paradigm that incentives to adopt IFRS are a fundamental driver of earnings characteristics needs to be regarded as a 'myth' in case of German firms. IFRS adoption may have changed the set of instruments whereas incentives structures to alter reported earnings may have been unaffected. Thereby, evidence is in line with other previous evidence that incentives may be an even more important driver of earnings characteristics than accounting standards.⁸⁸⁴ The following chapters analyze differences in governance structures and firm characteristics as drivers of earnings characteristics among German firms in more detail.

⁸⁸⁴ Cf. in particular Ball et al. (2000); Ball et al. (2003).

7 Effects of Family Governance on Accounting and Real Earnings Management⁸⁸⁵

7.1 Conceptual Background and Hypotheses

Family firms could have lower incentives to engage in earnings management because they face less capital market pressure to meet short-term earnings targets given that family members provide patient capital to the firm. Earnings management could be lower in family firms because family shareholders have strong incentives to monitor managers or because interests between the management and shareholders are aligned as family members are involved in the board. However, family shareholders are presumed to have incentives to protect financial and non-financial private benefits of control which in turn may disadvantage minority shareholders. Family shareholders are characterized by a long-term investment horizon, risk aversion and the wish to maintain a controlling position in the firm. In this context, differences in the incentive structures between family and minority shareholders could also lead to higher levels of earnings management in family as compared to non-family firms.⁸⁸⁶

Effects of long-term orientation in family firms on earnings management are two-fold. Long-term orientation in family firms may mitigate incentives to meet short-term earnings targets and lower capital market pressure but may equally provide incentives for family shareholders to manage earnings to retain control over the firm. The specific characteristics of family firms such as long-term orientation indicate that earnings management may take on a different meaning in family firms than in non-family firms. The wish to retain control and independence may create incentives to keep internal funds in the firm to avoid the need of raising additional debt or a seasoned equity offering.⁸⁸⁷ Risk aversion could also provide an incentive to keep internal funds in the firm in order to 'save' earnings for periods with lower performance. When family shareholders do not sell their stake in the firm but provide patient capital income is

⁸⁸⁵ This chapter is a strongly revised version of the paper Günther et al. (2010). The paper was presented as full paper at the 2010 annual International Family Enterprise Research Academy (IFERA) conference at Lancaster University, UK.

⁸⁸⁶ Cf. e.g. Wang (2006); Haw et al. (2009); Jara-Bertin/Lopez Iturriaga (2008). Cf. for a more detailed argumentation on incentives of family firms to alter reported earnings and a literature review on previous studies on earnings management in family firms cf. chapters 2.3 and 4.4.2.

⁸⁸⁷ Cf. Miller/Le Breton-Miller (2006), p. 81.

generated via dividends. Family shareholders may have demand for a smooth income stream that assures to preserve family control and enduring income to the family.⁸⁸⁸

In contrast, minority shareholders are considered to be served best by earnings numbers that assist them in making investment decisions and lower information asymmetries between themselves and the family shareholders. Entrenchment of minority shareholders through ‘masked’ performance may arise for two reasons. At first, earnings reported by family firms affect the investment decision by minority shareholders and should therefore provide a faithful representation of the firm’s position. If earnings are for example systematically understated and earnings are strongly associated with stock prices minority shareholders could be expropriated because their shares are undervalued. When earnings are retained, the family imposes investment decisions to shareholders. Besides, shareholders are less likely to exert pressure for higher dividends at the shareholder’s meeting when lower earnings numbers are reported. Given the competing theories how family governance may affect earnings management the analysis builds on the H_0 -hypothesis.

H₀– 7.1: Earnings management is not affected by family governance.

Earnings characteristics in family firms need to balance the interests of the family and minority shareholders. While family shareholders may have their own incentives to engage in earnings management, they also need to meet the demand of minority shareholders because earnings quality affects the cost of capital.⁸⁸⁹ This implies that earnings characteristics are likely to change with the level of family ownership. Monitoring by family shareholders with low percentages of ownership in widely-held firms still puts the primary role of earnings to the valuation role but may mitigate earnings management due to managerial opportunism consistent with the results on family ownership and earnings management found for US firms.⁸⁹⁰ Incentives to mask performance with the purpose of defending private benefits of control are likely to increase with the

⁸⁸⁸ Dividends tend to be more important in ‘true’ family firms, i.e. firms in which multiple family members are major owners than in lone founder firms because dividends are a more important source of income as compared to when the founder is also active in the management board, cf. Schmid et al. (2010), p. 7.

⁸⁸⁹ Cf. Francis et al. (2004).

⁸⁹⁰ Cf. Wang (2006); Ali et al. (2007); Tong (2007). For a full overview on results from previous studies cf. chapter 4.4.2.

level of family ownership. However, at very high levels of family ownership, the interests of family shareholders are less affected by interests of minority shareholders. As a consequence, family firms have lower incentives to mask earnings in order to defend private benefits of control. This could imply that the relationship between family ownership and earnings management corresponds to an inverted u-shape.

H₀– 7.2: The relationship between family ownership and earnings management is linear.

Earnings management is likely to take on a different meaning in family as compared to non-family firms. There are two kinds of earnings management, accounting and real earnings management.⁸⁹¹ While accounting earnings management in family firms is addressed by several studies,⁸⁹² no evidence has been presented how family governance affects real earnings management up to date.⁸⁹³

Family firms as long-term investors could have lower incentives to sacrifice firm value to meet short-term earnings targets.⁸⁹⁴ This particularly holds when the family is highly invested in the firm and subject to less pressure from the stock market. Real earnings management is commonly presumed to have adverse effects on firm value because by definition the manager deviates from an optimal plan of actions.⁸⁹⁵ The problem is that consequences of not engaging in real earnings management are commonly not considered.⁸⁹⁶ Although family firms may face lower capital market pressure to meet short-term earnings targets, situations that require real earnings management in family firms could equally occur. Gomez-Mejia et al. (2007) suggest that family firms are even willing to sacrifice performance to retain control. Family firms commonly hold long-term relationships with banks and other lenders. Prencipe et al. (2008) argue that the family's reputation with these stakeholders may be regarded as an asset that needs to be defended because it may also reduce the cost of debt.⁸⁹⁷ Bank financing al-

⁸⁹¹ Cf. for a definition chapter 3.2.1.

⁸⁹² Cf. for an overview chapter 4.4.2, tables 9-11.

⁸⁹³ Cf. Hutton (2007), p. 289; Salvato/Moores (2010), p. 201.

⁸⁹⁴ Cf. Hutton (2007), p. 289.

⁸⁹⁵ Cf. Schipper (1989), p. 92; Ewert/Wagenhofer (2005), p. 1102; Roychowdhury (2006), p. 367.

⁸⁹⁶ Cf. Bowen et al. (2008).

⁸⁹⁷ Cf. Anderson et al. (2003).

so provides a source of capital that is not associated with giving up further control rights to other shareholders. As a consequence, debt-related earnings targets such as covenants could play an important role in family firms to avoid the loss of the family's reputation and creditworthiness as well as the renegotiation or even recall of the loan.⁸⁹⁸ If accounting earnings management is not efficient enough to meet debt-related earnings targets family firms could equally engage in real earnings management as non-family firms. The following hypothesis on real earnings management in family firms is tested in the analysis.

$H_0 - 7.3$ *Real earnings management is not associated with family governance.*

7.2 Model Specification

7.2.1 Accounting Earnings Management

Accounting earnings management⁸⁹⁹ is estimated using the non-linear discretionary accruals model by Ball and Shivakumar (2006).⁹⁰⁰ The absolute value of discretionary accruals estimated from this model serves as dependent variable in the following regression equation:

$$\begin{aligned} ABS_ACC_{it} = & \alpha_0 + \alpha_1 FAM_PROXY_{it} + \alpha_2 NF_INSIDER_{it} + \alpha_3 HERF_{it} + \\ & \alpha_4 SIZE_{it} + \alpha_5 PERF_{it} + \alpha_6 LEV_{it} + \alpha_7 GROWTH_{it} + \alpha_8 AGE_{it} + \\ & \alpha_9 LOSS_{it} + \alpha_{10} INT_ACC_{it} + \varepsilon_{it} \end{aligned} \quad (7.1)$$

Several proxies are used to analyze effects of family governance on accounting and real earnings management (*FAM_PROXY*) in the analysis.⁹⁰¹ The analysis comprises six regressions based on pooled OLS and between effects models. In the first regression model, the binary variable (*Dummy_FF*) is used. This variable groups firms into family and non-family firms and equals one if family members either hold positions in the management and/or the supervisory board or hold at least 25% of voting rights,

⁸⁹⁸ This is consistent with evidence in Prencipe et al. (2008) who find that family firms make use of R&D cost capitalization to manage earnings for debt-related reasons. R&D capitalization is one of the instruments to engage in real earnings management. Cf. chapter 3.2.4.1.

⁸⁹⁹ In the following, earnings management denotes accounting earnings management and is distinguished from real earnings management.

⁹⁰⁰ Cf. section 3.2.3.2 for a detailed description of this model.

⁹⁰¹ Cf. chapters 2.3.2 and 0.

and zero otherwise. To assess the level of earnings management for different types of family firms, they are divided into five subgroups in the second model. While firms mostly qualify as family firms through family ownership and positions held by family members in the management (type 1) or the supervisory board (type 2), some are only classified as family firms because the percentage of ownership held by the family exceeds 25% (type 3) or because family members hold positions in the management (type 4) or the supervisory board (type 5). The influence of family ownership on earnings management is tested in a third model based on the cumulative percentage of common stock owned by family members (*FF_OWN*).

To examine whether earnings management is rather driven by family ownership or board membership, i.e. positions held by family members in the management or supervisory board, the three components of the substantial family influence (*SFI*) are used as explanatory variables in the fourth regression model. It includes the percentage of family ownership (*FF_OWN*), the percentage of family members in the management board (*FF_MB*) and the percentage of family members in the supervisory board (*FF_SB*). In the fifth model, I include the interacted term out of a dummy variable on family management and family ownership (*FF_OWN * FMB*) to assess if the combination of family management and ownership particularly influences earnings management in family firms.

Finally, the sixth model analyzes effects of CEO and chairman attributes on earnings management and includes the following indicator variables: the presence of the founder CEO (*F_CEO*), which equals one if the founder serves as CEO and zero otherwise, descendant CEO (*D_CEO*), which is one if family members other than the founder serve as CEO and zero otherwise and hired CEO (*H_CEO*), which equals one if there is a nonfamily, i.e. a hired CEO and zero otherwise. The presence of a family chairman is indicated by the dummy variable *FF_Chair*.

Several analyses are run to identify how different levels of family ownership affect earnings management. The existence of a nonlinear relationship between family ownership and earnings management is tested based on Wald and Ramsey Reset tests and examined in three ways. At first, I create three indicator variables, one for family firms without family ownership (*No_FAM*), one for weak (*W_FAM*) and one for strong family ownership (*S_FAM*). *S_FAM* equals one if the percentage of common stock owned by family members is greater than or equal to the median of family ownership in the

respective year (about 30%), and zero otherwise. Accordingly, W_FAM equals one if the percentage of common stock owned by the family is lower than the median value of family ownership in the respective year, and zero otherwise. The default comparison group is nonfamily firms. In a second model, I add the square of family ownership to the models for accounting earnings management (FF_OWN and FF_OWN^2). In a third model, I include dummy variables for family ownership according to the different control thresholds in German listed firms (FF_1 to FF_4)⁹⁰²: an ownership level between zero and 25% (blocking minority), between 25% and 50% (simple majority), between 50% and 75% (qualified majority) and above the qualified majority of 75%.

Following Wang (2006) and other prior literature, the following control variables are included in the model: firm size ($SIZE$) measured as natural logarithm of total assets, profitability ($PERF$) measured as net income scaled by average total assets, leverage (LEV) defined as debt to total assets, a dummy variable that indicates if the firm exhibits a loss in the observation period ($LOSS$), growth ($GROWTH$) measured as sales growth and age (AGE) measured as observation year less founding year. INT_ACC is a dummy variable and denotes if IFRS or US GAAP were applied in the respective observation period and takes a value of zero if financial statements are prepared according to German GAAP.

Monitoring effects and incentives to manage earnings can be presumed to depend on the level of ownership concentration. For this reason, a Herfindahl index ($HERF$) is included to control for ownership concentration in the regression models. Furthermore, non-family insider ownership ($NF_INSIDER$) is added as control variable because non-family insider ownership may partly be associated with similar incentives to manage earnings as family (insider) ownership.

7.2.2 Real Earnings Management

Following Roychowdhury (2006), real earnings management is measured as the management of operational activities using the proxy for discretionary cash flows.⁹⁰³ Higher levels of discretionary cash flows are interpreted as lower levels of real earnings

⁹⁰² Cf. table 1, p. 63 for control thresholds in German corporations.

⁹⁰³ The estimation of discretionary cash flows is described in chapters 3.2.4.2 and 5.4.1. Alternative measures for real earnings management are analyzed in the robustness analysis.

management. All explanatory and control variables in regression (7.2) are defined in the same way as in the regression on abnormal accruals (7.1).

$$\begin{aligned}
 DISCR_CF_{it} = & \alpha_0 + \alpha_1 FAM_PROXY_{it} + \alpha_2 NF_INSIDER_{it} + \alpha_3 HERF_{it} + \\
 & \alpha_4 SIZE_{it} + \alpha_5 PERF_{it} + \alpha_6 LEV_{it} + \alpha_7 GROWTH_{it} + \alpha_8 AGE_{it} + \\
 & \alpha_9 LOSS_{it} + \alpha_{10} INT_ACC_{it} + \varepsilon_{it}
 \end{aligned}
 \tag{7.2}$$

7.3 Univariate Analysis

Table 30 shows the distribution of family to non-family firms in the sample. Family firms constitute almost half of the firms in the sample (47.3%). The average percentage of common stock held by families in the sample is nearly 36%. Substantial family influence in family firms, i.e. the sum out of the percentage of family ownership, percentage of positions held by family members in the management and the supervisory board takes an average of around 0.8.

Table 31 shows the distribution of family firms according to different types of family firms that meet the founding family definition (*Dummy_FF*). 60.3% of firms are qualified as family firms through the combination of ownership and management (type 1, 1,409 observations). Among this type of family firm, the average stock held by families is 42.2% (median 44.1%). Another 18.1% qualify as family firms through the combination of ownership and positions of family members in the supervisory board (type 2, 422 observations). The average percentage of family ownership in type 2 family firms is 40.7% (median 41.1%). Taken together, more than 80% of family firms in the sample are classified as family firm by the combination of ownership and board membership. In 5.9% of the family firms the family holds an ownership stake exceeding 25% without holding positions in the management or the supervisory board (type 3, 138 observations).⁹⁰⁴ The average percentage of ownership held by the family in type 3 family firms is 50.5% (median 49.7%). Family firms in which the founding family holds positions in the management (type 4) or supervisory board (type 5) only constitute about 16% of family firms in the sample.

⁹⁰⁴ In some cases, the family could also have representatives in the supervisory board or even the management board that could not be identified in the analysis despite thorough research (e.g. because the name is deviating from the founder's name).

Table 30: Distribution of Family relative to Non-Family Firms and Family Influence

Year	No. of Firms	No. of Family Firms	Percentage of Family Firms	Family Ownership	Family Influence
1998	305	99	32.46%	45.33%	0.870
1999	418	175	41.87%	43.01%	0.874
2000	557	291	52.24%	38.59%	0.824
2001	542	291	53.69%	37.31%	0.797
2002	499	248	49.70%	37.48%	0.795
2003	469	232	49.47%	37.81%	0.828
2004	442	214	48.42%	34.57%	0.809
2005	436	205	47.02%	30.83%	0.777
2006	434	206	47.47%	29.58%	0.755
2007	436	198	45.41%	30.33%	0.742
2008	399	176	44.11%	31.83%	0.719
<i>Total</i>	<i>4,937</i>	<i>2,335</i>	<i>47.30%</i>	<i>35.80%</i>	<i>0.797</i>

Note: Family Ownership refers to the mean of common stock held by families in the sample; Family Influence corresponds to substantial family influence (*SFI*) and is defined as the sum out of family ownership (*FF_OWN*), the percentage of family members in the management board (*FF_MB*) and the percentage of family members in the supervisory board (*FF_SB*). Source: Own Analysis.

Table 31: Distribution of Family Firm Types

Family Firm Type		Family Own.		Family in MB		Family in SB		Frequency	
No.	Description	Mean	Median	Mean	Median	Mean	Median	N	%
<i>I</i>	<i>Ownership & MB</i>	0.422	0.441	0.474	0.500	0.065	0.000	1,409	60.34%
<i>II</i>	<i>Ownership & SB</i>	0.407	0.411	0.000	0.000	0.227	0.167	422	18.07%
<i>III</i>	<i>Ownership</i>	0.504	0.497	0.000	0.000	0.000	0.000	138	5.91%
<i>IV</i>	<i>MB</i>	0.000	0.000	0.465	0.333	0.056	0.000	246	10.54%
<i>V</i>	<i>SB</i>	0.000	0.000	0.000	0.000	0.237	0.182	120	5.14%
<i>Total</i>		0.358	0.376	0.335	0.333	0.098	0.000	2,335	100.00%

Source: Own Analysis.

The summary statistics for the variables used in the analyses are reported in table 32. Average absolute discretionary accruals (*ABS_ACC*) are 0.076 for family firms (median 0.053) and 0.053 (median 0.035) for non-family firms. Average discretionary cash flows (*DISCR_CF*) are 0.005 for family firms (median 0.000) and -0.003 for non-family firms (median 0.007). Family firms tend to be significantly smaller in terms of total assets (*SIZE*), on average exhibit lower values for return on assets (*PERF*), leverage (*LEV*) and higher growth rates measured as sales growth (*GROWTH*) as compared to non-family firms. Consistent with lower ownership concentration in family firms than in non-family firms, block holdings (exceeding 25% of common shares) of

non-family insiders, financial investors or other shareholder groups can be found more frequently in non-family than in family firms.⁹⁰⁵

Descriptive statistics on the industry distribution in table 33 show that family firms are represented in all industries in the CDAX but are particularly concentrated in the Health Care, the Consumer Services, the Telecommunication and the Technology Industry (ICB-Codes 4-6 and 9).

Table 32: Summary Statistics for Family and Non-Family Firms

Variable	Mean		Median		Std. Deviation		Observations		Sign. of Diff.	
	FF	NF	FF	NF	FF	NF	FF	NF	Mean	Median
Ownership Characteristics										
<i>FF_OWN</i>	0.358	0.006	0.376	0.000	0.250	0.028	2,335	2,602	***	***
<i>NF_INSIDER</i>	0.070	0.141	0.000	0.000	0.139	0.243	2,335	2,602	***	***
<i>HERF</i>	0.217	0.345	0.171	0.257	0.181	0.310	2,335	2,602	***	***
Firm Characteristics										
<i>ABS_ACC</i>	0.076	0.053	0.053	0.035	0.070	0.057	1,670	1,765	***	***
<i>DISCR_CF</i>	0.005	-0.003	0.000	0.007	0.118	0.864	2,066	2,436	*	n.s.
<i>SIZE</i>	4.982	5.487	4.862	5.358	0.684	0.874	2,268	2,514	***	***
<i>PERF</i>	-0.039	0.004	0.020	0.026	0.178	0.120	2,186	2,512	***	***
<i>LEV</i>	0.200	0.219	0.154	0.194	0.184	0.172	2,012	2,329	***	***
<i>GROWTH</i>	0.210	0.095	0.089	0.040	0.515	0.367	2,217	2,508	***	***
<i>AGE</i>	30.15	67.82	16.00	60.00	38.55	54.54	2,335	2,602	***	***
<i>LOSS</i>	0.393	0.281	0.000	0.000	0.488	0.450	2,235	2,559	*** ¹	-
<i>INT_ACC</i>	0.794	0.601	1.000	1.000	0.405	0.490	2,335	2,602	*** ¹	-

Notes: 'FF' denotes family firm, whereas 'NF' refers to non-family firms. *FF_OWN* is family ownership, *NF_INSIDER* is non-family insider ownership, *HERF* is a Herfindahl index on ownership concentration at a firm and year level, *ABS_ACC* is absolute abnormal accruals, *DISCR_CF* is discretionary cash flows, *SIZE* is natural logarithm of total assets, *PERF* is net income scaled by average total assets, *LEV* is debt to assets, *GROWTH* is sales growth, *AGE* is age since founding, *LOSS* is one if net income is negative and zero otherwise, *INT_ACC* is one if financial statements are prepared according to IFRS or US GAAP and zero if prepared under German GAAP (HGB). Significance of differences is assessed based on t-tests (mean) and Wilcoxon/Man-Whitney tests (median). ¹denotes that significance of differences in dummy variables is assessed based on Chi² tests. Source: Own Analysis.

⁹⁰⁵ For a comparison of ownership structures in family and non-family firms, cf. table 55, appendix B.

Table 33: Industry Distribution of Family Firms

ICB-Code	Industry Description	Non-Family Firms	Family Firms	Family Firms per Industry [%]
1	Basic Materials	254	64	20.13%
2	Industrials	829	454	35.39%
3	Consumer Goods	572	260	31.25%
4	Health Care	134	256	65.64%
5	Consumer Services	325	355	52.21%
6	Telecommunication	28	35	55.56%
9	Technology	334	864	72.12%

Source: Own Analysis.

Table 34: Distribution of Board Influence in Family Firms

Year	Family Firms	FF_MB	FF_SB	F_CEO	D_CEO	H_CEO	FF_Chair
1998	99	32.34%	7.64%	46.15%	17.95%	35.90%	12.09%
1999	175	36.51%	7.91%	60.93%	9.93%	29.14%	12.50%
2000	291	34.96%	8.59%	60.70%	7.39%	31.91%	12.95%
2001	291	32.80%	9.48%	57.63%	7.25%	35.11%	13.72%
2002	248	31.90%	9.96%	56.64%	6.19%	37.17%	14.17%
2003	232	34.16%	10.55%	57.41%	6.48%	36.11%	15.49%
2004	214	34.89%	11.43%	55.10%	7.65%	37.24%	17.70%
2005	205	35.73%	10.99%	53.97%	8.99%	37.04%	17.59%
2006	206	35.34%	10.51%	51.79%	9.74%	38.46%	16.92%
2007	198	33.05%	10.64%	55.61%	8.56%	35.83%	16.49%
2008	176	29.05%	10.39%	52.98%	7.74%	39.29%	15.70%
Total	2,335	33.79%	9.90%	56.05%	8.24%	35.72%	15.08%

Notes: Numbers denote average percentages. *FF_MB* denotes the percentage of family members in the management board; *FF_SB* denotes the percentage of family members in the supervisory board. *F_CEO* is an indicator variable that equals one if the founder serves as CEO and zero otherwise; *D_CEO* is an indicator variable that equals one if a descendant of the founder serves as CEO and zero otherwise; *H_CEO* is an indicator variable that equals one if a non-family member serves as CEO in a family firm and zero otherwise; *FF_Chair* is an indicator variable that equals one if a family member serves as chairman in the supervisory board and zero otherwise. Source: Own Analysis.

Table 34 presents information on the board structures in family firms. The average percentage of family members in the management board is 34%, whereas the percentage of family members in the supervisory board is 10%. More than half of the family firms are managed by a founder CEO (*F_CEO*), while descendants of the founder only serve as CEOs in around 8% of the firms (*D_CEO*). More than a third (36 %) of the family firms is managed by a hired CEO (*H_CEO*). Family members hold the position of the chairman in the supervisory board (*FF_Chair*) in only 15% of the family firms.

Spearman and Pearson correlation coefficients between the variables used in the analysis are displayed in table 35. Consistent with the summary statistics in table 31, correlation results indicate that the dummy variable for family firms (*Dummy_FF*) as well as family ownership (*FF_OWN*), are positively correlated to absolute abnormal accruals (*ABS_ACC*), discretionary cash flows (*DISCR_CF*), growth (*GROWTH*), loss (*LOSS*) and the application of IFRS or US GAAP (*INT_ACC*). In comparison, the indicator variable on family firms (*Dummy_FF*) and the percentage of family ownership (*FF_OWN*) are negatively correlated to ownership concentration (*HERF*), non-family insider ownership (*NF_INSIDER*), size (*SIZE*), performance (*PERF*), leverage (*LEV*) and firm age (*AGE*). Variance inflation factors (VIFs) take on reasonable values between 1.05 (*GROWTH*) and 2.2 (*PERF*). The average VIF is 1.4. Consistent with the results in Roychowdhury (2006) absolute abnormal accruals (*ABS_ACC*) as well as abnormal accruals are negatively correlated to discretionary cash flows (*DISCR_CF*). This relation can possibly be explained by the fact that managers may engage in accounting and real earnings management at the same time and that instruments to engage in real earnings management, for example overproduction, have a positive effect on abnormal accruals (*ABN_ACC*), but negatively affect abnormal cash flows (*DISCR_CF*).⁹⁰⁶

⁹⁰⁶ Cf. Roychowdhury (2006), p. 348.

Table 35: Correlation Matrix (Earnings Management in Family Firms)

Variables	1	2	3	7	8	9	10	11	12	13	14	15	VIFs ¹
1 ABS_ACC	1												
2 DISCR_CF	-0.058*** (-0.034)	1											1.16
3 Dummy_FF	0.174*** (0.181***)	0.027* (0.030)	1										1.33
7 NF_INSIDER	0.017 (0.058***)	0.011 (-0.099***)	-0.197*** (-0.243***)	1									1.14
8 HERF	-0.082*** (-0.046***)	0.003 (0.005)	-0.243*** (-0.087***)	0.029** (-0.074***)	1								1.11
9 SIZE	-0.275*** (-0.270***)	-0.019 (-0.039**)	-0.304*** (-0.329***)	-0.144*** (-0.260***)	0.108*** (0.079***)	1							1.56
10 PERF	-0.364*** (-0.171***)	0.333*** (0.362***)	-0.143*** (-0.077***)	0.000 (-0.056***)	0.120*** (0.043**)	0.286*** (0.224***)	1						2.22
11 LEV	-0.057*** (-0.085***)	-0.094*** (-0.094***)	-0.052*** (-0.066***)	0.091*** (0.073***)	-0.076*** (-0.010)	0.090*** (0.170***)	-0.057*** (-0.137***)	1					1.09
12 GROWTH	-0.001 (-0.052***)	0.036** (0.083***)	0.128*** (0.112***)	0.025* (0.065***)	-0.080*** (-0.093***)	-0.064*** (-0.010)	0.055*** (0.254***)	-0.102*** (-0.118***)	1				1.05
13 AGE	-0.227*** (-0.212***)	-0.020 (-0.042**)	-0.367*** (-0.340***)	-0.016 (-0.129***)	0.256*** (0.176***)	0.472*** (0.441***)	0.217*** (0.166***)	0.045*** (0.123***)	-0.165*** (-0.167***)	1			1.52
14 LOSS	0.318*** (0.310***)	-0.258*** (-0.250***)	0.118*** (0.117***)	0.032** (0.081***)	-0.108*** (-0.066***)	-0.308*** (-0.310***)	-0.693*** (-0.793***)	0.084*** (0.033*)	-0.049*** (-0.195***)	-0.233*** (-0.231***)	1		2.1
15 INT_ACC	0.065*** (0.041**)	0.037** (0.070***)	0.208*** (0.190***)	-0.033** (0.030)	-0.286*** (-0.223***)	-0.061*** (-0.099***)	-0.089*** (-0.017)	-0.113*** (-0.168***)	0.080*** (0.115***)	-0.282*** (-0.286***)	0.066 (-0.286***)	1	1.18

*, **, *** significantly different from zero at the $\alpha = 0.1, 0.05$ and 0.01 level, respectively (two-tailed).

¹VIF = Variance Inflation Factor, Variables are defined as in the multivariate analyses.

Pearson correlation matrix, Spearman correlation coefficients in parentheses, ² Cramers V is used if both variables are dummy variables. Source: Own analysis.

7.4 Multivariate Analysis

7.4.1 Accounting Earnings Management

Tables 35 and 36 show the results from the pooled ordinary least squares (OLS) regression on accounting earnings management. Absolute abnormal discretionary accruals (*ABS_ACC*) serve as dependent variable.

The first model with the binary variable (*Dummy_FF*) indicates that family firms have higher levels of earnings management than non-family firms. According to model two, the level of earnings management is particularly high in type 1 and 2 family firms, i.e. in family firms in which the founding family is invested in the firm and holds positions in the management and/or supervisory board. This is consistent with results in model three. It indicates that family ownership is positively associated with earnings management. Taken together, evidence from models one to three suggests that family ownership not family management is the main driver of earnings management in family firms. Evidence from the pooled OLS is partly deviating from the results derived from the between effects models.⁹⁰⁷ The between effects models suggest that only the indicator variable (*Dummy_FF*) and the dummy variable that denotes family firm type 1, i.e. family firms in which the family is also involved in the management board positively associated with discretionary accruals. However, results suggest that the level of family ownership is not significantly associated with earnings management in a certain direction. This result may indicate that there is a non-linear relation between family ownership and earnings management whereby positive and negative effects are overlapping.

⁹⁰⁷ Results from the between effects models are displayed in tables 56 to 57 in appendix B.

Table 36: Family Governance and Accounting Earnings Management (OLS I)

Dependent Variable: ABS_ACC							
Independent Variables	Expected Sign	Model 1		Model 2		Model 3	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?	0.109***	0.011	0.109***	0.012	0.114***	0.011
<i>Dummy_FF</i>	?	0.008***	0.003				
<i>Family_Type1</i>	?			0.008**	0.004		
<i>Family_Type2</i>	?			0.008**	0.004		
<i>Family_Type3</i>	?			0.001	0.007		
<i>Family_Type4</i>	?			0.008	0.006		
<i>Family_Type5</i>	?			0.007	0.009		
<i>FF_OWN</i>	?					0.012**	0.006
<i>NF_INSIDER</i>	?	0.005	0.006	0.006	0.006	0.005	0.006
<i>HERF</i>	?	-0.007	0.005	-0.007	0.005	-0.009**	0.005
<i>SIZE</i>	-	-0.008***	0.002	-0.008***	0.002	-0.008***	0.002
<i>PERF</i>	-	-0.126***	0.021	-0.126***	0.021	-0.128***	0.021
<i>LEV</i>	+	-0.024***	0.008	-0.024***	0.008	-0.025***	0.008
<i>GROWTH</i>	+	-0.003	0.004	-0.003	0.004	-0.003	0.004
<i>AGE</i>	-	-0.000***	0.000	-0.000***	0.000	-0.000***	0.000
<i>LOSS</i>	+	0.013***	0.004	0.013***	0.004	0.013***	0.004
<i>INT_ACC</i>	?	-0.002	0.003	-0.002	0.003	-0.001	0.003
F-Value		36.35		26.25		35.47	
p-value F-test		0.000		0.000		0.000	
Adj R ²		0.18		0.179		0.179	
N		3,008		3,008		3,008	

Notes: Results are derived from pooled OLS models. *ABS_ACC* denotes absolute abnormal accruals; *Dummy_FF* is an indicator variable that equals one if the founding family holds more than 25% of ordinary shares or positions in the management or supervisory board; '*FF type*' refers to particular family firm types classified as types 1 to 5 using dummy variables; *FF_OWN* is the percentage of common shares held by the family; *NF_INSIDER* is the percentage of common shares held by non-founding family insiders; *HERF* is a Herfindahl index and corresponds to ownership concentration; *SIZE* is log total assets; *PERF* is net income before extraordinary items scaled by average total assets; *LEV* is total debt to total assets; *GROWTH* is sales growth; *LOSS* is an indicator variable which equals one if net income is negative and zero otherwise; *INT_ACC* is an indicator variable that equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero otherwise. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicate a two-tailed significance level at 99% / 95% / 90%. Source: Own Analysis.

Table 37: Family Governance and Accounting Earnings Management (OLS II)

Dependent Variable: <i>ABS_ACC</i>							
Independent Variables	Expected Sign	Model 4		Model 5		Model 6	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?	0.108***	0.012	0.116***	0.011	0.111***	0.012
<i>FF_OWN</i>	?	0.006	0.006				
<i>FF_OWN * FMB</i>				0.009	0.007		
<i>FF_MB</i>	?	0.006	0.007				
<i>FF_SB</i>	?	0.030**	0.013				
<i>F_CEO</i>	?					0.008*	0.004
<i>D_CEO</i>	?					-0.003	0.006
<i>H_CEO</i>	?					0.011***	0.004
<i>Family_Chair</i>	?					0.001	0.006
<i>NF_INSIDER</i>	?	0.005	0.006	0.002	0.006	0.005	0.006
<i>HERF</i>	?	-0.007	0.005	-0.009*	0.005	-0.006	0.005
<i>SIZE</i>	-	-0.008***	0.002	-0.009***	0.002	-0.008***	0.002
<i>PERF</i>	-	-0.127***	0.021	-0.128***	0.021	-0.126***	0.022
<i>LEV</i>	+	-0.025***	0.009	-0.023***	0.008	-0.025***	0.008
<i>GROWTH</i>	+	-0.003	0.004	-0.003	0.004	-0.004	0.004
<i>AGE</i>	-	-0.000***	0.000	-0.000***	0.000	-0.000***	0.000
<i>LOSS</i>	+	0.013***	0.004	0.013***	0.004	0.013***	0.004
<i>INT_ACC</i>	?	-0.002	0.003	-0.001	0.003	-0.003	0.003
F-Value			31.13		29.47		27.85
p-value F-test			0.000		0.000		0.000
Adj R ²			0.181		0.178		0.181
N			3,008		3,008		2,948

Notes: Results are derived from pooled OLS models. *ABS_ACC* denotes absolute abnormal accruals; *FF_OWN* is the percentage of common shares held by the family; *FF_MB* is percentage of positions held by the family in the management board, *FF_SB* is percentage of positions held by the family in the supervisory board; *FMB* is a dummy variable and equals one if a family member is involved in the management of the firm and zero otherwise; *NF_INSIDER* is the percentage of common shares held by non-founding family insiders; *HERF* is a Herfindahl index and corresponds to ownership concentration; *SIZE* is log total assets; *PERF* is net income before extraordinary items scaled by average total assets; *LEV* is total debt to total assets; *GROWTH* is sales growth; *LOSS* is an indicator variable which equals one if net income is negative and zero otherwise; *INT_ACC* is an indicator variable that equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero otherwise. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicate a two-tailed significance level at 99% / 95% / 90%. Source: Own Analysis.

Model four indicates that the level of earnings management increases with the percentage of family members in the supervisory board. This is consistent with the result that earnings management is particularly prevalent in family firms with external CEOs (*H_CEO*). Evidence that the presence of external CEOs in family firms is associated with higher levels of earnings management is consistent with Yang (2010) and may indicate that external CEOs in family firms are subject to high pressure to satisfy the family's expectations and try to maximize their own benefits. Family firms with external CEOs are subject to two agency conflicts, agency conflicts between small and large shareholders and between managers and shareholders. Conflicts between shareholders and managers are commonly aligned via compensation. Compensation differs between external and family managers and tends to be more accounting based than stock based as compared to non-family firms.⁹⁰⁸ External managers are more likely to manage earnings for compensation purposes than owner-managers.⁹⁰⁹ Consistent with the OLS-model the between effects model points out that the level of earnings management is highest in family firms with external CEOs.

The coefficient on the presence of a founder CEO (*F_CEO*) is also positive but only significant at the 10%-level, whereas the coefficient on the presence of a descendant CEO (*D_CEO*) is insignificant. This is consistent with Stockmans et al. (2010) who suggest that founders have higher socioemotional wealth in the firm than descendants and are hence more likely to manage earnings to avoid a loss of control.⁹¹⁰ However, the analysis based on the between model does not indicate a significant relation between the presence of a founder or descendant CEO and earnings management.

Discretionary accruals are negatively associated with firm size, performance, leverage and firm age and positively related to the reporting of losses. The results also shed light on the relationship between ownership concentration and discretionary accruals. The coefficient on ownership concentration (*HERF*) is negative in models 1 to 3. This result indicates that earnings management on average decreases with increasing ownership concentration. There are two scenarios that could explain this observation: (1) large shareholders may act as monitors for managers as well as for other blockholders,

⁹⁰⁸ Cf. Gomez-Mejia et al. (2003); Achleitner et al. (2010c).

⁹⁰⁹ Cf. Yang (2010), p. 269.

⁹¹⁰ Cf. Stockmans et al. (2010), p. 282-283.

(2) large shareholders may have lower incentives to manage earnings to defend private benefits of control given the significance of their ownership stake. This implies that incentives to manage earnings may decrease with increasing ownership. Besides, outside blockholders may have less incentives and ability to manage earnings because they commonly do not hold positions in the management board and monitoring and control benefits are more diluted.

Wald test and Ramsey-Reset test on omitted variables suggest that there may be a non-linear relationship between family ownership and discretionary accruals. The results from the models that examine if there is a non-linear relationship between family ownership and discretionary accruals are presented in table 38. In the first model, the coefficient on W_FAM is positive and significant, whereas the coefficient on S_FAM is not significantly different from zero in both the OLS and the between effects model. This evidence suggests that accounting earnings management is particularly pronounced in firms with weak family ownership, i.e. family ownership below the median value of around 30%. The coefficient on no ownership in family firms (No_FAM) is not significantly different from zero and confirms the notion that family ownership is an important driver of earnings management.

In model two, FF_OWN exhibits a positive and significant value at the 5%-level, whereas the coefficient on squared family ownership FF_OWNt^2 is negative but not significantly different from zero in the OLS model. The between effects model shows a positive and significant coefficient for FF_OWN but a negative and significant coefficient for FF_OWNt^2 . This may explain why the coefficient on family ownership in model three is not significant based on the between effects model. The significant coefficients from the between effects model indicate that the relationship between family ownership and earnings management is characterized by a reverse u-shape. Earnings management increases with family ownership up to an ownership percentage of about 46% (38% BE model) and decreases for higher levels of family ownership. Thereby, family firms report higher discretionary accruals than non-family firms up to an ownership level of 91% (77% BE model). However, it needs to be noted that the Wald-test on both coefficients is not significantly different from zero neither based on the coefficients from the pooled OLS nor based on the coefficients from the between effects model.

Earnings management tends to be more or less pronounced for different ownership levels. This evidence confirms the notion that incentives to manage earnings in family firms change with the level of ownership. Evidence from the pooled OLS and the BE model suggest that accounting earnings management is particularly pronounced in family firms with an ownership stake between 25% and 50% (*FF_2*). The coefficients on the thresholds between zero and 25% (*FF_1*) as well as 50% and 75% (*FF_3*) of family ownership are only positive and significant in the OLS model but not in the BE model. The coefficient on family ownership exceeding 75% is not significantly different from zero in both models. These results indicate that incentives to manage earnings are less pronounced for low and very high levels of ownership but more pronounced for medium levels of family ownership. This evidence could be interpreted consistent with the prediction in Morck et al. (1988) that the convergence-of-interest hypothesis is predominant for low and high levels of family ownership whereas the entrenchment effect is most prevalent at medium levels of family ownership. However, for high family ownership results do not necessarily suggest that incentives to defend private benefits of control are lower but that earnings play a less important role in this context.

Table 38: Non-linearity between Family Ownership and Discretionary Accruals (OLS)

Dependent Variable: <i>ABS_ACC</i>							
Independent Variable	Expected Sign	Model 1		Model 2		Model 3	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?	0.106***	0.011	0.110***	0.011	0.109***	0.011
<i>No_FAM</i>	?	0.008	0.005				
<i>W_FAM</i>	?	0.011***	0.004				
<i>S_FAM</i>	?	0.010**	0.004				
<i>FF_OWN</i>	+			0.041**	0.020		
<i>FF_OWN²</i>	-			-0.045	0.028		
<i>FF_1</i>	?					0.008*	0.005
<i>FF_2</i>	?					0.012***	0.005
<i>FF_3</i>	?					0.007*	0.004
<i>FF_4</i>	?					0.004	0.008
<i>NF_INSIDER</i>	?	-0.006	0.005	0.006	0.006	-0.005	0.005
<i>HERF</i>	?	0.006	0.006	-0.007	0.005	0.006	0.006
<i>SIZE</i>	-	-0.008***	0.002	-0.008***	0.002	-0.008***	0.002
<i>PERF</i>	-	-0.126***	0.021	-0.128***	0.021	-0.127***	0.021
<i>LEV</i>	+	-0.024***	0.008	-0.024***	0.008	-0.024***	0.008
<i>GROWTH</i>	+	-0.004	0.004	-0.003	0.004	-0.003	0.004
<i>AGE</i>	-	-0.000***	0.000	-0.000***	0.000	-0.000***	0.000
<i>LOSS</i>	+	0.013***	0.004	0.013***	0.004	0.013***	0.004
<i>INT_ACC</i>	?	-0.002	0.003	-0.002	0.003	-0.002	0.003
F-Value		30.39		32.33		27.43	
p-value F-test		0.000		0.000		0.000	
Adj. R ²		0.181		0.180		0.180	
N		3,008		3,008		3,008	

Notes: Results are derived from pooled OLS models. *ABS_ACC* is absolute abnormal accruals; *No_FAM* is a dummy variable and one if the family only holds positions in one of the board, *W_FAM* is a dummy variable and one if family ownership is below the median value of family ownership and zero otherwise; *S_FAM* is a dummy variable and one if family ownership is above the median value of family ownership and zero otherwise; *FF_OWN* (*FF_OWN²*) is the (squared) percentage of shares held by the family; *NF_INSIDER* is the percentage of common shares held by non-founding family insiders; *HERF* is a Herfindahl index proxies for ownership concentration; *SIZE* is log total assets; *PERF* is net income before extraordinary items scaled by average total assets; *LEV* is debt to assets; *GROWTH* is sales growth; *LOSS* is a dummy variable and one if net income is negative and zero otherwise; *INT_ACC* is one if consolidated financial statements are prepared according to IFRS/US GAAP and zero otherwise. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicate a two-tailed significance level at 99% / 95% / 90%. Source: Own Analysis.

7.4.2 Real Earnings Management

The results in tables 39 and 40 are from the pooled OLS regressions on effects of family governance on real earnings management using discretionary cash flows as dependent variable.⁹¹¹ Consistent with the analysis on absolute abnormal accruals, six models with different proxies for family governance are examined.

The coefficient on the binary variable (*Dummy_FF*) is positive, but not significantly different from zero according to the OLS and the BE model. This indicates that real earnings management is not generally less pronounced in family firms than in non-family firms. Model two suggests that type 2 family firms exhibit lower levels of real earnings management in the OLS model whereas the BE model does not suggest that real earnings management is more or less prevalent among certain types of family firms. Model three indicates that real earnings management is negatively associated with family ownership irrespective to the use of the OLS or the BE model. Model 4 shows no incremental effect of the presence of family members in the management or the supervisory board on the level of discretionary accruals. Model five indicates that the presence of an external manager is negatively associated with real earnings management in the OLS model whereas evidence from the BE model does not suggest that real earnings management is systematically associated with CEO or chairman attributes. Therefore, results suggest that the level of family ownership is likely to be the most important driver of real earnings management.

The results from the pooled OLS models on the non-linearity between family ownership and real earnings management are tabulated in table 41. Results from the BE models are displayed in table 66 in appendix B. Evidence from both the OLS and the BE model suggest that real earnings management is less pronounced in firms with strong family ownership (*S_FAM*) whereas the coefficient on weak or no family influence are not significant. Although the Ramsey Reset test and the Wald test indicate that the model may contain omitted variables the relation between real earnings management and family ownership does not tend to be non-linear given that the coefficients on *FF_OWN* and *FF_OWN*² are not significantly different from zero. Consistent with the result that real earnings management is less pronounced in family firms with strong family ownership evidence from model three suggests that real earnings

⁹¹¹ Results from the between effects model are displayed in tables 64-65 in appendix B.

management is less prevalent in family firms in which the family holds an ownership stake between 50% and 75%.

Table 39: Effects of Family Governance on Real Earnings Management (OLS I)

Dependent Variable: <i>Discr_CF</i>							
Independent Variable	Expected Sign	Model 1		Model 2		Model 3	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?	0.090***	0.022	0.090***	0.022	0.089***	0.021
<i>Dummy_FF</i>	?	0.009	0.006				
<i>Family_Type1</i>	?			0.008	0.008		
<i>Family_Type2</i>	?			0.016*	0.009		
<i>Family_Type3</i>	?			0.002	0.014		
<i>Family_Type4</i>	?			0.013	0.014		
<i>Family_Type5</i>	?			-0.002	0.015		
<i>FF_OWN</i>	?					0.026**	0.012
<i>NF_INSIDER</i>	?	0.010	0.011	0.009	0.012	0.015	0.012
<i>HERF</i>	?	-0.003	0.009	-0.002	0.009	-0.006	0.009
<i>SIZE</i>	-	-0.017***	0.004	-0.017***	0.004	-0.016***	0.004
<i>PERF</i>	-	0.312***	0.027	0.312***	0.027	0.310***	0.027
<i>LEV</i>	+	-0.034**	0.014	-0.033**	0.014	-0.036**	0.014
<i>GROWTH</i>	+	-0.009	0.007	-0.008	0.007	-0.009	0.007
<i>AGE</i>	-	0.000	0.000	0.000	0.000	0.000	0.000
<i>LOSS</i>	+	-0.015**	0.007	-0.015**	0.007	-0.015**	0.007
<i>INT_ACC</i>	?	0.017***	0.005	0.017***	0.005	0.017***	0.005
F-Value		32.64		23.88		30.12	
p-value F-test		0.000		0.000		0.000	
Adj R ²		0.133		0.133		0.134	
N		3,859		3,859		3,859	

Notes: Results are derived from pooled OLS models. *Discr_CF* denotes discretionary cash flows; *Dummy_FF* is an indicator variable that equals one if the founding family holds more than 25% of ordinary shares or positions in the management or supervisory board; '*FF_type*' refers to particular family firm types classified as types 1 to 5 using dummy variables; *FF_OWN* is the percentage of common shares held by the family; *NF_INSIDER* is the percentage of common shares held by non-founding family insiders; *HERF* is a Herfindahl index and corresponds to ownership concentration; *SIZE* is log total assets; *PERF* is net income before extraordinary items scaled by average total assets; *LEV* is total debt to total assets; *GROWTH* is sales growth; *LOSS* is an indicator variable which equals one if net income is negative and zero otherwise; *INT_ACC* is an indicator variable that equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero if prepared under German GAAP. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicates a two-tailed significance level of 99% / 95% / 90%. Source: Own Analysis.

Table 40: Effects of Family Governance on Real Earnings Management (OLS II)

Dependent Variable: <i>Discr_CF</i>							
Independent Variable	Expected Sign	Model 4		Model 5		Model 6	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
Intercept	?	0.085***	0.022	0.0932***	0.021	0.089***	0.022
<i>FF_OWN</i>	?	0.022	0.014				
<i>FF_OWN * FMB</i>				0.020	0.013		
<i>FF_MB</i>	?	0.004	0.013				
<i>FF_SB</i>	?	0.020	0.028				
<i>F_CEO</i>	?					0.010	0.009
<i>D_CEO</i>	?					0.008	0.014
<i>H_CEO</i>	?					0.014*	0.008
<i>Family_Chair</i>	?					-0.009	0.011
<i>NF_INSIDER</i>	?	0.015	0.012	0.009	0.011	0.010	0.012
<i>HERF</i>	?	-0.005	0.009	-0.005	0.009	-0.001	0.009
<i>SIZE</i>	-	-0.016***	0.004	-0.017***	0.004	-0.016***	0.004
<i>PERF</i>	-	0.311***	0.027	0.311***	0.027	0.315***	0.028
<i>LEV</i>	+	-0.036**	0.014	-0.032**	0.014	-0.033**	0.015
<i>GROWTH</i>	+	-0.008	0.007	-0.009	0.007	-0.007	0.007
<i>AGE</i>	-	0.000	0.000	0.000	0.000	0.000	0.000
<i>LOSS</i>	+	-0.014**	0.007	-0.015**	0.007	-0.015**	0.007
<i>INT_ACC</i>	?	0.017***	0.005	0.017***	0.005	0.014***	0.005
F-Value			27.7		32.79		23.66
p-value F-test			0.000		0.000		0.000
Adj R ²			0.134		0.133		0.132
N			3,859		3,859		3,767

Notes: Results are derived from pooled OLS models. *Discr_CF* denotes discretionary cash flows; *FF_OWN* is the percentage of common shares held by the family; *FF_MB* is percentage of positions held by the family in the management board, *FF_SB* is percentage of positions held by the family in the supervisory board; *FMB* is a dummy variable and equals one if a family member is involved in the management of the firm and zero otherwise; *NF_INSIDER* is the percentage of common shares held by non-founding family insiders; *HERF* is a Herfindahl index and corresponds to ownership concentration; *SIZE* is log total assets; *PERF* is net income before extraordinary items scaled by average total assets; *LEV* is total debt to total assets; *GROWTH* is sales growth; *LOSS* is an indicator variable which equals one if net income is negative and zero otherwise; *INT_ACC* is an indicator variable that equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero otherwise. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicates a two-tailed significance level of 99% / 95% / 90%. Source: Own Analysis.

Table 41: Non-linearity between Family Ownership and Discretionary Cash Flows (OLS)

Dependent Variable: <i>Discr_CF</i>							
Independent Variable	Expected Sign	Model 1		Model 2		Model 3	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?	0.091***	0.022	0.094***	0.022	0.095***	0.022
<i>No_FAM</i>	?	0.006	0.012				
<i>W_FAM</i>	?	-0.003	0.008				
<i>S_FAM</i>	?	0.017**	0.007				
<i>FF_OWN</i>	?			-0.020	0.041		
<i>FF_OWN</i> ²	?			0.071	0.059		
<i>FF_1</i>	?					-0.006	0.010
<i>FF_2</i>	?					-0.001	0.009
<i>FF_3</i>	?					0.021**	0.008
<i>FF_4</i>	?					0.015	0.018
<i>NF_INSIDER</i>	?	0.013	0.012	0.014	0.012	-0.010	0.009
<i>HERF</i>	?	-0.009	0.009	-0.010	0.009	0.014	0.012
<i>SIZE</i>	-	-0.016***	0.004	-0.017***	0.004	-0.017***	0.004
<i>PERF</i>	-	0.311***	0.027	0.310***	0.027	0.308***	0.027
<i>LEV</i>	+	-0.036**	0.014	-0.037**	0.014	-0.036**	0.014
<i>GROWTH</i>	+	-0.008	0.007	-0.008	0.007	-0.008	0.007
<i>AGE</i>	-	0.000	0.000	0.000	0.000	0.000	0.000
<i>LOSS</i>	+	-0.014**	0.007	-0.014**	0.007	-0.015**	0.007
<i>INT_ACC</i>	?	0.017***	0.005	0.018***	0.005	0.018***	0.005
F-Value		27.62		30.28		25.8	
p-value F-test		0.000		0.000		0.000	
Adj. R ²		0.135		0.135		0.135	
N		3,859		3,859		3,859	

Notes: Results are from the pooled OLS models. *Discr_CF* is discretionary cash flows; *No_FAM* is a dummy variable and one if the family only holds positions in the board(s), *W_FAM* is a dummy variable and one if family ownership is below the median value of family ownership and zero otherwise; *S_FAM* is a dummy variable and one if family ownership is above the median value of family ownership and zero otherwise; *FF_OWN* (*FF_OWN*²) is the (squared) percentage of shares held by the family; *NF_INSIDER* is the percentage of common shares held by non-founding family insiders; *HERF* is a Herfindahl index proxies for ownership concentration; *SIZE* is log total assets; *PERF* is net income before extraordinary items scaled by average total assets; *LEV* is debt to assets; *GROWTH* is sales growth; *LOSS* is a dummy variable and one if net income is negative and zero otherwise; *INT_ACC* is one if consolidated financial statements are prepared according to IFRS/US GAAP and zero otherwise. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicate a two-tailed significance level at 99% / 95% / 90%. Source: Own Analysis.

7.5 Robustness Analyses

Effects of shares held by other blockholders

Results are robust when variables that can be used as proxy for the presence of other blockholders are included in the models. At first, I add the percentage held by outside blockholders, i.e. shareholders owning more than 5% of shares in the firm (*OO_all*). Secondly, I control for other types of large shareholders that may affect earnings characteristics, i.e. banks, strategic shareholders, private equity and institutional investors. Results suggest that the presence of outside blockholders is not systematically associated with accounting or real earnings management and does not affect evidence from the models described in 7.4. Therefore, results are not tabulated.

Market Timing

Results could be driven by market timing effects. There is a large number of IPOs by young high growth firms during the period of the ‘Neuer Markt’ from 1998 to 2003. These firms frequently constitute founder-led firms and evidence in chapter 6 indicates that discretionary accruals were particularly high during this period. To analyze effects of market timing, I repeat analyses separately for the periods before and after the restructuring of market segments by the German stock exchange, i.e. the first period is 1998 to 2003 and the second period is 2004 to 2008. In contrast to the first period, the latter time frame is characterized by a relatively stable market environment. Results suggest that family firms exhibit higher discretionary accruals than family firm in both periods and that earnings management among family firms is not more pronounced in the first as compared to the second period.⁹¹²

Year Dummies

The use of year dummies is less common in accounting studies as compared to studies in financial economics given that dependent variables are estimated on a year and industry level. Following prior studies on earnings management in family firms, I do not include year dummies in the main analysis but repeat all analyses including year dummies. Results suggest that family firms exhibit higher levels of accounting earn-

⁹¹² For example, coefficients on *Dummy_FF* based on the OLS model are 0.007 (std. error 0.004) for 1998 to 2003 and 0.008 (std. error 0.004) for the period from 2004 to 2008, both are significant at the 10%-level.

ings management than non-family firms particularly under the presence of an external CEO and that earnings management tends to be more pronounced for medium levels of family ownership. Therefore results are consistent with the results from the models described in 7.4 and not tabulated.

Use of alternative estimation models

Analyses are repeated for alternative estimation models. Family firms are commonly presumed to have particular incentives to engage in earnings smoothing. As a consequence I compare earnings smoothing in family and non-family firms based on the six metrics for earnings smoothing described in chapters 3.2.2.2 and 5.4.1. Results are tabulated in table 62 of the appendix and indicate no significant differences in the level of earnings smoothing between family and non-family firms. However, it needs to be noted that the metrics for earnings smoothing largely ground on a descriptive comparison. Though these metrics may be useful when comparing the same group of firms for example in different time frames they may be biased by firm characteristics when comparing two groups of firms. Furthermore, the metrics for earnings smoothing do not necessarily provide insight on earnings management since they do not differentiate between natural smoothing due to ‘normal’ business activities and artificial smoothing, i.e. earnings management.

I also run further models on real earnings management and examine effects of family governance on discretionary production and discretionary expenses. Results support the notion that family ownership is negatively associated with real earnings management. However, the models on discretionary production and discretionary expenses produce very low adjusted R². This particularly holds for the models on discretionary production even if the sample is limited to firms in the manufacturing industries. Results on family governance and discretionary expenses are tabulated in tables 63 and 64 in the appendix.⁹¹³

⁹¹³ Discretionary expenses are calculated as robustness using the following regression:

$$DISCR_EXP_{it} = \alpha_0 + \alpha_1 FAM_PROXY_{it} + \alpha_2 FAM_PROXY_{it} + \alpha_3 HERF_{it} + \alpha_4 SIZE_{it} + \alpha_5 PERF_{it} + \alpha_6 LEV_{it} + \alpha_7 GROWTH_{it} + \alpha_8 AGE_{it} + \alpha_9 LOSS_{it} + \alpha_{10} INT_ACC_{it} + \varepsilon_t.$$

Results suggest that family firms are less likely to cut down discretionary expenses such as R&D or advertising expenditures to meet an earnings benchmark.⁹¹⁴ Furthermore, results suggest that the cut-down of discretionary expenses is negatively associated with family ownership and less pronounced in family firms with descendant CEOs.⁹¹⁵

7.6 Summary of Results

The analysis suggests that family firms tend to have higher levels of discretionary accruals than non-family firms. This result is consistent with results from previous studies on effects of family involvement in the boards of non-Anglo-Saxon firms.⁹¹⁶ Jara-Bertin/Lopez Iturriaga (2008) suggest that family ownership decreases the level of earnings management when the family is the largest shareholder but increases the level of earnings management when the family is the second or third largest shareholder. Wang (2006) finds that family ownership is negatively associated with low levels of family ownership but tends to be positively associated with earnings management for higher levels of family ownership. Tiscini/Di Donato (2008) suggest that earnings management is less pronounced in family firms with low or high but more pronounced for medium levels of family involvement in the board. This is the first study that systematically tests if there is a non-linear relationship between family ownership and earnings management in a country characterized by concentrated ownership structures. Consistent with predictions from previous studies, evidence suggests that earnings management is less pronounced for low and high but more pronounced for medium levels of family ownership, particularly around 25% to 50% of family ownership. The monitoring incentive may be dominant in family firms with low family ownership and hence mitigate the level of earnings management. Private benefits of control increase with family ownership. Long-term orientation and the wish to maintain a controlling position in the firm are likely to represent important drivers of earnings management in family firms. This implies that earnings management may ground on a different motivation in family firms as compared to non-family firms. At high levels of family ownership interests of minority shareholders are less likely to affect the family's inter-

⁹¹⁴ The coefficient on the dummy variable *Dummy_FF* is positive and significant at the 5%-level.

⁹¹⁵ The coefficients on the variables *FF_OWN* model (4) and *D_CEO* are positive and significant at the 10%-level.

⁹¹⁶ Cf. Jaggi et al. (2009); Bar-Yosef/Prencipe (2011).

est and earnings are likely to play a less important role to defend private benefits of control. This may explain why earnings management is less pronounced at high levels of family ownership.

Consistent with Yang (2010), evidence from this analysis suggests that earnings management is more pronounced in family firms with an external CEO as compared to family firms with family CEOs. External CEOs in family firms are subject to high pressure by the family and need to meet the family's demand and the demand by other shareholder types. They may try to smooth earnings to satisfy the needs of all constituencies. Furthermore, executive compensation could provide an incentive to manage earnings that is more pronounced in family firms with external as compared to family firms with family managers.

Smooth earnings to meet the capital market's demand are named as primary reason to engage in real earnings management by US executives in the survey by Graham et al. (2005). Family firms are less subject to capital market pressure and may be less likely to alter operating activities and thereby reduce firm value to meet a short-term earnings objective. However, attempts to maintain control over the business may equally lead family firms to engage in real earnings management. Results suggest that real earnings management is negatively associated with family ownership and particularly less pronounced in family firms in which the family holds the majority of shares in the firm. This result holds for discretionary cash flows and discretionary expenses. Family firms seem to be less likely to cut down R&D and other discretionary expenses for the purpose of earnings management than non-family firms. This result fits into the discussion on effects of ownership structures on the level of R&D expenses.⁹¹⁷

In summary, results suggest that family firms engage in more accounting or accrual based earnings management but less real activities manipulation. Family firms are likely to build up reserves via earnings management for the purpose of internal financing and to manage earnings downwards to lower payments to outside parties. This subject is analyzed in more detail in the following chapter.

⁹¹⁷ Cf. e.g. Block (2011).

8 Effects of Family Governance on Conditional Conservatism

8.1 Conceptual Background and Hypotheses

Conditional conservatism is presumed to mitigate agency conflicts between managers and shareholders arising from the separation between ownership and control.⁹¹⁸ Managers are presumed to have incentives to start negative net present value projects to maximize compensation because of short-termism. Conditional conservatism is associated with timelier write-offs and may hence mitigate the problem of overinvestment.⁹¹⁹ LaFond/Roychowdhury (2008) suggest that the need for conditional conservatism decreases with the level of managerial ownership because interests between shareholders become aligned. However, evidence in Shuto/Takada (2010) indicates that the relation between managerial ownership and conditional conservatism is cubic in countries with concentrated ownership structures. Conditional conservatism decreases for low levels of managerial ownership, increases for medium levels of managerial ownership and decreases for high levels of managerial ownership. They argue that the alignment effect only holds for low levels of managerial ownership. Managers with concentrated ownership have incentives to expropriate wealth from minority shareholders and conditional conservatism may serve as an instrument to enhance efficient contracting between controlling and minority shareholders. Incentives to expropriate minority shareholders and hence the demand for conservatism are considered to be less pronounced in firms with low and high managerial ownership. In summary, evidence in Shuto/Takada (2010) indicates that conditional conservatism could increase efficient contracting between controlling and minority shareholders.⁹²⁰

The analysis regarding effects of family governance on accounting conservatism fits into this context and provides a rich and unvisited field of research. Results in chapter seven suggest that incentives to manage earnings are particularly high for medium levels of family ownership. If earnings management is considered as an indicator for the entrenchment effect, demand for conditional conservatism could be particularly high in family firms with medium levels of family ownership. However, the particularities of family firms such as long-term orientation and risk aversion leave space for alterna-

⁹¹⁸ Cf. Watts (2003a), p. 212-213.

⁹¹⁹ Cf. García Osma et al. (2010); Francis/Martin (2010).

⁹²⁰ Cf. Haw et al. (2009) for similar inferences.

tive interpretations and predictions. An important aspect is that family shareholders could have demand for accounting conservatism themselves.

Family shareholders are considered to have less demand for accounting information to mitigate the problem of adverse selection because they commonly do not build on accounting numbers to decide whether to hold or sell their stake. Therefore, there could be a shift from the valuation to the stewardship role of accounting. The problem of moral hazard is of particular concern in family firms with external managers and when family shareholders hold a large, undiversified equity position in the firm. Although, family shareholders have increased abilities to monitor managers, risk aversion could increase their demand for verifiable information and timely loss recognition to avoid managerial opportunism. Consistent with positive accounting theory, compensation contracts are considered to be the exemplary contract in which conditional conservatism may play a role besides debt contracts and may increase contracting efficiency between shareholders and managers.⁹²¹ Ryan (2006) points out that conservatism is particularly suitable to increase contracting efficiency when parties are risk-averse.⁹²²

Interests between family shareholders and the management are aligned under the presence of a family CEO. As a consequence, there is a less demand for conditional conservatism because family managers are long-term oriented and have emotional ties in the firm. Both attributes mitigate agency problems arising from managerial short-termism. However, family-led firms could also have higher levels of conservatism because family CEOs are likely to have lower incentives to defer 'bad news' to later periods than non-family CEOs. Family CEOs have less demand for the valuation role of accounting because they have access to private information but have demand for timely loss recognition due to risk aversion and long-term orientation. Conservatism in 'good' times prevents endangering the survival of the firm in more difficult times because losses are anticipated. However, family governance could also lead to lower levels of timely loss recognition because the wish to maintain control over the business may require the deferral of 'bad news' to later periods in more difficult times.

⁹²¹ Cf. Watts (2003a), p. 212-214.

⁹²² Cf. Ryan (2006), p. 253.

Timely loss recognition increases volatility but volatility may be less of concern in family firms because they have lower incentives to smooth earnings given that their long-term investment horizon makes them less sensitive to capital market pressure. Short-term earnings targets such as prior year's earnings are likely to be less of concern in family firms particularly when the family is highly invested in the firm.⁹²³ Therefore, the level of family ownership could be positively associated with conditional conservatism.

While conditional and unconditional conservatism are distinct concepts from a theoretical perspective the two concepts are difficult to distinguish empirically.⁹²⁴ Thereby, conservatism is likely to limit upwards earnings management⁹²⁵ but may be partly driven by downwards earnings management.⁹²⁶ In the light of the incentive structures in family firms, downwards earnings management is likely to be partly overlapping with conditional conservatism. Incentives for downwards earnings management in family firms include for example the purpose to keep internal funds in the firm for financing purposes as well as to control payments to outside parties. Conservatism creates hidden reserves that may be used in the context of earnings smoothing. In this context, family firms could have incentives to smooth earnings in order to generate steady income streams for dividend payout and to limit tax payments. In summary, family shareholders could prefer untimely conservatism, i.e. unconditional conservatism, to timely loss recognition, i.e. conditional conservatism, because they have incentives to create 'cookie jar' reserves. This implies that findings on conservatism in family firms could be affected by earnings management. The relationship between family governance, conservatism and earnings management in family firms is analyzed based on the following hypotheses:

H₀ 8-1: Family governance is not related to conditional conservatism.

H₀ 8-2: The relation between conditional conservatism and family governance is not affected by earnings management.

⁹²³ Cf. Prencipe et al. (2008), p. 72.

⁹²⁴ Cf. chapter 3.3 on this issue.

⁹²⁵ Cf. Chen et al. (2007).

⁹²⁶ Cf. García Lara et al. (2005).

8.2 Model Specification

The analyses rely on the C-Score by Khan and Watts (2009) derived from the Basu (1997) model. This metric seems more appropriate to capture cross-sectional differences than the original model.⁹²⁷ C-Score is estimated as described in chapter 3.3.2.3. The following regression is used to examine effects of family governance on conditional conservatism:

$$C\text{-Score}_{it} = \alpha_0 + \alpha_1 FAM_PROXY_{it} + \alpha_2 NF_INSIDER_{it} + \alpha_3 HERF_{it} + \alpha_4 MCAP_{it} + \alpha_5 AGE_{it} + \alpha_6 GROWTH_{it} + \alpha_7 PERF_{it} + \alpha_8 INT_ACC_{it} + Year\ Fixed\ Effects + Industry\ Fixed\ Effects + \varepsilon_{it} \quad (8.1)$$

FAM_PROXY is defined as in the analysis in chapter 7 and denotes six models based on i) the dummy variable *Dummy_FF*⁹²⁸, ii) the indicator variables that indicate different types of family firms (*Family_Type*),⁹²⁹ iii) the cumulative percentage of family ownership (*FF_OWN*), iv) the SFI components family ownership (*FF_OWN*), percentage of family members in the management (*FF_MB*) and supervisory board (*FF_SB*), v) the interacted term out of a dummy variable on family management and family ownership (*FF_OWN * FMB*) as well as vi) CEO and chairman attributes, founder CEO (*F_CEO*), descendant CEO (*D_CEO*), hired CEO (*H_CEO*) and family chairman (*FF_Chair*).

Reporting incentives are likely to change with the level of family ownership consistent with the arguments in chapter 7. To investigate if the relation between family ownership and conservatism is non-linear, regressions are run using the same variables as in chapter 7. At first, three indicator variables, one for family firms without family ownership (*No_FAM*), one for weak (*W_FAM*) and one for strong family ownership (*S_FAM*) are integrated in the model. The second model comprises family ownership and the square of family ownership (*FF_OWN* and *FF_OWN*²). In a third model,

⁹²⁷ Cf. on the estimation of the C-Score, chapter 3.3.2.3.

⁹²⁸ This variable is one if founding family members hold positions in either the management and/or the supervisory board or hold at least 25% of voting rights, and zero otherwise.

⁹²⁹ Type 1: Family ownership and positions held by family members in the management; Type 2: Family ownership and positions held by family members in the supervisory board; Type 3: family ownership but no positions held by family members in one of the boards; Type 4: no family ownership but family members hold position in the management board; Type 5: No family ownership but positions held by family members in the supervisory board (type 5).

dummy variables are included that proxy for important control thresholds in German corporations, i.e. 25%, 50% and 75% of ownership.

The problem with using C-Score as dependent variable is that firm characteristics which are likely to affect the level of conditional conservatism, i.e. size, leverage and market-to-book ratio serve as input-variables for the calculation of the metric. While the omission of these firm characteristics as control variables is likely to lead to biased results,⁹³⁰ the direct control for these variables in the regression leads to autocorrelation. To circumvent this issue Khan/Watts (2009) suggest the use of instruments for the variables. Size may be expressed by market capitalization (*MCAP*) instead of total assets and leverage may be proxied by firm age (*AGE*) because more mature firms with higher amounts of assets in place are considered to have higher leverage.⁹³¹ Market-to-book ratio proxies for growth opportunities and is replaced by sales growth (*GROWTH*) in the analysis. C-Score is found to decrease with return on assets. As a consequence, performance measured as net income scaled by average total assets (*PERF*) is added as control variable in the analysis. IFRS have been found to affect conditional conservatism in previous studies.⁹³² Though the analyses in chapter 6 of this study suggest that IFRS adoption does not affect the level of conservatism among German firms, a dummy variable (*INT_ACC*) is included in the regression that equals one if financial statements are prepared according to IFRS or US GAAP and zero when financial statements are prepared according to German GAAP in the respective period. Furthermore, industry and firm fixed effects are included in the regression models. Consistent with the analyses in chapter 7, regression models are estimated based on pooled OLS as well as between effects (BE) models.

In the second part of the analysis, discretionary accruals (*ABS_ACC*) are included in the models to examine effects of earnings management on conservatism. All other variables are as defined above. Discretionary accruals are calculated using the non-linear

⁹³⁰ Cf. Khan/Watts (2009), p. 148.

⁹³¹ Cf. Khan/Watts (2009), p. 148.

⁹³² Cf. Barth et al. (2008); Christensen et al. (2008).

accruals model as proposed by Ball/Shivakumar (2006).⁹³³ The regression equation is as follows.

$$C\text{-Score}_{it} = \alpha_0 + \alpha_1 ABS_ACC_{it} + \alpha_2 FAM_PROXY_{it} + \alpha_3 NF_INSIDER_{it} + \alpha_4 HERF_{it} + \alpha_5 MCAP_{it} + \alpha_6 AGE_{it} + \alpha_7 GROWTH_{it} + \alpha_8 PERF_{it} + \alpha_9 INT_ACC_{it} + Year\ Fixed\ Effects + Industry\ Fixed\ Effects + \varepsilon_{it} \quad (8.2)$$

8.3 Univariate Analysis

Summary statistics for family and non-family firms are displayed in tables 42 and 43. Table 42 only contains observations of firms for which sufficient information was available to calculate C-Score. The analysis is based on the same sub-sample as the analysis in chapter 7 (sub-sample 2). C-Score and discretionary accruals are significantly higher in family as compared to non-family firms. Furthermore, summary statistics indicate that family firms have less concentrated ownership structures, are smaller, younger, exhibit higher growth but lower leverage and operating performance than non-family firms. They are also more likely to apply IFRS or US GAAP. Table 43 shows the distribution of C-Score and discretionary accruals according to the quintiles of family ownership. The distribution of family ownership according to quintiles shows that family shareholders are highly invested in their firms. While the first quintile corresponds to ‘no family ownership’, the second quintile does not contain any observations. Family ownership in the third quintile is on average 4% but only contributes to 3% of the observations. The main part of observations on family ownership falls into the fourth and fifth quintile where family ownership is on average 25% and 60% respectively. These quintiles contribute to 40% of the observations in the sample. C-Score and discretionary accruals take on the highest values in the fourth quintile of family ownership.

⁹³³ Cf. for the estimation procedure of discretionary accruals according to this model chapters 3.2.3.2, 5.4.1 and 7.2.1.

Table 42: Summary Statistics for Family and Non-Family Firms

Variable	Mean		Median		Std. Deviation		Observations		Sign. of Diff.	
	Family Firms	Non-Family Firms	Family Firms	Non-Family Firms	Family Firms	Non-Family Firms	Family Firms	Non-Family Firms	Mean	Median
Ownership Characteristics										
<i>FF_OWN</i>	0.368	0.004	0.000	0.000	0.255	0.023	1,724	2,090	***	***
<i>NF_INSIDER</i>	0.049	0.148	0.000	0.000	0.178	0.250	1,724	2,090	***	***
<i>HERF</i>	0.224	0.347	0.180	0.258	0.183	0.309	1,724	2,090	***	***
Firm Characteristics										
<i>C-Score</i>	0.296	0.161	0.294	0.186	0.300	0.334	1,724	2,090	***	***
<i>ABS_ACC</i>	0.072	0.050	0.051	0.034	0.068	0.054	1,330	1,517	***	***
<i>MCAP</i>	4.872	5.241	4.763	5.115	0.786	0.975	2,292	2,568	***	***
<i>GROWTH</i>	0.210	0.095	0.089	0.040	0.515	0.367	2,217	2,508	***	***
<i>AGE</i>	35.0	73.3	18.0	73.5	41.9	55.0	1,724	2,090	***	***
<i>PERF</i>	-0.034	0.011	0.021	0.027	0.173	0.104	1,724	2,090	***	***
<i>INT_ACC</i>	0.783	0.591	--	--	0.412	0.591	1,724	2,090	*** ¹	--

Note: Significance of differences is assessed based on t-tests (mean) and Wilcoxon-Mann-Whitney tests (median).¹ Significance of differences is assessed based on a Chi-square-test. Source: Own Analysis.

Table 43: C-Score and Discretionary Accruals According to Family Ownership Quintiles

<i>Family Ownership</i>				
Percentile	N	Mean	Median	
No Family Ownership	2,830	0.000	0.000	
2	0	n.a.	n.a.	
3	133	0.041	0.045	
4	991	0.253	0.260	
High Family Ownership	983	0.604	0.590	

<i>Family Ownership</i>	<i>C-Score</i>		<i>Discretionary Accruals</i>	
Percentile	Mean	Median	Mean	Median
No Family Ownership	0.174	0.196	0.056	0.037
2	n.a.	n.a.	n.a.	n.a.
3	0.250	0.270	0.080	0.050
4	0.322	0.313	0.083	0.057
High Family Ownership	0.273	0.283	0.066	0.045
Diff (High - No)	0.099	0.087	0.010	0.008
p-value	0.000	0.000	0.000	0.000

Source: Own Analysis.

Table 44 shows the correlation matrix for variables used in the analyses of this chapter based on Pearson correlation coefficients. Spearman correlation coefficients are displayed in parentheses. Family governance is measured using various proxies though only family ownership is included in the correlation matrix. C-Score is positively correlated to family ownership (*FF_OWN*), discretionary accruals (*ABS_ACC*) and non-family insider ownership (*NF_INSIDER*) and negatively correlated to ownership concentration (*HERF*), size (*MCAP*), firm age (*AGE*), performance (*PERF*) and the use of international accounting standards (*INT_ACC*), whereas sales growth (*GROWTH*) is not significantly correlated to C-Score. The positive relationship between C-Score and discretionary accruals could indicate that conditional conservatism is partly driven by earnings management. VIFs are unproblematic and range from 1.11 (*HERF*) to 1.46 (*MCAP*).

Table 44: Correlation Matrix (Family Governance and Conservatism)

Variables	Correlations										VIF	
	1	2	3	4	5	6	7	8	9	10		
1 C-Score	1											
2 ABS_ACC	0.196*** (0.221***)	1										1.20
3 FF_OWN	0.128*** (0.188***)	0.080*** (0.136***)	1									1.22
4 NF_INSIDER	0.098*** (0.202***)	0.017 (-0.061***)	-0.2957*** (-0.227***)	1								1.21
5 HERF	-0.064*** (-0.027)	-0.082*** (-0.048)	-0.048*** (0.049***)	0.029** (-0.069***)	1							1.11
6 MCAP	-0.5894*** (-0.625***)	-0.252*** (-0.233***)	-0.126*** (-0.181***)	-0.167*** (-0.256***)	0.105*** (0.034*)	1						1.46
7 GROWTH	0.035 (-0.002)	-0.001 (-0.049***)	0.090*** (0.071***)	0.025* (0.061***)	-0.080*** (-0.098***)	0.075*** (0.158**)	1					1.04
8 AGE	-0.319*** (-0.339***)	-0.227*** (-0.229***)	-0.209*** (-0.239***)	-0.016 (-0.137***)	0.256*** (0.176***)	0.349*** (0.351**)	-0.165*** (-0.146***)	1				1.41
9 PERF	-0.269*** (-0.224***)	-0.364*** (-0.170***)	-0.032** (-0.025)	0.000 (-0.050***)	0.120*** (0.042**)	0.362*** (0.419**)	0.055*** (0.266***)	0.217*** (0.166***)	1			1.31
10 INT_ACC	-0.043*** (-0.070***)	0.065*** (0.050***)	0.074*** (0.114***)	-0.033** (0.030)	-0.286*** (-0.224***)	0.035** (0.036*)	0.080*** (0.105***)	-0.282*** (-0.278***)	-0.089*** (-0.016)	1		1.16

*, **, *** significantly different from zero at the $\alpha = 0.1, 0.05$ and 0.01 level, respectively (two-tailed).

Pearson correlation matrix, Spearman correlation coefficients in parentheses. Variables are as defined in the multivariate analyses.

Source: Own Analysis.

Table 45 shows the mean coefficients from the annual cross-sectional regressions of earnings on the variables in the Basu (1997) model that build the basis for the calculation of C-Score.⁹³⁴ Results are derived from 3,814 firm years from 1998 to 2008. Regressions are estimated annually to provide that coefficients vary on a yearly basis. C-Score is calculated based on the parameter estimates from the annual cross-sectional regressions. Standard errors reported in table 45 correspond to the standard errors of the eleven coefficients based on the procedure in Fama/MacBeth (1973). Reported adjusted R² is equal to the mean adjusted R² from the eleven yearly regressions. The coefficient on *RET * NEG* is positive as expected and corresponds to the asymmetric timeliness coefficient. Furthermore, the coefficient, *RET * NEG * SIZE* also exhibits a positive value consistent with the prediction that larger firms have lower information asymmetries.⁹³⁵ The coefficients on the other firm characteristics that are presumed to be associated with conditional conservatism in Khan/Watts (2009) leverage and market-to-book ratio do not yield significant coefficients regarding the asymmetric timeliness of earnings.

⁹³⁴ The mean value of C-Score in this study is around 0.2 and hence somewhat higher as compared to 0.1 in Khan/Watts (2009) based on a sample of US firms.

⁹³⁵ This result is consistent with Khan/Watts (2009), p. 137.

Table 45: Mean Coefficients from Estimation Regressions (Basu, 1997)

Dependent Variable: NI			
Independent Variables	Predicted Sign	Estimate	Std. Error
<i>Intercept</i>	?	-0.032	0.041
<i>NEG</i>	?	0.045	0.062
<i>RET</i>	+	-0.107	0.098
<i>RET*NEG</i>	+	1.314***	0.285
<i>SIZE</i>	?	0.011	0.007
<i>RET*SIZE</i>	?	0.027	0.018
<i>NEG*SIZE</i>	?	-0.007	0.011
<i>RET*NEG*SIZE</i>	-	-0.229***	0.053
<i>LEV</i>	?	-0.055***	0.008
<i>RET*LEV</i>	?	-0.129	0.090
<i>NEG*LEV</i>	?	0.029	0.032
<i>RET*NEG*LEV</i>	+	0.209	0.156
<i>MTB</i>	?	0.009**	0.004
<i>RET*MTB</i>	?	-0.023	0.023
<i>NEG*MTB</i>	?	-0.004	0.006
<i>RET*NEG*MTB</i>	+	0.035	0.027
F-Value		59.59	
p-value F-test		0.000	
Av. R ²		0.304	
N		3,814	

Note: The table shows mean coefficients from annual cross-sectional (Fama-MacBeth) regressions on a sample of 3,814 firm years from 1998 to 2008; *NI* is net income before extraordinary items scaled by average total assets; *RET* is cumulative annual returns 3 months after fiscal year's end; *NEG* is a dummy variable equal to one if returns (*RET*) are negative and zero otherwise; * is the multiplication operator; *SIZE* is the natural log of total assets; *LEV* is leverage, defined as debt to total assets. *MTB* is market-to-book ratio. Adj. R² is the average of the adjusted R-squares from the 11 annual regressions. Numbers in parentheses denote Fama-Macbeth (1973) standard errors; *** / ** / * indicates a two-tailed level of significance of 99% / 95% / 90%. Source: Own Analysis.

8.4 Multivariate Analysis

Tables 46 and 47 show the results from the pooled OLS regression on C-Score, while results from the between effects models are tabulated in tables 65 and 66, appendix C.

Family firms exhibit higher levels of conditional conservatism than non-family firms. Consistently, the coefficient on the dummy variable (*Dummy_FF*) and family ownership (*FF_OWN*) are positive and significantly different from zero at the 5%-level and 1%-level respectively. This result also holds for the between effects model. The second model suggests that conditional conservatism is equally pronounced in family firm types 1, 2 and 4 but not associated with family firm types 3 and 5. Results from the between effects model suggest that conditional conservatism is more pronounced in family firms with family ownership and management (type 1) and less pronounced in family firms with family managers that no longer hold an ownership stake in the firm (type 4) but not associated with other types of family firms.

The coefficient on the interacted variable regarding the presence of the family in the management board (*FMB*) and family ownership (*FF_OWN*) is positive and significantly different from zero at the 10%-level (5%-level in the BE model). Model five suggests that family management and control via the supervisory board are important drivers of conditional conservatism in family firms and have incremental explanatory power over family ownership. Results from the pooled OLS regressions regarding effects of CEO and Chairman attributes on conditional conservatism suggest that conditional conservatism is more pronounced in family firms with family or external CEOs but not affected by the presence of a descendant CEO or family chairman. The between effects model is consistent with the OLS model but indicates that the level of conditional conservatism is higher for founder CEOs (p-value < 0.001) than hired CEOs (p-value < 0.1).

Results indicate that conditional conservatism is particularly pronounced in firms in which the family is invested in the firm and holds positions in the board, particularly the management board. This evidence is consistent with the explanation that family managers have lower incentives to defer 'bad news' to later periods than non-family managers. Family firms with descendant CEOs represent family firms in later family business generations. In these firms incentives to smooth earnings for dividend purposes could be more pronounced than in founder-led firms which may lead to lower levels of conditional conservatism. The presence of an external CEO is positively as-

sociated with conditional conservatism according to both models. This may indicate that family members in the supervisory board demand conditional conservatism for monitoring purposes. Consistently, results from the pooled OLS models suggest that the presence of family members in the supervisory board is positively related to conditional conservatism. Previous studies suggest that conditional conservatism is more pronounced in firms in which boards have high monitoring incentives.⁹³⁶ Although these studies focus on board independence and conditional conservatism, the rationale that monitoring incentives create demand for timely loss recognition could be transferable. An alternative interpretation relates to the role of conditional conservatism in mitigating agency conflicts between family and minority shareholders. Private benefits of control increase with family ownership. In this context, minority shareholders could demand conditional conservatism to prevent expropriation by family shareholders consistent with the argumentation in Shuto/Takada (2010) on managerial ownership. Although it is difficult to assess which of the explanations is predominant, results suggest that there is demand for conditional conservatism in family firms from both shareholders' perspective.

The analyses also shed light on the influence of other governance and firm characteristics on conditional conservatism among German firms. Evidence suggests that non-family insider ownership (*NF_INSIDER*) is only weakly correlated to conditional conservatism and only significant in some of the models. However, this indicates that insider ownership is positively associated with conditional conservatism by trend. The level of conditional conservatism is not affected by the level of ownership concentration measured by the Herfindahl index (*HERF*). As predicted, conditional conservatism is negatively associated with firm size (*SIZE*) and age (*AGE*) but positively associated with sales growth (*GROWTH*), whereas the coefficients on return on assets (*PERF*) are not significantly different from zero. Consistent with the analyses in chapter 6 the application of IFRS or US GAAP (*INT_ACC*) is not significantly associated with the level of conditional conservatism in the between effects models though coefficients are positive and significantly different from zero in some of the models from the pooled OLS regressions.

⁹³⁶ Cf. Ahmed/Duellman (2007); García Lara et al. (2007); García Lara et al. (2009).

Table 46: Family Governance and Conditional Conservatism (OLS I)

Dependent Variable: C-Score							
Independent Variable	Expected Sign	Model 1		Model 2		Model 3	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?	1.183***	0.035	1.182***	0.035	1.207***	0.035
<i>Dummy_FF</i>	?	0.036***	0.009				
<i>Family_Type1</i>	?			0.036***	0.011		
<i>Family_Type2</i>	?			0.043***	0.015		
<i>Family_Type3</i>	?			0.004	0.022		
<i>Family_Type4</i>	?			0.046***	0.017		
<i>Family_Type5</i>	?			0.027	0.024		
<i>FF_OWN</i>	?					0.036**	0.017
<i>NF_INSIDER</i>	?	0.034*	0.017	0.028	0.018	0.029	0.019
<i>HERF</i>	-	0.007	0.016	0.008	0.016	-0.001	0.016
<i>MCAP</i>	-	-0.195***	0.006	-0.195***	0.006	-0.197***	0.006
<i>GROWTH</i>	+	0.026***	0.008	0.026***	0.008	0.027***	0.009
<i>AGE</i>	-	-0.001***	0.000	-0.001***	0.000	-0.001***	0.000
<i>PERF</i>	-	-0.026	0.037	-0.026	0.037	-0.031	0.037
<i>INT_ACC</i>	+	0.024**	0.011	0.024**	0.012	0.027**	0.011
Industry Effects		Included		Included		Included	
Year Effects		Included		Included		Included	
F-Value		230.69		203.15		229.04	
p-value F-test		0.000		0.000		0.000	
Adj R ²		0.573		0.573		0.572	
N		3,728		3,728		3,728	

Notes: Results are derived from the pooled OLS model. *C-Score* is estimated as suggested in Khan/Watts (2009); *Dummy_FF* is an indicator variable that equals one if the founding family holds more than 25% of common shares or positions in the management or supervisory board; *FF_Type* refers to dummy variables that denote family firm types 1 to 5 as defined in the model specification; *FF_OWN* is the cumulative percentage of common shares held by the family; *NF_INSIDER* is the percentage of common shares held by non-family insiders; *HERF* denotes the Herfindahl index on ownership concentration; *MCAP* is log market capitalization; *GROWTH* is sales growth; *AGE* is listing years; *PERF* is net income before extraordinary items scaled by average total assets; *INT_ACC* is a dummy variable and equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero otherwise. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicate a two-tailed significance level at 99% / 95% / 90%. Source: Own Analysis.

Table 47: Family Governance and Conditional Conservatism (OLS II)

Dependent Variable: C-Score							
Independent Variable	Expected Sign	Model 4		Model 5		Model 6	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?	1.211***	0.036	1.178***	0.036	1.184***	0.036
<i>FMB * FF_OWN</i>	?	0.031*	0.017				
<i>FF_OWN</i>	?			0.000	0.019		
<i>FF_MB</i>	?			0.048***	0.018		
<i>FF_SB</i>	?			0.116***	0.036		
<i>F_CEO</i>	?					0.038***	0.011
<i>D_CEO</i>	?					0.016	0.018
<i>H_CEO</i>	?					0.037***	0.012
<i>Family_Chair</i>	?					0.006	0.016
<i>NF_INSIDER</i>	?	0.027	0.018	0.022	0.018	0.030*	0.018
<i>HERF</i>	-	0.007	0.017	-0.001	0.016	0.005	0.017
<i>MCAP</i>	-	-0.193***	0.006	-0.197***	0.006	-0.196***	0.006
<i>GROWTH</i>	+	0.026***	0.008	0.027***	0.009	0.0262***	0.008
<i>AGE</i>	-	-0.001***	0.000	-0.001***	0.000	-0.001***	0.000
<i>PERF</i>	-	-0.027	0.037	-0.028	0.037	-0.015	0.038
<i>INT_ACC</i>	+	0.025**	0.011	0.027**	0.011	0.023**	0.011
Industry Effects		Included		Included		Included	
Year Effects		Included		Included		Included	
F-Value		229.1		213.93		208.57	
p-value F-test		0.000		0.000		0.000	
Adj R ²		0.572		0.574		0.575	
N		3,728		3,728		3,641	

Notes: Results are derived from the pooled OLS model. *C-Score* is estimated as suggested in Khan/Watts (2009); *FF_OWN* is the cumulative percentage of common shares held by the family; *FF_MB* is the percentage of family members in the management board; *FF_SB* is the percentage of family members in the supervisory board; *F_CEO* is one if the CEO is the founder of the firm, and zero otherwise; *D_CEO* is one if the CEO is a descendant of the founder, and zero otherwise; *H_CEO* is one if the family firm is managed by an external CEO; *FF_Chair* is one if the chairman of the supervisory board is a family member and zero otherwise; *NF_INSIDER* is the percentage of common shares held by non-family insiders; *HERF* denotes the Herfindahl index on ownership concentration; *MCAP* is log market capitalization; *GROWTH* is sales growth; *AGE* is listing years; *PERF* is net income before extraordinary items scaled by average total assets; *INT_ACC* is a dummy variable and equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero otherwise. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicate a two-tailed significance level at 99% / 95% / 90%. Source: Own Analysis.

Table 48: Non-Linearity between Family Ownership and Conditional Conservatism (OLS)

Dependent Variable: C-Score							
Independent Variable	Expected Sign	Model 1		Model 2		Model 3	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?	1.180***	0.035	1.198***	0.036	1.197***	0.036
<i>No_FAM</i>	?	0.040***	0.015				
<i>W_FAM</i>	?	0.043***	0.012				
<i>S_FAM</i>	?	0.029**	0.011				
<i>FF_OWN</i>	?			0.127**	0.058		
<i>FF_OWN²</i>	?			-0.140*	0.083		
<i>FF_1</i>	?					0.033**	0.013
<i>FF_2</i>	?					0.027**	0.012
<i>FF_3</i>	?					0.022*	0.013
<i>FF_4</i>	?					0.016	0.021
<i>NF_INSIDER</i>	?	0.031*	0.018	0.030	0.019	0.030	0.019
<i>HERF</i>	-	0.013	0.017	0.006	0.017	0.009	0.017
<i>MCAP</i>	-	-0.195***	0.006	-0.196***	0.006	-0.197***	0.006
<i>GROWTH</i>	+	0.025***	0.009	0.027***	0.009	0.026***	0.009
<i>AGE</i>	-	-0.001***	0.000	-0.001***	0.000	-0.001***	0.000
<i>PERF</i>	-	-0.022	0.036	-0.031	0.037	-0.028	0.037
<i>INT_ACC</i>	+	0.024**	0.011	0.025**	0.012	0.026**	0.012
Industry Effects		Included		Included		Included	
Year Effects		Included		Included		Included	
F-Value		212.85		221.1		202.17	
p-value F-test		0.000		0.000		0.000	
Adj. R ²		0.573		0.572		0.574	
N		3,728		3,728		3,728	

Note: Results are derived from the pooled OLS model. *C-Score* is estimated as suggested in Khan/Watts(2009); *No_FAM* is a dummy variable and one if the family holds no shares but positions in the board(s), *W_FAM* is a dummy variable and one if family ownership is below the median of family ownership in the observation year and zero otherwise; *S_FAM* is a dummy variable and one if family ownership is above the median of family ownership in the observation year and zero otherwise; *FF_OWN* (*FF_OWN²*) is the (squared) percentage of shares held by the family; *NF_INSIDER* is the percentage of common shares held by non-family insiders; *HERF* denotes the Herfindahl index on ownership concentration; *MCAP* is log market capitalization; *GROWTH* is sales growth; *AGE* is listing years; *PERF* is net income before extraordinary items scaled by average total assets; *INT_ACC* is a dummy variable and equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero otherwise. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicate a two-tailed significance level at 99% / 95% / 90%. Source: Own Analysis.

Reporting incentives change with the level of family ownership. Table 48 shows the results from the analyses that examine if there is a non-linear relationship between family ownership and conditional conservatism derived from the pooled OLS model. Results from the between effects model are tabulated in table 67 in appendix C. Evidence suggests that the level of conditional conservatism is more pronounced for medium as compared to low and high levels of family ownership.

In the pooled OLS model, conditional conservatism is more pronounced in family firms characterized by ‘weak’ family ownership as compared to family firms characterized by ‘strong’ family ownership. The coefficient on ‘no’ family ownership (*No_FAM*) is also positive and significantly different from zero. Results are consistent with the between effects model, though the coefficient on no family ownership is only significant at the 5%-level.

In the pooled OLS regression and the between effects model, the coefficient on family ownership (*FF_OWN*) is positive whereas the squared coefficient on family ownership (*FF_OWN*²) is negative. This could indicate that there is a non-linear relationship between family ownership and conservatism with an inflection point at 45% (OLS) (41% BE) of family ownership. Thereby, family firms report higher levels of conditional conservatism than non-family firms up to an ownership level of 91% (OLS) (82% BE). It needs to be noted that Wald tests on the sum out of *FF_OWN* and *FF_OWN*² indicate that the coefficients are not significantly different from each other neither in the pooled OLS nor the between effects model.

The analysis based on the control thresholds among listed firms in Germany suggests that conditional conservatism is particularly pronounced in firms with family ownership less 50%. In the between effects model conditional conservatism is particularly prevalent in family firms with 25% to 50% of family ownership whereby the coefficient on family ownership between 0% and 25% is not significantly different from zero. While the coefficient on family ownership between 50% and 75% is positive and significant at the 10%-level for the pooled OLS and the between effects model, the coefficient on the dummy variable that indicates levels of family ownership exceeding 75% is not significantly different from zero.

This result could be interpreted as a signal that the perceived risk of expropriation of minority shareholders is considered to be more pronounced at medium levels of family

ownership consistent with the argumentation in Morck et al. (1988) and Anderson/Reeb (2003a). This evidence is in line with evidence on Japanese firms in Shuto/Takada (2010). They conclude that the level of conditional conservatism is driven by the level of agency costs in the firm. As a robustness analysis, I also test for the presence of cubic form model but prefixes of the coefficients suggest that the relation between family ownership and conditional conservatism corresponds to an inverted u-shape rather than a cubic form model.

Results are also consistent with the notion that family shareholders have higher demand for conditional conservatism when they hold concentrated ownership in the firm. However, earnings quality such as timely loss recognition may play a less important role at very high levels of family ownership. This is consistent with evidence in Ball/Shivakumar (2005) that conditional conservatism is less pronounced in privately held as compared to public firms.

It needs to be noted that most families in the sample hold stakes that exceed 25% of ownership as illustrated in the summary statistics in table 42. Family shareholders are likely to not only have demand for conditional but also for unconditional conservatism. Therefore, the positive relationship between family ownership and conditional conservatism could be partly driven by earnings management. Results from the regressions including discretionary accruals as explanatory variable are tabulated in tables 49 to 51.

Evidence from the pooled OLS models indicates that the level of conditional conservatism is not affected by discretionary accruals, whereas results from the between effects models indicate that discretionary accruals are positively associated with the level of conditional conservatism throughout the models. Coefficients on absolute discretionary accruals are significant at the 5%-level. Results from the BE models are tabulated in tables 68 to 70 in appendix C

Results suggest that family firms have higher levels of conditional conservatism particularly if family members are involved in the management board consistent with the previous analyses. However, the coefficient on family ownership is no longer significant in the between effects model and only significant at the 10%-level in the pooled OLS model. Furthermore, the coefficient on the presence of an external CEO is no

longer significantly different from zero under the BE model, whereas the level of significance remains unchanged under the pooled OLS regression model.

The analysis on the non-linearity between family ownership and conservatism suggests that conditional conservatism is more pronounced in family firms with no family ownership as compared to family firms with weak or high family ownership. While the coefficient on *No_FAM* is positive and significant at the 1%-level, the coefficients on *W_FAM* and *S_FAM* are positive and significant at the 5%- and 10%-level. This result suggests that the demand for conditional conservatism decreases at higher levels of family ownership. Consistently, the coefficient on *FF_OWN* is positive and significant at the 10%-level whereas the coefficient on the squared variable *FF_OWN*² is not significantly different from zero. In the third model, only the coefficient that proxies for ownership levels between 25% and 50% (*FF_2*) is positive and significantly different from zero, whereas the coefficient on family ownership between 50% and 75% (*FF_3*) is no longer significant.

In summary, results from the pooled OLS and the between effects model suggest that the influence of family ownership and management is weaker when discretionary accruals are considered as control variables in the analysis. As a result, evidence may indicate that the level of conservatism is likely to be partially driven by downwards earnings management in family firms, particularly at higher levels of family ownership.

Results on effects of other firm characteristics on conditional conservatism including non-family insider ownership, ownership concentration, market capitalization, growth, age, performance and the application of international accounting standards are remain unaltered when discretionary accruals are included as control variable in the pooled OLS and the between effects models.

Table 49: Family Governance, Discretionary Accruals and Conditional Conservatism (OLS I)

Dependent Variable: C-Score							
Independent Variable	Expected Sign	Model 1		Model 2		Model 3	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?	1.255***	0.039	1.253***	0.039	1.278***	0.039
<i>Dummy_FF</i>	?	0.034***	0.009				
<i>Family_Type1</i>	?			0.034***	0.011		
<i>Family_Type2</i>	?			0.033**	0.014		
<i>Family_Type3</i>	?			0.017	0.023		
<i>Family_Type4</i>	?			0.068***	0.019		
<i>Family_Type5</i>	?			0.014	0.024		
<i>FF_OWN</i>	?					0.032*	0.017
<i>ABS_ACC</i>		0.093	0.076	0.091	0.075	0.101	0.076
<i>NF_INSIDER</i>	?	0.041**	0.019	0.035*	0.020	0.035*	0.020
<i>HERF</i>	-	0.006	0.018	0.007	0.018	-0.002	0.018
<i>MCAP</i>	-	-0.208***	0.006	-0.208***	0.006	-0.209***	0.006
<i>GROWTH</i>	+	0.032***	0.009	0.031***	0.009	0.033***	0.009
<i>AGE</i>	-	-0.001***	0.000	-0.001***	0.000	-0.001***	0.0001
<i>PERF</i>	-	0.070	0.045	0.074*	0.044	0.066	0.045
<i>INT_ACC</i>	+	0.024*	0.012	0.023*	0.012	0.026**	0.012
Industry Effects		Included		Included		Included	
Year Effects		Included		Included		Included	
F-Value		208.64		185.54		205.89	
p-value F-test		0.000		0.000		0.000	
Adj R ²		0.604		0.604		0.603	
N		2,810		2,810		2,810	

Notes: Results are derived from the pooled OLS model. *C-Score* is estimated as suggested in Khan/Watts(2009); *Dummy_FF* is an indicator variable that equals one if the founding family holds more than 25% of ordinary shares or positions in the management or supervisory board; *FF_Type* refers to dummy variables that denote family firm types 1 to 5 as defined in the model specification; *FF_OWN* is the cumulative percentage of common shares held by the family; *ABS_DACC* is absolute discretionary accruals; *NF_INSIDER* is the percentage of common shares held by non-family insiders; *HERF* denotes the Herfindahl index on ownership concentration; *MCAP* is log market capitalization; *GROWTH* is sales growth; *AGE* is listing years; *PERF* is net income before extraordinary items scaled by average total assets; *INT_ACC* is a dummy variable and equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero otherwise. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicate a two-tailed significance level at 99% / 95% / 90%. Source: Own Analysis.

Table 50: Family Governance, Discretionary Accruals and Conditional Conservatism (OLS II)

Dependent Variable: C-Score							
Independent Variable	Expected Sign	Model 4		Model 5		Model 6	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?	1.282***	0.039	1.245***	0.040	1.249***	0.040
<i>FMB * FF_OWN</i>	?	0.024	0.017				
<i>FF_OWN</i>	?			-0.005	0.019		
<i>FF_MB</i>	?			0.061***	0.019		
<i>FF_SB</i>	?			0.086**	0.036		
<i>F_CEO</i>	?					0.045***	0.011
<i>D_CEO</i>	?					0.010	0.017
<i>H_CEO</i>	?					0.036***	0.012
<i>Family_Chair</i>	?					0.001	0.015
<i>ABS_ACC</i>	?	0.102	0.075	0.085	0.075	0.095	0.076
<i>NF_INSIDER</i>	?	0.028	0.019	0.034*	0.020	0.036*	0.019
<i>HERF</i>	-	-0.001	0.018	0.007	0.018	0.008	0.018
<i>MCAP</i>	-	-0.210***	0.007	-0.205***	0.007	-0.209***	0.006
<i>GROWTH</i>	+	0.033***	0.009	0.032***	0.009	0.034***	0.009
<i>AGE</i>	-	-0.001***	0.000	-0.001***	0.000	-0.001***	0.000
<i>PERF</i>	-	0.070	0.045	0.070	0.045	0.084*	0.045
<i>INT_ACC</i>	+	0.026**	0.012	0.024*	0.012	0.021*	0.012
Industry Effects		Included		Included		Included	
Year Effects		Included		Included		Included	
F-Value		206.97		191.88		192.72	
p-value F-test		0.000		0.000		0.000	
Adj R ²		0.602		0.604		0.606	
N		2,810		2,810		2,758	

Notes: Results are derived from the pooled OLS model. *C-Score* at *t* is estimated as suggested in Khan/Watts(2009); *FF_OWN* is the cumulative percentage of common shares held by the family; *FF_MB* is the percentage of family members in the management board; *FF_SB* is the percentage of family members in the supervisory board; *F_CEO* is one if the CEO is the founder of the firm, and zero otherwise; *D_CEO* is one if the CEO is a descendant of the founder, and zero otherwise; *H_CEO* is one if the family firm is managed by an external CEO; *FF_Chair* is one if the chairman of the supervisory board is a family member and zero otherwise; *ABS_DACC* is absolute discretionary accruals; *NF_INSIDER* is the percentage of common shares held by non-family insiders; *HERF* denotes the Herfindahl index on ownership concentration; *SIZE* is log market capitalization; *GROWTH* is sales growth; *AGE* is listing years; *PERF* is net income before extraordinary items scaled by average total assets; *INT_ACC* is a dummy variable and equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero if prepared under German GAAP. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicate a two-tailed significance level at 99% / 95% / 90%. Source: Own Analysis.

Table 51: Family Governance, Discretionary Accruals and Conditional Conservatism (OLS III)

Dependent Variable: C-Score							
Independent Variable	Expected Sign	Model 1		Model 2		Model 3	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?	1.254***	0.039	1.269***	0.039	1.273***	0.039
<i>No_FAM</i>	?	0.045***	0.016				
<i>W_FAM</i>	?	0.035***	0.012				
<i>S_FAM</i>	?	0.026**	0.011				
<i>FF_OWN</i>	?			0.120**	0.058		
<i>FF_OWN²</i>	?			-0.136	0.083		
<i>FF_1</i>	?					0.016	0.013
<i>FF_2</i>	?					0.028**	0.012
<i>FF_3</i>	?					0.016	0.013
<i>FF_4</i>	?					0.006	0.022
<i>ABS_ACC</i>	?	0.092	0.076	0.097	0.076	0.102	0.076
<i>NF_INSIDER</i>	?	0.035*	0.020	0.036*	0.021	0.035*	0.021
<i>HERF</i>	-	0.009	0.018	0.006	0.019	0.0075	0.019
<i>MCAP</i>	-	-0.208***	0.006	-0.209***	0.006	-0.210***	0.006
<i>GROWTH</i>	+	0.032***	0.009	0.033***	0.009	0.032***	0.009
<i>AGE</i>	-	-0.001***	0.000	-0.001***	0.000	-0.001***	0.000
<i>PERF</i>	-	0.074*	0.045	0.067	0.045	0.070	0.046
<i>INT_ACC</i>	+	0.023*	0.012	0.024*	0.013	0.025**	0.013
Industry Effects		Included		Included		Included	
Year Effects		Included		Included		Included	
F-Value		198.60		193.93		181.62	
p-value F-test		0.000		0.000		0.000	
Adj. R ²		0.604		0.603		0.604	
N		2,810		2,810		2,810	

Note: Results are derived from the pooled OLS model. *C-Score* is estimated as suggested in Khan/Watts(2009); *No_FAM* is a dummy variable and one if the family holds no shares but positions in the board(s), *W_FAM* is a dummy variable and one if family ownership is below the median of family ownership and zero otherwise; *S_FAM* is a dummy variable and one if family ownership is above the median of family ownership and zero otherwise; *FF_OWN* (*FF_OWN²*) is the (squared) percentage of shares held by the family; *ABS_DACC* is absolute discretionary accruals; *NF_INSIDER* is the percentage of common shares held by non-family insiders; *HERF* denotes the Herfindahl index on ownership concentration; *SIZE* is log market capitalization; *GROWTH* is sales growth; *AGE* is listing years; *PERF* is net income before extraordinary items scaled by average total assets; *INT_ACC* is a dummy variable and equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero otherwise. Standard errors are clustered according to Petersen (2009). *** / ** / * indicate a two-tailed significance level at 99% / 95% / 90%. Source: Own Analysis.

8.5 Robustness

Presence of Outside Blockholders

The level of conditional conservatism could be systematically associated with outside blockholders and other shareholder types. Therefore, I repeat the analyses including the percentage held by outside blockholders (*OO_all*) instead of ownership concentration (*HERF*) in the model. In a second step, I repeat regression analyses and control for ownership stakes held by strategic investors, banks, private equity and other institutional shareholders. Untabulated results suggest that the level of conditional conservatism is neither affected by the presence of outside blockholders nor particular types of outside blockholders. Analyses based on the OLS model show no significant effects for the variable percentage of shares held by outside blockholders (*OO_all*).

Market Timing

Analyzing conditional conservatism among US firms over time, Givoly/Hayn (2000) suggest that conditional conservatism is particularly pronounced in years with poor performance. Therefore, market timing could influence the results. In particular, conditional conservatism could be particularly prevalent during the period from 1998 to 2003. Consistent with the analyses in chapter 7, analyses are repeated for two different time frames, the period from 1998 to 2003 and the period from 2004 to 2008. Results are largely consistent for both time periods and suggests that family governance is positively associated with the level of conditional conservatism among German firms.⁹³⁷

8.6 Summary of Results

Conditional conservatism is considered to be an instrument to overcome information asymmetries between managers and shareholders. As a consequence, the level of conditional conservatism is considered to be lower when interests between managers and shareholders are aligned through managerial ownership.⁹³⁸ Recent studies suggest that conditional conservatism may also mitigate a between controlling and small shareholders. In particular, the study by Shuto/Takada (2010) points out that conditional conservatism is less pronounced at low and high levels of managerial ownership but

⁹³⁷ Therefore, results are untabulated.

⁹³⁸ Cf. LaFond/Roychowdhury (2008).

more pronounced at medium levels of managerial ownership. Consistent with the argumentation in Morck et al. (1988), they suggest that interests between managers and shareholders may be aligned at low and high levels of managerial ownership, but that managers have the tendency to exploit minority shareholders when they hold medium levels of ownership. As a consequence, minority shareholders could demand conditional conservatism at medium-levels of managerial ownership to protect themselves from expropriation.

Results in this chapter suggest that family firms exhibit higher levels of conditional conservatism than non-family firms. In line with the prediction in Shuto/Takada (2010), conditional conservatism tends to be particularly pronounced in family firms with medium levels of family ownership. Thereby, conditional conservatism tends to be rather driven by family management than ownership. Interpreted in line with the ‘entrenchment’ hypothesis, evidence may indicate that expropriation is more severe in family firms with family management because family CEOs may directly access firm resources. However, evidence could also suggest that family managers are less likely to defer bad news to later periods because the problem of managerial short-termism is mitigated. Long-term orientation and risk aversion could increase demand for conditional conservatism because family shareholders may try to anticipate losses. Family firms have incentives to manage earnings downwards in order to create internal funds to smooth earnings in periods with lower performance as well as to control the level of payout. Consistently, results in this chapter suggest that the coherence between family ownership and conservatism is weaker when discretionary accruals are considered as control variables in the analyses.

9 Summary, Implications and Avenues for Future Research

9.1 Summary

Earnings are used as a performance measure and form part of various contractual agreements between a firm and its constituencies. Regarding the separation of ownership and control, accounting information may alleviate agency problems arising from adverse selection and moral hazard. While the problem of adverse selection is subject of the decision usefulness approach, the problem of moral hazard is addressed in positive accounting theory. In this context, earnings take a dual role, valuation and stewardship. The two roles of earnings require different earnings attributes. Shareholders are considered to be served best by a compromise between relevant and reliable information. There are multiple approaches to reaching such a balance in accounting standards which is reflected in ongoing debates in standard setting including the discussion on fair value accounting and the importance of conservatism as a qualitative characteristic of financial reporting. Although accounting theory primarily focuses on agency problems arising from the separation of ownership and control, accounting information may also lower information asymmetries between small and large shareholders and mitigate agency conflicts between shareholders and debtholders.

Earnings quality is a multi-faceted term and relates to the attempt to measure desirable earnings properties empirically. Incentive structures are presumed to be particularly correlated with the earnings attributes earnings management and conservatism. Managers may engage in earnings management to communicate private information to shareholders or to mask firm performance for their own benefit. Earnings management comprises accounting earnings management and real earnings management. While accounting earnings management refers to the ways in which accounting standards are applied, real earnings management affects the timing and structuring of business activities. The most common metrics for accounting earnings management are proxies for earnings smoothing and discretionary accruals, whereas real earnings management may be assessed based on discretionary cash flows, production and expenses.⁹³⁹ Conservatism relates to the tendency of standard setters and preparers of financial statements to require a higher degree of verifiability for ‘bad news’ as compared to ‘good

⁹³⁹ Cf. Roychowdhury (2006).

news'. Most commonly, conservatism is measured by reverse regression models and modifications thereof.⁹⁴⁰

Economics-based accounting theory primarily builds on the notion of the widely-held firm. Therefore, reflections in accounting theory may not be entirely transferable to countries in which firms show concentrated ownership structures. The German corporate governance system is frequently described as a bank-based system and characterized by concentrated ownership structures in which families represent one of the main shareholder groups. Co-determination and the dual board structure are central characteristics of the German board system. Evidence from comparative studies suggests that German firms exhibit higher levels of earnings smoothing and lower levels of conditional conservatism as compared to Anglo-Saxon countries. Conditional conservatism is considered to mitigate agency problems arising from the separation of ownership and control and is hence presumed to be more pronounced in Anglo-Saxon as compared to Continental European countries. German firms are considered to have incentives to engage in excess conservatism, i.e. manage earnings downwards due to ownership concentration. Incentives for downwards earnings management include the creation of internal funds for financing purposes, limitation of payments to outside parties including dividends and taxes as well as the avoidance of pressure by labor unions.

Regulatory reforms and initiatives in recent years have moved the German accounting and corporate governance system closer towards the Anglo-Saxon model. Increased capital needs among German firms in the 1990s culminated in the issuance of legislation allowing German firms to prepare consolidated financial statements under IFRS or US GAAP without being required to issue additional financial statements under German GAAP. As a result, Germany turned into the country with the highest number of voluntary IFRS adopters in the European Union before IFRS became mandatory from 2005 due to EC regulation. Consistent with previous studies, voluntary adopters are found to be larger, achieve higher percentages of sales in foreign countries, are younger, more profitable and characterized by lower degrees of leverage and ownership concentration. Evidence suggests that shares held by banks decreased the propensity of voluntary IFRS adoption. IFRS adoption did not increase the percentage of

⁹⁴⁰ Cf. Basu (1997); Ball/Shivakumar (2005); Khan/Watts (2009).

shares held by foreign investors in German firms. Insider ownership is not significantly associated with the propensity of voluntary IFRS adoption.

It is a common paradigm that voluntary IFRS adopters in contrast to mandatory adopters have the incentive to not only adopt IFRS but to also increase earnings quality. Consistently, previous studies point out that voluntary IFRS adoption leads to a decrease in earnings smoothing and higher levels of conditional conservatism, though the level of discretionary accruals remains unaltered. Mandatory IFRS adoption is commonly found not to be associated with a decrease in earnings management or an increase in conditional conservatism. Results in this study are able to replicate results from previous analyses but show that market timing and firm size heterogeneity are likely to bias previous evidence. Sensitivity analyses indicate that IFRS adoption did not affect the level of earnings management and conditional conservatism among German firms but that firm characteristics and differences in the capital market environment are likely to provide a more powerful explanation. This evidence is in line with previous studies which indicate that accounting standards may be a necessary but not a sufficient condition to affect earnings characteristics and that incentives are likely to play a more important role.

Family firms show particular incentive structures that deviate from other forms of ownership structures. Families do not only act as large blockholders but are also frequently involved in the management and/or supervisory board of the firms. These governance characteristics, emotional ties in the firm, long-term orientation, the wish to maintain a controlling position in the firm and risk aversion are likely to be factors affecting reported earnings.

Family firms could have lower incentives to manage earnings because they face less pressure to meet short-term earnings expectations by the capital market given that family shareholders provide patient capital to the firm. Monitoring by the family members could reduce the ability of external managers to manage earnings opportunistically. Incentives for earnings management could be even lower if a family CEO runs the firm because interests between the management and shareholders are aligned. However, financial and non-financial private benefits of control that arise from family firm characteristics such as long-term orientation, risk aversion and the wish to maintain a controlling position in the firm could also lead to higher levels of earnings management.

Family firms are likely to have incentives for downwards earnings management with the purpose of creating hidden reserves. Hidden reserves may be useful in periods with lower performance, to avoid the need for external financing and high payments to outside parties. Besides, dividend-based and debt-related earnings targets could create incentives to manage earnings in family firms. Results in this study suggest that family firms engage in higher levels of earnings management than non-family firms. The level of earnings management tends to be particularly pronounced in family firms with external CEOs. This may indicate that external managers in family firms have incentives to manage earnings to meet the family's expectations and maximize their own utility (e.g. compensation).

Incentives to manage earnings in family firms are likely to change with the level of family ownership. Consistently, results suggest that there is a non-linear relationship between family ownership and earnings management that takes on an inverted u-shape. Incentives to manage earnings in order to defend private benefits of control increase with the level of family ownership. However, when the family dominates the firms (i.e. holds an ownership stake of about fifty percent), earnings lose importance as a means to protect private benefits of control which results in lower levels of earnings management.

Family shareholders as long-term investors could have lower incentives to sacrifice firm value to meet short-term earnings targets by manipulating real activities. However, family shareholders could also engage in real earnings management if necessary to maintain a controlling position in the firm. Consistent with the first prediction, results in the study suggest that family firms engage in less real earnings management when the family holds the majority in the firm.

Family firms need to find a trade-off between the family shareholders' and minority shareholders' interests. Provided that family shareholders have access to private information channels and commonly do not base their investment decision whether to hold or sell their ownership stake on public accounting information, there could be a shift from the valuation to the stewardship role of earnings. Conditional conservatism is found to enhance contracting efficiency between managers and shareholders. Family shareholders as risk averse and long-term oriented investors could demand conditional conservatism to avoid managerial opportunism due to short-termism. The problem of short-termism is mitigated if the family is involved in the management which could re-

sult in lower levels of conditional conservatism. However, managers are likely to have lower incentives to defer 'bad news' to later periods unless required to maintain control in the firm. In particular, family firms could have incentives to manage earnings downwards to keep internal funds in the firm and control payout. Conditional conservatism is also addressed in previous studies as a means to reduce agency conflicts between controlling and minority shareholders. In this context, minority shareholders could demand conditional conservatism to avoid expropriation by family shareholders. However, minority shareholders could also be expropriated when earnings are systematically understated and are hence served best by a compromise between relevant and reliable information.

Results suggest that family firms exhibit higher levels of conditional conservatism than non-family firms particularly if the family is not only invested in the firm but also represented in the management or the supervisory board. Conditional conservatism tends to be particularly pronounced in family firms with medium levels of family ownership. This evidence is consistent with the 'expropriation' hypothesis brought forward in previous studies which suggests that the risk of expropriation is particularly pronounced at medium levels of family ownership. On the other hand, family managers are less likely to defer 'bad news' to later periods when they hold concentrated ownership, whereas earnings may play a less important role in family firms with very high levels of family ownership. Evidence on effects of earnings management on conditional conservatism is mixed and depends on whether the analysis builds on pooled OLS or between effects models. While results remain unaffected when discretionary accruals are considered as control variables, between effects models indicate that conditional conservatism is significantly affected by earnings management. Conditional conservatism is only more prevalent in family firms with family ownership and management whereas the level of conditional conservatism seems to be affected by earnings management in family firms with external CEOs. This is consistent with further evidence in the study that family firms show higher discretionary accruals under the presence of an external CEO and may indicate that external CEOs have particular incentives to manage earnings to find a balance between the family's expectations and their own utility.

In summary, results in this thesis suggest that differences in earnings characteristics among German firms are primarily driven by differences in corporate governance structures, general firm characteristics such as firm size and the respective capital

market environment, whereas IFRS adoption only weakly influenced earnings characteristics. Family firms have particular incentives to alter reported earnings. Non-financial private benefits of control such as long-term orientation associated with the wish to maintain a controlling position in the firm could play an important role in this context. Thereby, family firms tend to exhibit more conservative earnings than non-family firms and are more likely to engage in earnings management to build up hidden reserves rather than overstate reported earnings. While family ownership is on average positively associated with accounting earnings management, evidence suggests that family dominated firms are less likely to manipulate operating activities to meet near-term earnings targets.

9.2 Limitations

The analyses in this study focus on earnings management and conditional conservatism but do not allow for inferences on accounting quality as a whole. Metrics for earnings management and conservatism are associated with various econometric problems. These problems arise primarily because ‘earnings quality’ is unobservable. Although the metrics applied in this study are state-of-the-art, the validity of the results remains contingent on the validity of the metrics to proxy for the underlying earnings characteristics.

9.3 Conclusion, Implications and Avenues for Future Research

Results from this study point out, that the role of accounting information needs to be evaluated relative to the respective corporate governance context. Accounting theory focuses on demand for accounting information arising from the separation between ownership and control as prevalent in listed firms from Anglo-Saxon countries. However, ownership structures outside the US and the UK tend to be more concentrated. Differences in ownership structures are likely to affect the demand for accounting information. In firms with concentrated ownership structures, accounting information may carry less weight in mitigating agency conflicts arising from the separation between ownership and control, but be more relevant as a means of aligning interests between different shareholder groups. As a consequence of the increasing relevance of IFRS as internationally accepted set of accounting standards, researchers and standard setters should increase efforts to investigate how differences in ownership structures affect the demand for accounting information. Agency theory may only provide limited insight to understand the demand for accounting information by different consti-

tencies. As a consequence, accounting theory should broaden its theoretical scope and increasingly consider alternative theoretical frameworks such as behavioral theory.

The influence of corporate governance structures on the demand for accounting information also points out that IFRS as a uniform set of accounting standards is unlikely to produce uniform financial reporting. Standard setters should acknowledge that IFRS need to find a balance between demand for accounting information in widely-held firms and firms with concentrated ownership structures. It should be noted in this context that family firms may not only be attributed to the group of small and medium-sized privately held firms but may also be found among listed firms.

Results in this study point out that IFRS only weakly influenced earnings characteristics among German firms. This evidence could indicate that incentives dominate accounting standards in determining earnings characteristics. Numerous regulatory reforms by the European Union aim at harmonizing accounting and corporate governance across Europe to achieve convergence towards the Anglo-Saxon model. It would be interesting to assess if the relative explanatory power of differences in institutional frameworks for earnings characteristics decreased as a consequence to these reforms. To investigate this issue empirically, one could choose a similar research setting as in Leuz et al. (2003) and cluster countries according to their institutional characteristics. Subsequently, one could compare results before and after regulatory reforms to assess if these reforms led to increased comparability of financial reporting across Europe. As evidence in this study suggests that market timing is likely to affect earnings quality it would be critical to choose periods with similar capital market environments for the analysis. Differences in institutional frameworks are found to lose explanatory power for earnings smoothing and conditional conservatism when firm-level differences such as the importance of dividends or debt financing are considered in determinant models.⁹⁴¹ Similarly, differences in institutional frameworks could lose explanatory power for earnings characteristics once ownership structures are considered. This subject could be addressed by future research.

Family firms are the most prevalent type of firm around the world and are characterized by particular incentive structures that are likely to affect the demand for account-

⁹⁴¹ Cf. Gassen et al. (2006).

ing information. Although family firms are particularly numerous among privately held firms, they also constitute an important phenomenon in the German stock market. As a consequence, family governance is likely to be one of the drivers of earnings management and conservatism among listed firms in Germany. While accounting theory primarily relates to agency theory in order to explain differences in accounting behavior, arguments in this thesis highlight that private benefits of control arising from long-term orientation appear to be one of the main drivers of earnings characteristics among family firms. Previous studies interpret higher levels of earnings management and conditional conservatism in line with higher incentives for expropriation. However, little attention has been paid to the question *how* family shareholders may expropriate minority shareholders via earnings management or investment behavior provided that family shareholders view the firm as an asset that should be transferred to the next generation rather than wealth to be consumed during life time.

Excessive conservatism leads to a systematical understatement of net income in family firms and may also result in underinvestment. Thereby, conservatism could for example be at the disadvantage of minority shareholders if family owners pay out lower dividends than appropriate or increase their power by repurchasing undervalued shares from minority shareholders. However, hidden reserves may also have helped family firms to overcome the financial crisis which is to the benefit of all shareholders and stakeholders. In this context, differences in accounting choices in family firms as compared to non-family firms such as goodwill write-off and accounting for intangible assets could provide further insights that help understand accounting behavior in family firms. In summary, arguments in this study suggest that earnings management and conservatism are likely to take on a different meaning in family as compared to non-family firms. Earnings management does not necessarily need to be detrimental to shareholders. In this context, it would be interesting to analyze economic consequences of earnings characteristics in family firms such as the cost of capital and performance.⁹⁴²

While there is little research on accounting behavior in family firms, there is an increasing strand of literature how family governance affects performance and firm valuation. Most of these studies rely on accounting-based performance measures. As a

⁹⁴² Such a study could choose a similar approach as Bowen et al. (2008).

consequence, differences in earnings characteristics between family and non-family firms could also influence results found in performance studies. For example, Tobin's q is frequently proxied by the market-to-book ratio, a metric that may also proxy for unconditional conservatism. If family firms exhibit higher levels of unconditional conservatism, results on firm valuation may partly arise from differences in accounting behavior.

Results in this study also provide implications regarding deliberations on accounting in privately held firms, also referred to as IFRS for small and medium sized entities. Standard setters should acknowledge that privately held firms are not solely represented by small and medium-sized firms but also comprise numerous large firms. The European Union should critically reflect the role of public accounting information in different types of privately held firms before endorsing IFRS for small and medium sized entities or even introducing a uniform set of accounting standards for European privately held firms on a mandatory basis. Additional scholarly input is needed to support regulatory deliberations in this context.

Appendix

A IFRS Adoption and Earnings Quality

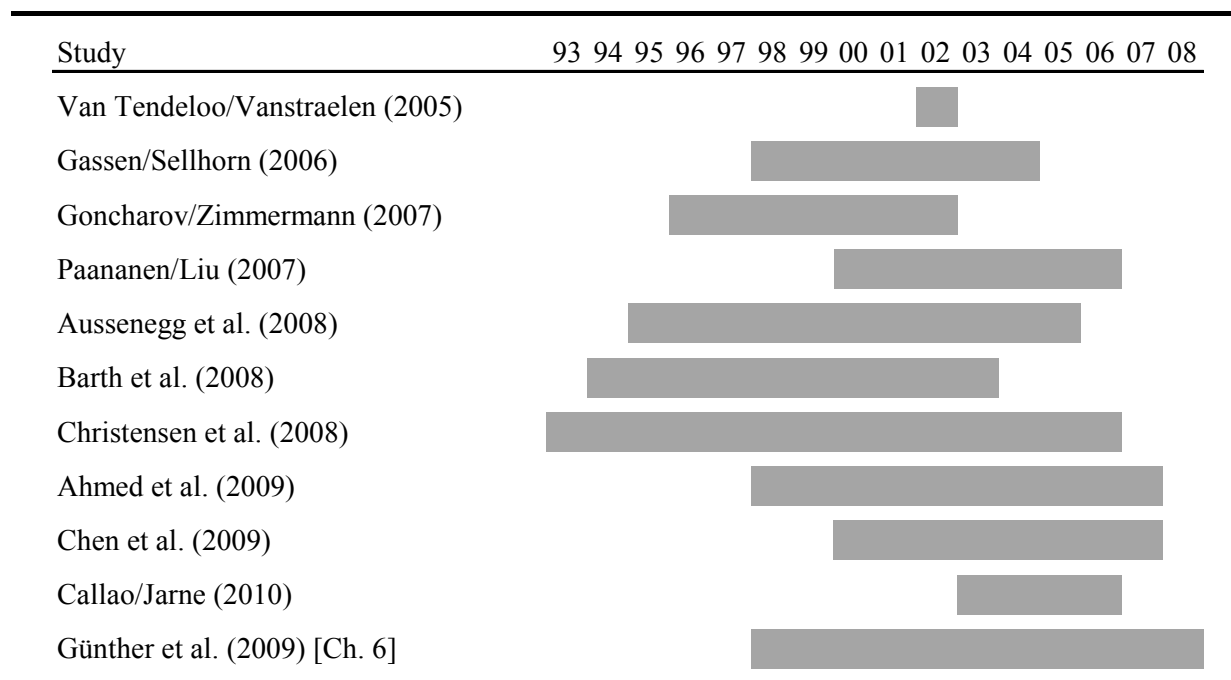


Figure 18: Observation Periods in Studies on IFRS Adoption and Earnings Quality⁹⁴³

⁹⁴³ Source: Own Analysis.

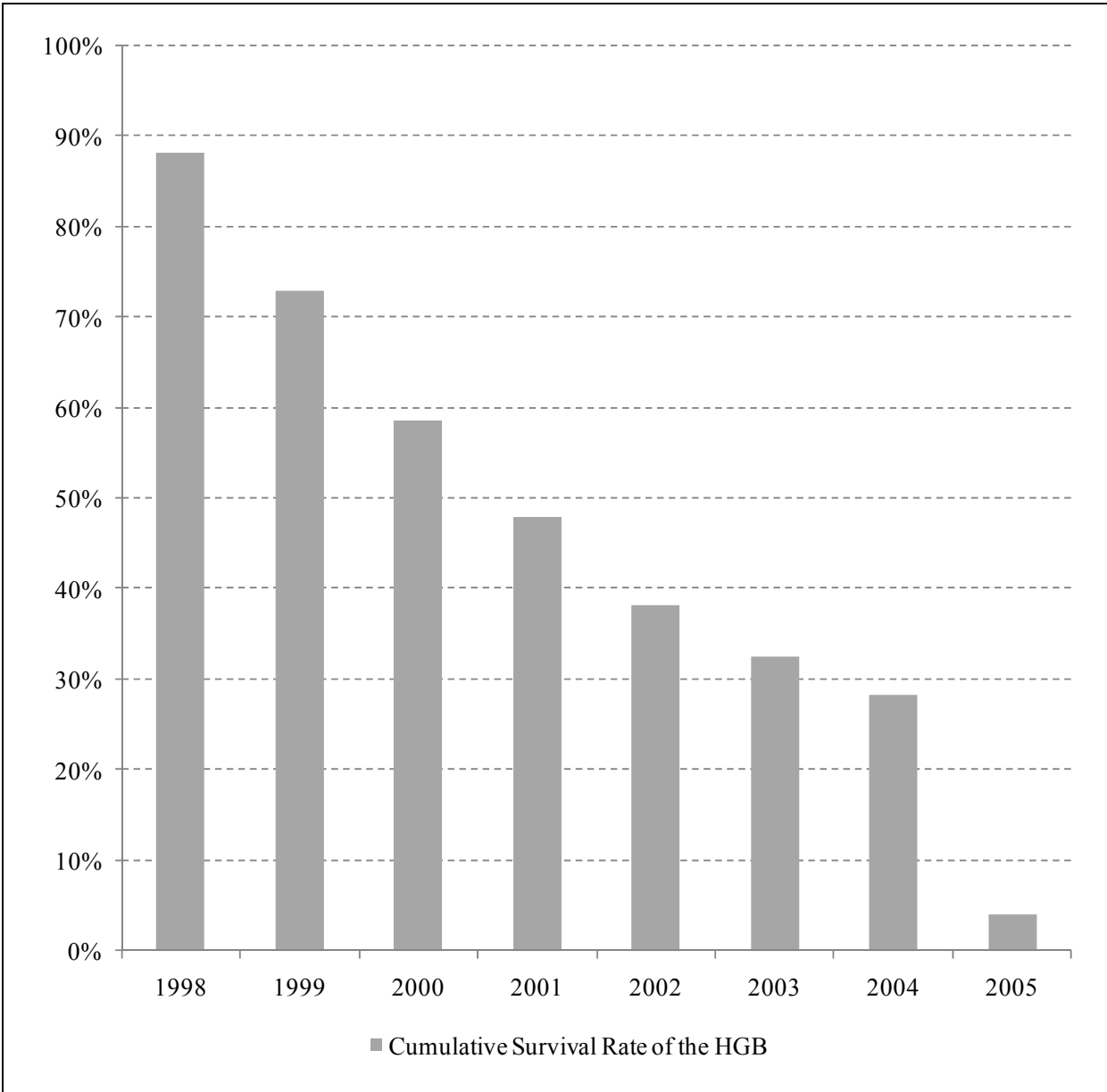


Figure 19: Cumulative Survival Rate of the HGB (1998 – 2008)⁹⁴⁴

⁹⁴⁴ Source: Own Analysis.

Table 52: Impact of Ownership Structures on Early Voluntary IFRS Adoption

$\text{Prob}(\text{EARLY} = 1) = \Phi z (\alpha_0 + \alpha_1 \cdot \text{Conc} + \alpha_4 \cdot \text{Bank} + \alpha_5 \cdot \text{FI} + \alpha_6 \cdot \text{MO} + \beta_n \cdot \text{CV}_n)$						
Sample Period: 1998-2004						
Model	Expected Sign	(1)	(2)	(3)	(4)	(5)
N (<i>firm-years</i>)		1303	1303	1303	1303	1303
Constant	?	-1.827* (0.974)	-2.855*** (0.909)	-2.427*** (0.912)	-2.618*** (0.913)	-1.686* (0.967)
Conc	-	-1.069*** (0.318)				-0.792** (0.341)
Bank	-		-1.536 (0.971)			-1.983* (1.046)
FI	+			-0.831** (0.328)		-0.752** (0.364)
IO	?				-0.232 (0.301)	-0.367 (0.318)
Size	+	0.496*** (0.152)	0.517*** (0.150)	0.466*** (0.151)	0.484*** (0.150)	0.452*** (0.152)
Internationalization	+	0.620* (0.325)	0.615* (0.324)	0.746** (0.328)	0.636** (0.323)	0.669** (0.327)
Listing Years	-	-0.0107** (0.005)	-0.0111** (0.005)	-0.0109** (0.005)	-0.0127** (0.005)	-0.00934* (0.005)
EXL	+	0.511 (0.372)	0.715* (0.366)	0.685* (0.369)	0.716* (0.367)	0.588 (0.380)
Growth	+	0.389*** (0.145)	0.423*** (0.141)	0.416*** (0.139)	0.441*** (0.144)	0.398*** (0.144)
Lev	-	-1.276*** (0.454)	-1.086** (0.450)	-1.189*** (0.460)	-1.062** (0.454)	-1.242*** (0.464)
Industry Fixed Effects		Included	Included	Included	Included	Included
Year Fixed Effects		Included	Included	Included	Included	Included
Pseudo R ²		0.275	0.257	0.268	0.254	0.290

Note: *Early* is an indicator variable which equals 1 if a firm adopts *IFRS* no later than 2001 and zero otherwise. *Conc* is the aggregate amount of stock owned by the three biggest shareholders. *Bank* is defined as the cumulated amount of stock owned by German banks. *FI* comprises the percentage of stock held by non-German investors. *IO* aggregates all block holdings owned by investors with inside information. *CV* denotes the following included control variables. *Size* is defined as natural logarithm of total assets at fiscal year end. *Internationalization* is the fraction of sales achieved outside the home market. *Listing years* is the difference between year *t* and the IPO year. *EXL* is defined as an indicator variable which equals 1 if the firm is listed on a European Stock Exchange in year *t* and zero otherwise. *Growth* is the relative difference of sales in period *t* and period *t-1*. *Lev* is total debt divided by average total assets. Additionally we control for Industry and Year Fixed Effects. Industry Fixed Effects are calculated on the basis of ICB-industry codes. Numbers in parantheses denote clustered, standard errors following Petersen (2009). *** / ** / * indicates a two-tailed significance level of 99% / 95% / 90%. Source: Own Analysis.

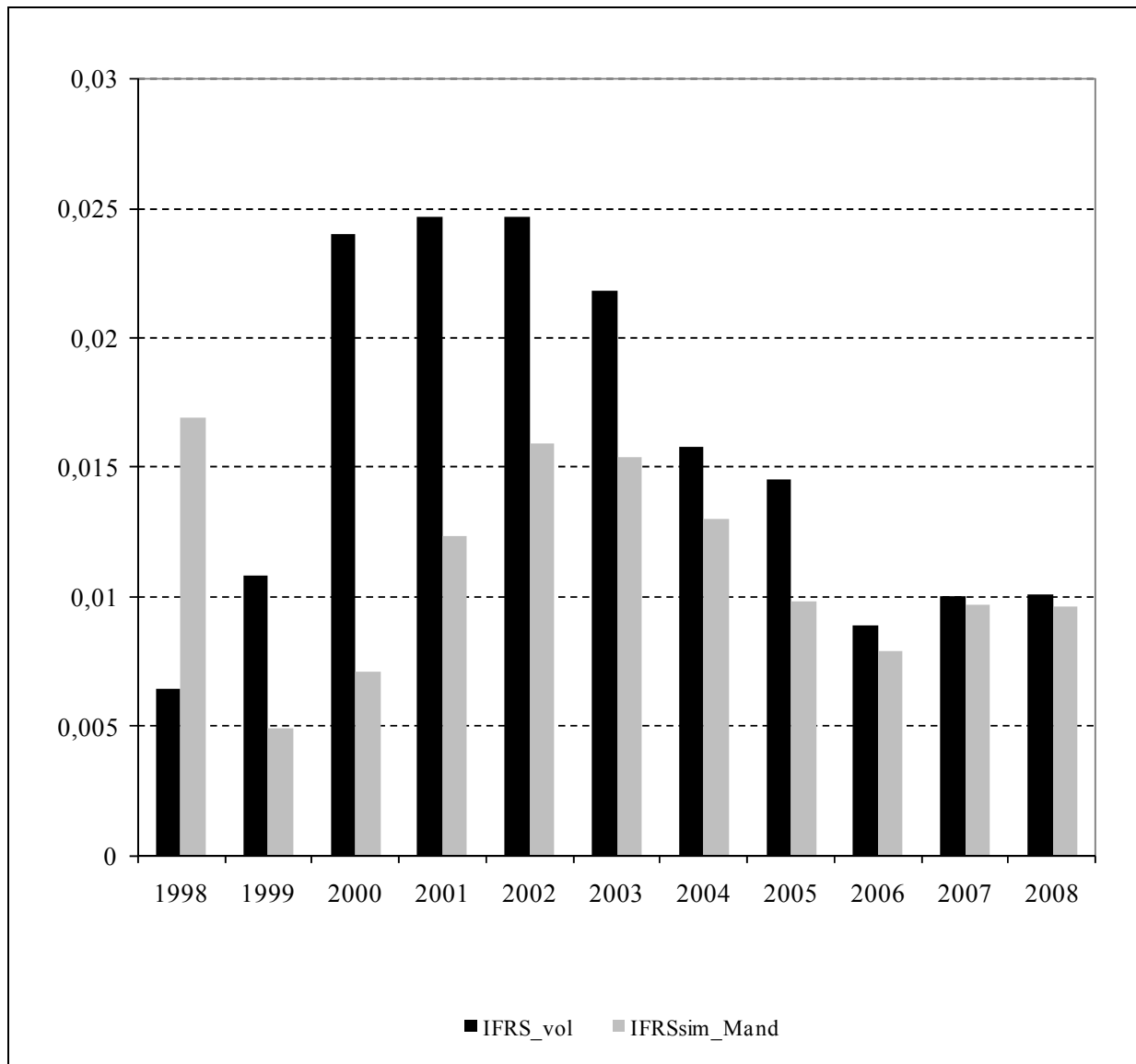


Figure 20: Variability in Net Income for Voluntary and Mandatory Adopters (Simulation)⁹⁴⁵

⁹⁴⁵ Source: Own analysis.

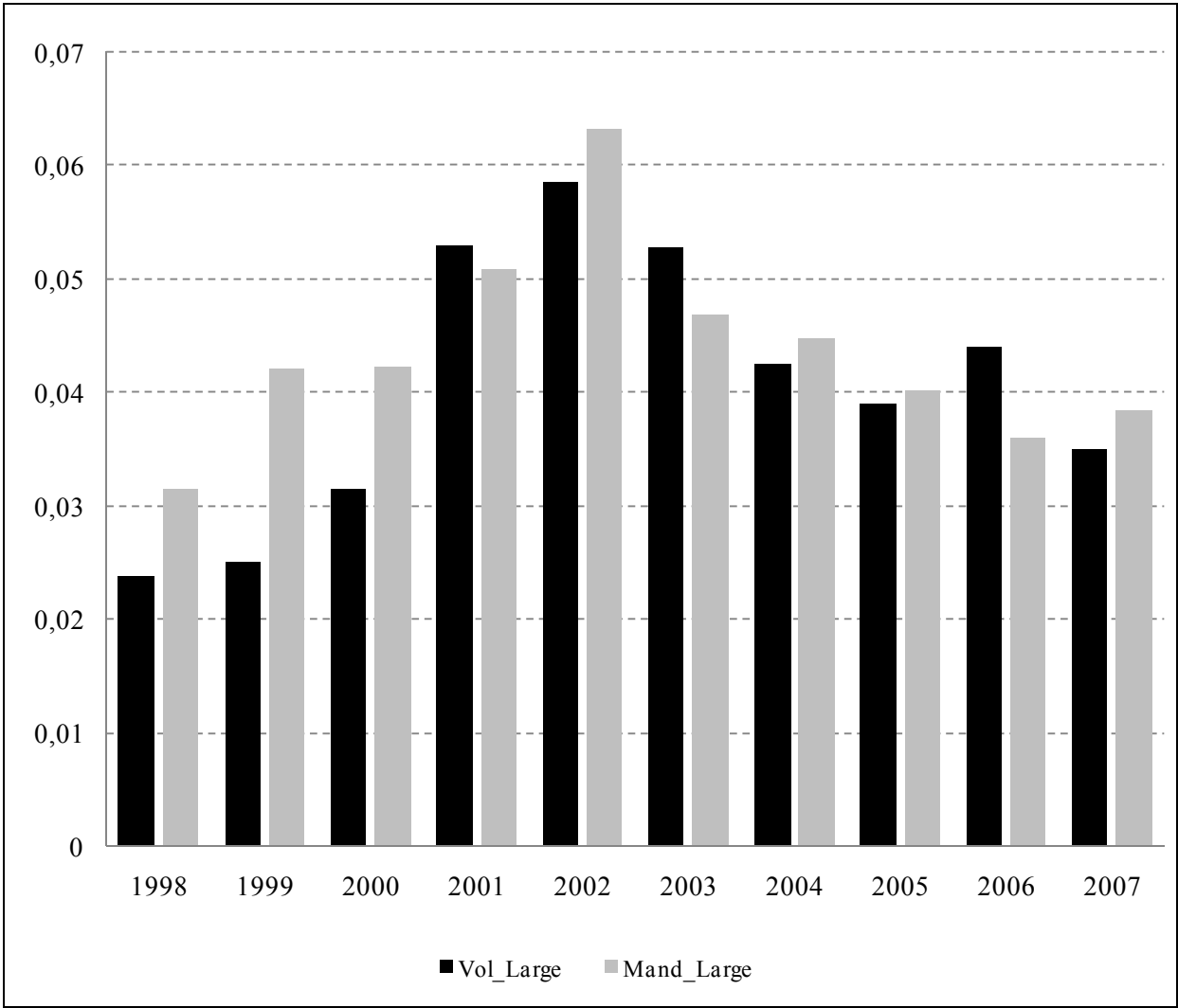


Figure 21: Time-Series of Discretionary Accruals (Large Firms, 1998 – 2008)⁹⁴⁶

⁹⁴⁶ Source: Own analysis.

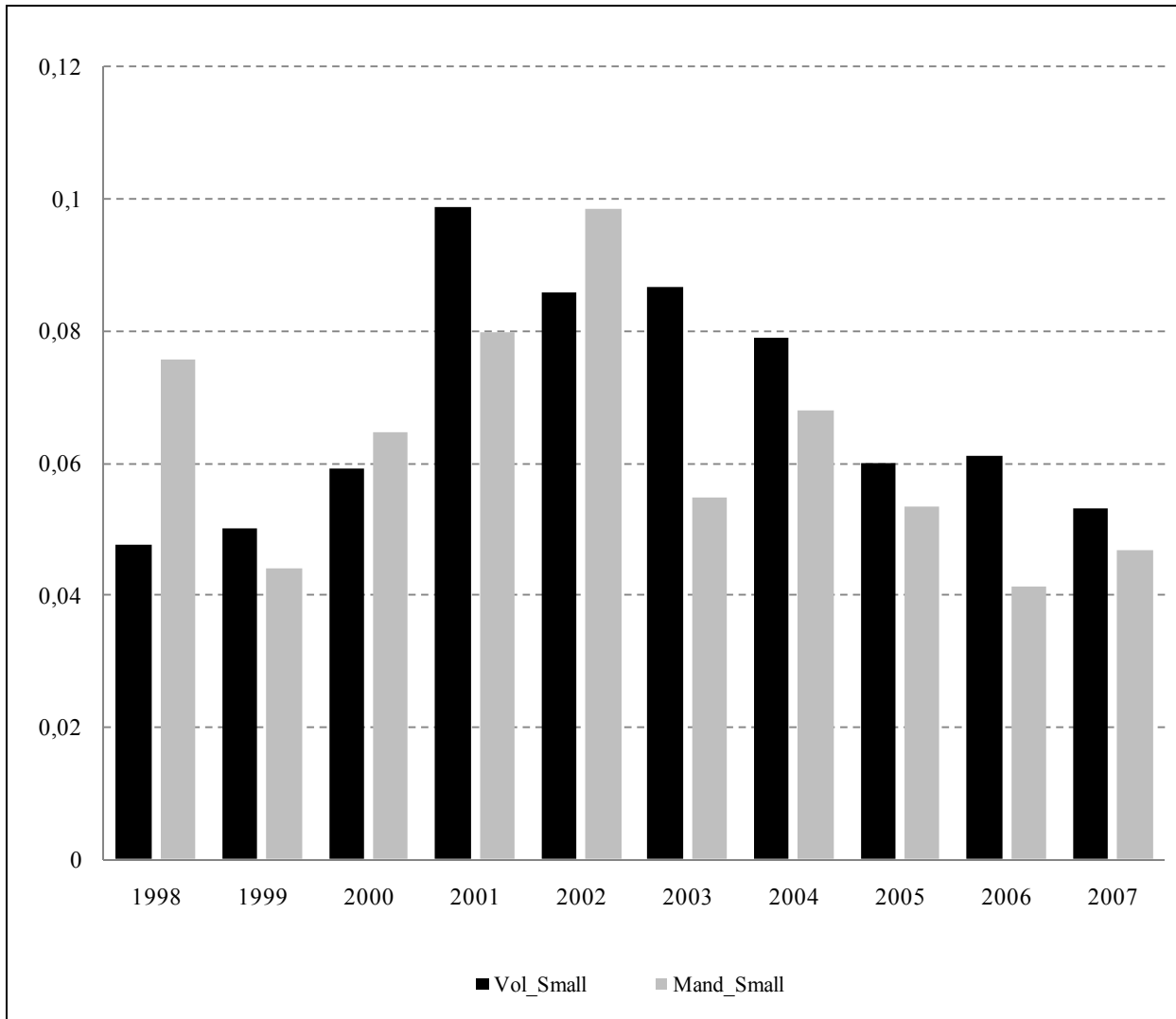


Figure 22: Time-Series of Discretionary Accruals (Small Firms, 1998 – 2008)⁹⁴⁷

⁹⁴⁷ Source: Own analysis.

Table 53: Earnings Smoothing by Voluntary and Mandatory Adopters (excl. Firms with IPO 1998-2002)

Sample Period: 1998-2008									
Measure	Prediction	Observations		Measure		Difference		F-Test	Significance Fisher's z Simulation
		Pre	Post	Pre	Post	Absult	Relative		
(1) Variability of ΔNI	Post > Pre	223	760	0.004	0.008	0.005	125%	***	--
(2) Variability of ΔNI^*	Post > Pre	159	556	0.002	0.003	0.001	26%	*	n.s.
(3) Variability of ΔNI over ΔCF	Post > Pre	205	739	0.289	0.824	0.534	185%	--	**
(4) Variability of ΔNI^* over ΔCF^*	Post > Pre	153	549	0.521	1.001	0.480	92%	--	n.s.
(5) Correlation between ACC and CF	Post > Pre	218	757	-0.813	-0.518	0.295	36%	--	***
(6) Correlation between ACC* and CF*	Post > Pre	161	556	-0.767	-0.569	0.198	26%	--	***

Sample Period: 1998-2008									
Measure	Prediction	Observations		Measure		Difference		F-Test	Significance Fisher's z Simulation
		Pre	Post	Pre	Post	Absult	Relative		
(1) Variability of ΔNI	Post > Pre	892	303	0.011	0.007	-0.004	-33%	***	--
(2) Variability of ΔNI^*	Post > Pre	470	190	0.004	0.004	0.000	0%	n.s.	--
(3) Variability of ΔNI over ΔCF	Post > Pre	688	291	1.086	0.699	-0.387	-36%	--	n.s.
(4) Variability of ΔNI^* over ΔCF^*	Post > Pre	433	186	1.251	1.274	0.024	2%	--	n.s.
(5) Correlation between ACC and CF	Post > Pre	768	316	-0.577	-0.539	0.038	-7%	--	n.s.
(6) Correlation between ACC* and CF*	Post > Pre	472	198	-0.613	-0.615	-0.002	0%	--	n.s.

Note: *Variability of ΔNI* is defined as the variance of the change in Net Income from period t-1 to period t. *Variability of ΔNI^** is defined as the variance of the residuals from the regression of absolute change in net income on control variables reflecting incentives for IFRS adoption. *Variability of ΔNI over ΔCF* is defined as the variance of the change in Net Income from period t-1 to period t divided by the variance of the change in Cash Flow from period t-1 to period t. *Variability of ΔNI^* over ΔCF^** is calculated as the variance of the residuals resulting from the regression of absolute change in net income on control variables divided by the variance of the residuals from the regression of absolute change in cashflows on control variables. *Correlation between ACC and CF* is defined as the Spearman Correlation coefficient between Accruals and Cash Flows. *Correlation between ACC* and CF** is defined as the Spearman correlation coefficient between the residuals from the regression of accruals on control variables and the residuals from the regression equation of cash flows on control variables. All measures for *Net Income (NI)* and *Cashflows (CF)* are scaled by average total assets. *Pre* comprises firm-year observations with consolidated accounts released under HGB. *Post* comprises firm-year observations with IFRS consolidated accounts. Significance in the case of simulation is tested by t-tests. *** / ** / * indicates a two-tailed level of significance of 99% / 95% / 90%.

Source: Günther et al. (2009)

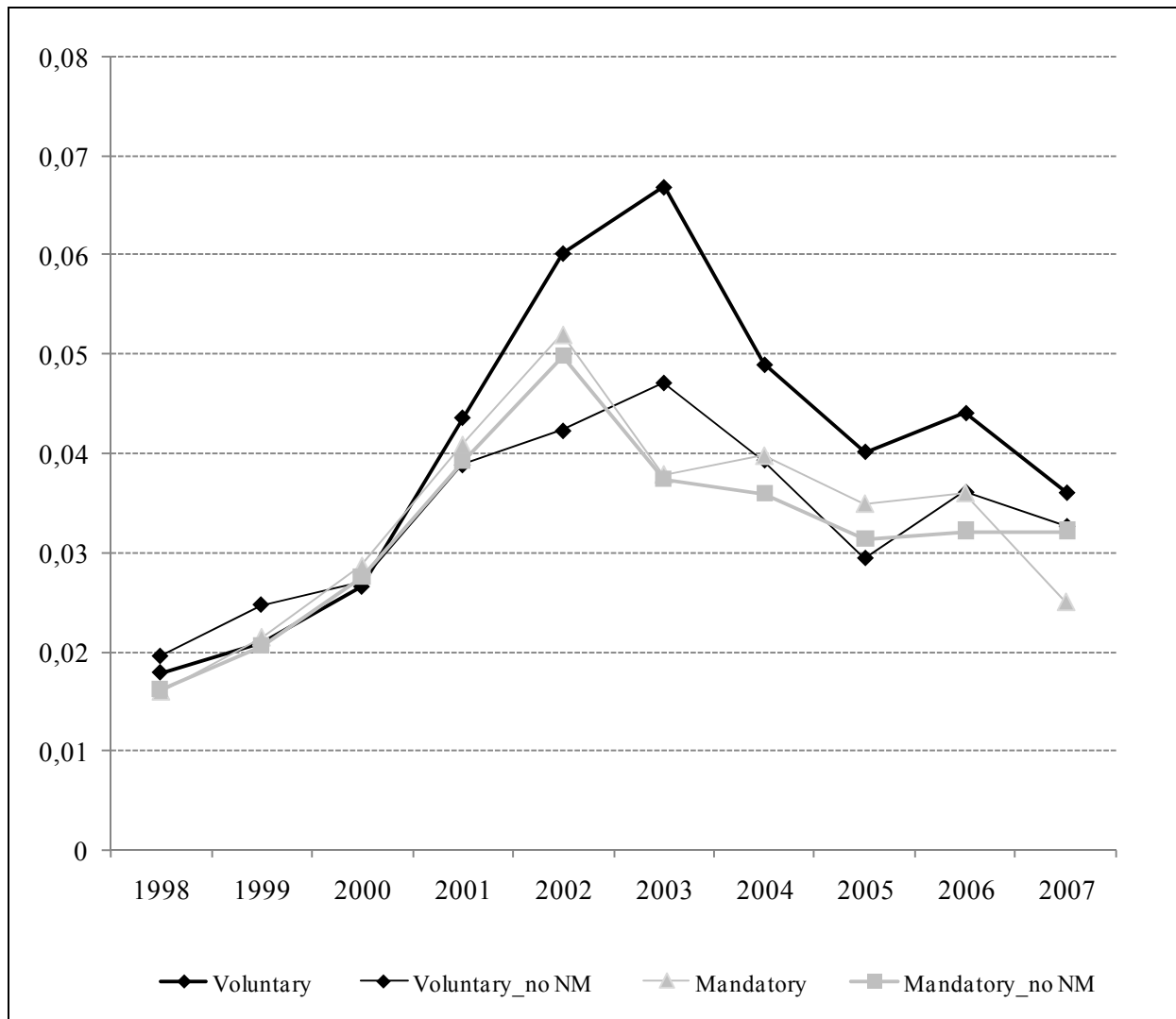


Figure 23: Time-Series of Discretionary Accruals for Voluntary and Mandatory Adopters incl. New Market Firms⁹⁴⁸

⁹⁴⁸ Source: Own analysis.



Figure 24: Time-Series of Discretionary Accruals for Voluntary and Mandatory Adopters excl. New Market Firms⁹⁴⁹

⁹⁴⁹ Source: Own analysis.

Table 54: Net Income and Frequency of Losses

Year	N	Freq. of Losses (%)	Net Income (NI)		Subperiod	Freq. of Losses (%)	Net Income (NI)	
			Mean	Median			Mean	Median
1998	278	17.99%	0.029	0.034				
1999	332	22.59%	0.018	0.028				
2000	368	27.72%	0.006	0.024				
2001	382	40.05%	-0.031	0.012				
2002	344	45.93%	-0.053	0.006				
2003	319	41.07%	-0.023	0.009				
2004	297	26.60%	0.012	0.030	1998-2004	32.24%	-0.008	0.020
2005	299	23.75%	0.019	0.032				
2006	304	18.75%	0.021	0.043				
2007	291	22.34%	0.015	0.038				
2008	276	27.17%	0.006	0.031	2005-2008	29.98%	0.015	0.036

Source: Own analysis, cf. Givoly/Hayn (2000), p. 296 for a similar illustration on US firms.

B Family Governance and Earnings Management

Table 55: Ownership Structures in Family and Non-Family Firms⁹⁵⁰

Variable	Family Firms (N = 2,335)		Non-Family Firms (N=2,602)	
	Mean	Median	Mean	Median
Concentration (<i>Herfindahl</i>)	0.217	0.171	0.345	0.257
Freefloat	0.408	0.380	0.363	0.323
Family Ownership	0.358	0.376	0.006	0.000
Family Insider Ownership	0.342	0.356	0.005	0.000
Non-Family Insider Ownership	0.070	0.000	0.141	0.000
Private Investors	0.021	0.000	0.046	0.000
Strategic Investors	0.051	0.000	0.249	0.000
Bank Ownership	0.012	0.000	0.026	0.000
Shares held by Insurances	0.003	0.000	0.011	0.000
Institutional Investors (Funds/Trusts)	0.014	0.000	0.028	0.000
Venture Capital/Private Equity	0.031	0.000	0.055	0.000
Government	0.002	0.000	0.031	0.000
Endowments	0.002	0.000	0.010	0.000
Employees	0.004	0.000	0.002	0.000
Treasury	0.004	0.000	0.006	0.000
Other Shareholders	0.003	0.000	0.003	0.000

⁹⁵⁰ Source: Own Analysis.

Table 56: Family Governance and Discretionary Accruals (BE I)

Dependent Variable: ABS_ACC							
Independent Variables	Expected Sign	Model 1		Model 2		Model 3	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?	0.106***	0.016	0.103***	0.016	0.110***	0.015
<i>Dummy_FF</i>	?	0.007*	0.004				
<i>Family_Type1</i>	?			0.012**	0.005		
<i>Family_Type2</i>	?			0.006	0.007		
<i>Family_Type3</i>	?			-0.009	0.013		
<i>Family_Type4</i>	?			-0.009	0.008		
<i>Family_Type5</i>	?			0.019	0.014		
<i>FF_OWN</i>	?					0.012	0.008
<i>NF_INSIDER</i>	?	0.004	0.009	0.005	0.010	0.005	0.010
<i>HERF</i>	?	-0.017**	0.008	-0.0182**	0.008	-0.020***	0.008
<i>SIZE</i>	-	-0.009***	0.003	-0.008***	0.003	-0.009***	0.003
<i>PERF</i>	-	-0.045**	0.022	-0.053**	0.022	-0.047**	0.022
<i>LEV</i>	+	-0.021*	0.011	-0.022**	0.011	-0.023**	0.011
<i>GROWTH</i>	+	-0.001	0.005	-0.002	0.005	-0.001	0.005
<i>AGE</i>	-	-0.000*	0.000	-0.000*	0.000	-0.000*	0.000
<i>LOSS</i>	+	0.030***	0.007	0.029***	0.007	0.030***	0.007
<i>INT_ACC</i>	?	0.000	0.005	0.000	0.005	0.001	0.005
F-Value			22.54		16.8		22.41
p-value F-test			0.000		0.000		0.000
Adj R ²			0.280		0.286		0.279
N (groups)			3,008 (554)		3,008 (554)		3,008 (554)

Notes: Results are derived from between effects models (BE). *ABS_ACC* denotes absolute abnormal accruals; *Dummy_FF* is an indicator variable that equals one if the founding family holds more than 25% of commonshares or positions in the management or supervisory board; '*FF_type*' refers to particular family firm types classified as types 1 to 5 using dummy variables; *FF_OWN* is the percentage of common shares held by the family; *NF_INSIDER* is the percentage of common shares held by non-founding family insiders; *HERF* is a Herfindahl index and corresponds to ownership concentration; *SIZE* is log total assets; *PERF* is net income before extraordinary items scaled by average total assets; *LEV* is total debt to total assets; *GROWTH* is sales growth; *LOSS* is an indicator variable which equals one if net income is negative and zero otherwise; *INT_ACC* is an indicator variable that equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero otherwise. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicates a two-tailed significance level of 99% / 95% / 90%. Source: Own Analysis.

Table 57: Family Governance and Discretionary Accruals (BE II)

Dependent Variable: ABS_ACC							
Independent Variables	Expected Sign	Model 4		Model 5		Model 6	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?	0.101***	0.016	0.110***	0.015	0.104***	0.016
<i>FF_OWN</i>	?	0.003	0.009				
<i>FF_OWN * FMB</i>				0.013	0.009		
<i>FF_MB</i>	?	0.014	0.009				
<i>FF_SB</i>	?	0.020	0.017				
<i>F_CEO</i>	?					0.0080	0.005
<i>D_CEO</i>	?					-0.003	0.010
<i>H_CEO</i>	?					0.010*	0.006
<i>Family_Chair</i>	?					0.005	0.008
<i>NF_INSIDER</i>	?	0.005	0.010	0.003	0.009	0.004	0.009
<i>HERF</i>	?	-0.017**	0.008	-0.020***	0.008	-0.014*	0.008
<i>SIZE</i>	-	-0.008***	0.003	-0.009***	0.003	-0.008***	0.003
<i>PERF</i>	-	-0.046**	0.022	-0.047**	0.022	-0.044**	0.022
<i>LEV</i>	+	-0.021*	0.011	-0.021*	0.011	-0.025**	0.011
<i>GROWTH</i>	+	-0.001	0.005	-0.001	0.005	0.000	0.005
<i>AGE</i>	-	0.000*	0.000	0.000*	0.000	0.000*	0.000
<i>LOSS</i>	+	0.030***	0.007	0.030***	0.007	0.031***	0.007
<i>INT_ACC</i>	?	0.0010	0.005	0.0010	0.005	0.000	0.005
F-Value			19.02		22.43		17.76
p-value F-test			0.000		0.000		0.000
Adj R ²			0.281		0.279		0.284
N			3,008		3,008		2,948

Notes: Results are derived from between effects models (BE). *ABS_ACC* denotes absolute abnormal accruals; *FF_OWN* is the percentage of common shares held by the family; *FF_MB* is percentage of positions held by the family in the management board, *FF_SB* is percentage of positions held by the family in the supervisory board; *FMB* is a dummy variable and equals one if a family member is involved in the management of the firm and zero otherwise; *NF_INSIDER* is the percentage of common shares held by non-founding family insiders; *HERF* is a Herfindahl index and corresponds to ownership concentration; *SIZE* is log total assets; *PERF* is net income before extraordinary items scaled by average total assets; *LEV* is total debt to total assets; *GROWTH* is sales growth; *LOSS* is an indicator variable which equals one if net income is negative and zero otherwise; *INT_ACC* is an indicator variable that equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero if prepared under German GAAP. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicates a two-tailed significance level of 99% / 95% / 90%. Source: Own Analysis.

Table 58: Nonlinearity between Family Ownership and Discretionary Accruals (BE)

Dependent Variable: ABS_ACC							
Independent Variable	Expected Sign	Model 1		Model 2		Model 3	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?	0.104***	0.016				
<i>No_FAM</i>	?	-0.002	0.007				
<i>W_FAM</i>	?	0.014**	0.006				
<i>S_FAM</i>	?	0.005	0.005				
<i>FF_OWN</i>	+			0.075***	0.028		
<i>FF_OWN</i> ²	-			-0.098**	0.042		
<i>FF_1</i>	?					0.006	0.007
<i>FF_2</i>	?					0.020***	0.006
<i>FF_3</i>	?					0.008	0.006
<i>FF_4</i>	?					0.003	0.013
<i>NF_INSIDER</i>	?	0.006	0.010	0.006	0.010	0.005	0.010
<i>HERF</i>	?	-0.018**	0.008	-0.015*	0.008	-0.020***	0.008
<i>SIZE</i>	-	-0.008***	0.003	-0.008***	0.003	-0.009***	0.003
<i>PERF</i>	-	-0.046**	0.022	-0.038*	0.022	-0.047**	0.022
<i>LEV</i>	+	-0.022**	0.011	-0.026**	0.011	-0.023**	0.011
<i>GROWTH</i>	+	-0.001	0.005	0.003	0.006	-0.001	0.005
<i>AGE</i>	-	-0.000*	0.000	-0.0001*	0.000	0.000*	0.000
<i>LOSS</i>	+	0.030***	0.007	0.031***	0.008	0.030***	0.007
<i>INT_ACC</i>	?	0.001	0.005	-0.003	0.005	0.001	0.005
F-Value		19.21		21.02		17.31	
p-value F-test		0.000		0.000		0.000	
Adj. R ²		0.283		0.285		0.278	
N (groups)		3,008 (554)		3,008 (554)		3,008 (554)	

Notes: Results are derived from between effects models (BE). *ABS_ACC* denotes absolute abnormal accruals; *No_FAM* is a dummy variable and takes a value of 1 if the family holds no ownership but positions in one of the board, *W_FAM* is dummy variable that is one if family ownership is below the median level of family ownership in the observation year and zero otherwise; *S_FAM* is dummy variable that is one if family ownership is above the median level of family ownership in the observation year and zero otherwise; *FF_OWN* is the percentage of common shares held by the family; *FF_OWN*² is the squared percentage of family ownership; *NF_INSIDER* is the percentage of common shares held by non-founding family insiders; *HERF* is a Herfindahl index and corresponds to ownership concentration; *SIZE* is log total assets; *PERF* is net income before extraordinary items scaled by average total assets; *LEV* is total debt to total assets; *GROWTH* is sales growth; *LOSS* is an indicator variable which equals one if net income is negative and zero otherwise; *INT_ACC* is an indicator variable that equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero if prepared under German GAAP. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicates a two-tailed significance level of 99% / 95% / 90%. Source: Own Analysis.

Table 59: Effects of Family Governance on Discretionary Cash Flows (BE I)

Dependent Variable: <i>Discr_CF</i>							
Independent Variable	Expected Sign	Model 1		Model 2		Model 3	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?	0.126***	0.035	0.127***	0.035	0.112***	0.033
<i>Dummy_FF</i>	?	0.002	0.009				
<i>Family_Type1</i>	?			0.001	0.011		
<i>Family_Type2</i>	?			0.013	0.017		
<i>Family_Type3</i>	?			-0.009	0.031		
<i>Family_Type4</i>	?			-0.004	0.019		
<i>Family_Type5</i>	?			-0.005	0.031		
<i>FF_OWN</i>	?					0.030*	0.017
<i>NF_INSIDER</i>	?	0.001	0.020	0.001	0.020	0.011	0.020
<i>HERF</i>	?	-0.008	0.017	-0.008	0.017	-0.008	0.016
<i>SIZE</i>	-	-0.025***	0.006	-0.025***	0.006	-0.023***	0.006
<i>PERF</i>	-	0.386***	0.046	0.383***	0.046	0.386***	0.045
<i>LEV</i>	+	-0.045*	0.024	-0.046*	0.024	-0.049**	0.024
<i>GROWTH</i>	+	-0.017	0.013	-0.016	0.013	-0.017	0.013
<i>AGE</i>	-	0.000	0.000	0.000	0.000	0.000	0.000
<i>LOSS</i>	+	-0.025	0.017	-0.025	0.017	-0.023	0.017
<i>INT_ACC</i>	?	0.037***	0.011	0.036***	0.011	0.035***	0.011
F-Value			22.2		15.83		22.59
p-value F-test			0.000		0.000		0.000
Adj R ²			0.251		0.247		0.254
N (groups)			3,859 (635)		3,859 (635)		3,859 (635)

Notes: Results are derived from between effects models (BE). *Discr_CF* denotes discretionary cash flows; *Dummy_FF* is an indicator variable that equals one if the founding family holds more than 25% of ordinary shares or positions in the management or supervisory board; '*FF_type*' refers to particular family firm types classified as types 1 to 5 using dummy variables; *FF_OWN* is the percentage of common shares held by the family; *NF_INSIDER* is the percentage of common shares held by non-founding family insiders; *HERF* is a Herfindahl index and corresponds to ownership concentration; *SIZE* is log total assets; *PERF* is net income before extraordinary items scaled by average total assets; *LEV* is total debt to total assets; *GROWTH* is sales growth; *LOSS* is an indicator variable which equals one if net income is negative and zero otherwise; *INT_ACC* is an indicator variable that equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero if prepared under German GAAP. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicates a two-tailed significance level of 99% / 95% / 90%. Source: Own Analysis

Table 60: Effects of Family Governance on Discretionary Cash Flows (BE II)

Dependent Variable: <i>Discr_CF</i>							
Independent Variable	Expected Sign	Model 4		Model 5		Model 6	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
Intercept	?	0.124***	0.035	0.117***	0.033	0.122***	0.035
<i>FF_OWN</i>	?	0.039*	0.021	0.024	0.020		
<i>FF_OWN * FMB</i>							
<i>FF_MB</i>	?	-0.024	0.019				
<i>FF_SB</i>	?	0.014	0.039				
<i>F_CEO</i>	?					0.003	0.012
<i>D_CEO</i>	?					0.019	0.022
<i>H_CEO</i>	?					-0.001	0.013
<i>Family_Chair</i>	?					0.013	0.019
<i>NF_INSIDER</i>	?	0.010	0.020	0.006	0.020	0.003	0.020
<i>HERF</i>	?	-0.012	0.017	-0.009	0.016	-0.009	0.017
<i>SIZE</i>	-	-0.025***	0.006	-0.024***	0.006	-0.025***	0.006
<i>PERF</i>	-	0.384***	0.046	0.386***	0.046	0.400***	0.047
<i>LEV</i>	+	-0.055**	0.024	-0.045*	0.024	-0.049**	0.025
<i>GROWTH</i>	+	-0.0143	0.013	-0.017	0.013	-0.015	0.013
<i>AGE</i>	-	0.000	0.000	0.000	0.000	0.000	0.000
<i>LOSS</i>	+	-0.024	0.017	-0.024	0.017	-0.021	0.018
<i>INT_ACC</i>	?	0.035***	0.011	0.036***	0.011	0.036***	0.012
F-Value		18.98		22.41		16.70	
p-value F-test		0.000		0.000		0.000	
Adj R ²		0.254		0.252		0.246	
N (groups)		3,859 (635)		3,859 (635)		3,767 (627)	

Notes: Results are derived from between effects models (BE). *Discr_CF* denotes discretionary cash flows; *FF_OWN* is the percentage of common shares held by the family; *FF_MB* is percentage of positions held by the family in the management board, *FF_SB* is percentage of positions held by the family in the supervisory board; *FMB* is a dummy variable and equals one if a family member is involved in the management of the firm and zero otherwise; *NF_INSIDER* is the percentage of common shares held by non-founding family insiders; *HERF* is a Herfindahl index and corresponds to ownership concentration; *SIZE* is log total assets; *PERF* is net income before extraordinary items scaled by average total assets; *LEV* is total debt to total assets; *GROWTH* is sales growth; *LOSS* is an indicator variable which equals one if net income is negative and zero otherwise; *INT_ACC* is an indicator variable that equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero if prepared under German GAAP. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicates a two-tailed significance level of 99% / 95% / 90%. Source: Own Analysis

Table 61: Non-linearity between Family Ownership and Discretionary Cash Flows (BE)

Dependent Variable: <i>Discr_CF</i>							
Independent Variable	Expected Sign	Model 1		Model 2		Model 3	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?	0.124***	0.035	0.121***	0.034	0.125***	0.034
<i>No_FAM</i>	?	-0.004	0.016				
<i>W_FAM</i>	?	-0.014	0.012				
<i>S_FAM</i>	?	0.018	0.012				
<i>FF_OWN</i>	?			-0.061	0.065		
<i>FF_OWN</i> ²	?			0.143	0.099		
<i>FF_1</i>	?					-0.020	0.015
<i>FF_2</i>	?					-0.006	0.014
<i>FF_3</i>	?					0.023*	0.013
<i>FF_4</i>	?					0.032	0.032
<i>NF_INSIDER</i>	?	0.009	0.020	0.011	0.020	0.012	0.020
<i>HERF</i>	?	-0.017	0.017	-0.015	0.017	-0.019	0.017
<i>SIZE</i>	-	-0.024***	0.006	-0.024***	0.006	-0.024***	0.006
<i>PERF</i>	-	0.391***	0.046	0.390***	0.045	0.382***	0.045
<i>LEV</i>	+	-0.054**	0.024	-0.052**	0.024	-0.054**	0.024
<i>GROWTH</i>	+	-0.014	0.013	-0.016	0.013	-0.015	0.013
<i>AGE</i>	-	0.000	0.000	0.000	0.000	0.000	0.000
<i>LOSS</i>	+	-0.019	0.017	-0.021	0.017	-0.023	0.017
<i>INT_ACC</i>	?	0.034***	0.011	0.036***	0.011	0.035***	0.011
F-Value		19.10		20.76		17.77	
p-value F-test		0.000		0.000		0.000	
Adj. R ²		0.255		0.255		0.256	
N (groups)		3,859 (635)		3,859 (635)		3,859 (635)	

Notes: Results are derived from between effects models (BE). *Discr_CF* are discretionary cash flows; *No_FAM* is a dummy variable and is one if the family only holds board positions in the firm, *W_FAM* is a dummy variable and one if family ownership is below the median level of family ownership and zero otherwise; *S_FAM* is dummy variable that is one if family ownership is above the median level of family ownership and zero otherwise; *FF_OWN* is the percentage of common shares held by the family; *FF_OWN*² is the squared percentage of family ownership; *NF_INSIDER* is the percentage of common shares held by non-founding family insiders; *HERF* is a Herfindahl index and corresponds to ownership concentration; *SIZE* is log total assets; *PERF* is net income before extraordinary items scaled by average total assets; *LEV* is total debt to total assets; *GROWTH* is sales growth; *LOSS* is an indicator variable which equals one if net income is negative and zero otherwise; *INT_ACC* is one if consolidated financial statements are prepared according to IFRS or US GAAP and zero otherwise. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicates a two-tailed significance level of 99% / 95% / 90%. Source: Own Analysis.

Table 62: Earnings Smoothing by Family and Non-Family Firms

Measure	Earnings Smoothing in Family vs. Non-Family Firms										Sample Period: 1998-2008		
	Prediction		Observations		Measure			Difference		Significance			
	NF	FF	NF	FF	NF	FF	Relative	Absolute	F-Test	Fisher's z	Simulation		
(1) Variability of ΔNI	NF > FF	2,466	2,105	0.014	0.023	0.010	70%	0.010	***	--	***		
(2) Variability of ΔNI^*	NF > FF	2,048	1,732	0.007	0.011	0.005	69%	0.005	***	--	***		
(3) Variability of ΔNI over ΔCF	NF > FF	2,241	1,970	1.188	1.188	-0.001	0%	-0.001	--	--	n.s.		
(4) Variability of ΔNI^* over ΔCF^*	NF > FF	1,972	1,667	1.461	1.460	-0.001	0%	-0.001	--	--	n.s.		
(5) Correlation between ACC and CF	NF > FF	2,364	2,082	-0.472	-0.366	0.107	23%	0.107	--	***	--		
(6) Correlation between ACC* and CF*	NF > FF	1,970	1,674	-0.051	-0.069	-0.019	37%	-0.019	--	--	n.s.		

Note: Variability of ΔNI is defined as the variance of the change in net income from period t-1 to period t. Variability of ΔNI^* is defined as the variance of the residuals from the regression of absolute change in net income on control variables reflecting incentives for IFRS adoption. Variability of ΔNI over ΔCF is defined as the variance of the change in net income from period t-1 to period t divided by the variance of the change in cash flow from period t-1 to period t. Variability of ΔNI^* over ΔCF^* is calculated as the variance of the residuals resulting from the regression of absolute change in net income on control variables divided by the variance of the residuals from the regression of absolute change in cash flows on control variables. Correlation between ACC and CF is defined as the Spearman Correlation coefficient between accruals and cash flows. Correlation between ACC* and CF* is defined as the Spearman correlation coefficient between the residuals from the regression of accruals on control variables and the residuals from the regression equation of cash flows on control variables. All measures for net income (NI) and cash flows (CF) are scaled by average total assets. Significance in the case of simulation is tested by t-tests. *** / ** / * indicates a two-tailed level of significance of 99% / 95% / 90%, 'n.s.' denotes not significant. Source: Own Analysis.

Table 63: *Effects of Family Governance on Discretionary Expenses (I)*

Dependent Variable: <i>Discr_EXP</i>							
Independent Variable	Expected Sign	Model 1		Model 2		Model 3	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
Intercept	?	-0.137**	0.065	-0.126*	0.066	-0.112*	0.064
<i>Dummy_FF</i>	?	0.035**	0.017				
<i>Family_Type1</i>	?			0.017	0.019		
<i>Family_Type2</i>	?			0.068**	0.031		
<i>Family_Type3</i>	?			0.025	0.035		
<i>Family_Type4</i>	?			0.058	0.040		
<i>Family_Type5</i>	?			0.031	0.042		
<i>FF_OWN</i>	?					0.046	0.036
<i>NF_INSIDER</i>	?	-0.028	0.039	-0.036	0.040	-0.030	0.040
<i>HERF</i>	?	-0.027	0.027	-0.024	0.027	-0.038	0.026
<i>SIZE</i>	-	0.021*	0.012	0.019	0.012	0.018	0.012
<i>PERF</i>	-	0.059	0.072	0.058	0.068	0.052	0.072
<i>LEV</i>	+	-0.138***	0.042	-0.140***	0.042	-0.140***	0.043
<i>GROWTH</i>	+	0.009	0.015	0.010	0.015	0.010	0.015
<i>AGE</i>	-	0.000	0.000	0.000	0.000	0.000	0.000
<i>LOSS</i>	+	0.008	0.013	0.009	0.013	0.008	0.013
<i>INT_ACC</i>	?	0.044***	0.014	0.045***	0.015	0.046***	0.014
F-Value			3.51		2.86		3.07
p-value F-test			0.000		0.000		0.000
Adj R ²			0.041		0.044		0.037
N			2,635		2,635		2,635

Notes: Results are derived from pooled OLS models. *Discr_EXP* is discretionary expenses (sum out of R&D expenses as well as advertising, general and administrative expenses SG&A); all other variables are as defined in the multivariate analyses in chapter 7. Numbers in parantheses denote clustered standard errors on a firm and year level following Petersen (2009). *** / ** / * indicates a two-tailed level of significance of 99% / 95% / 90%. Source: Own Analysis.

Table 64: Effects of Family Governance on Discretionary Expenses (II)

Dependent Variable: <i>Discr_EXP</i>							
Independent Variable	Expected Sign	Model 4		Model 5		Model 6	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
Intercept	?	-0.093	0.065	-0.087	0.067	-0.133**	0.066
<i>FF_OWN * FMB</i>	?	0.009	0.040				
<i>FF_OWN</i>	?			0.067*	0.040		
<i>FF_MB</i>	?			-0.046	0.034		
<i>FF_SB</i>	?			-0.020	0.076		
<i>F_CEO</i>	?					0.020	0.020
<i>D_CEO</i>	?					0.068*	0.036
<i>H_CEO</i>	?					0.029	0.023
<i>FF_Chair</i>	?					0.025	0.037
<i>NF_INSIDER</i>	?	-0.046	0.038	-0.030	0.040	-0.030	0.038
<i>HERF</i>	?	-0.034	0.026	-0.044*	0.026	-0.031	0.026
<i>SIZE</i>	-	0.016	0.012	0.015	0.012	0.021*	0.012
<i>PERF</i>	-	0.051	0.072	0.049	0.072	0.047	0.073
<i>LEV</i>	+	-0.134***	0.042	-0.144***	0.043	-0.148***	0.042
<i>GROWTH</i>	+	0.010	0.015	0.011	0.015	0.011	0.015
<i>AGE</i>	-	0.000	0.000	0.000	0.000	0.000	0.000
<i>LOSS</i>	+	0.006	0.013	0.008	0.013	0.008	0.013
<i>INT_ACC</i>	?	0.048***	0.014	0.048***	0.014	0.045***	0.015
F-Value			3.02		2.71		2.87
p-value F-test			0.001		0.001		0.001
Adj R ²			0.034		0.038		0.043
N			2,635		2,635		2,580

Notes: Results are derived from pooled OLS models. *Discr_EXP* is discretionary expenses (sum out of R&D expenses as well as advertising, general and administrative expenses SG&A) ; all other variables are as defined in the multivariate analysis in chapter 7. Numbers in parantheses denote clustered standard errors on a firm and year level following Petersen (2009). *** / ** / * indicates a two-tailed level of significance of 99% / 95% / 90%. Source: Own Analysis.

C Family Governance and Conditional Conservatism

Table 65: Family Governance and Conditional Conservatism (1 BE)

Dependent Variable: C-Score							
Independent Variable	Expected Sign	Model 1		Model 2		Model 3	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?						
<i>Dummy_FF</i>	?	0.045***	0.013				
<i>Family_Type1</i>	?			0.048***	0.016		
<i>Family_Type2</i>	?			0.034	0.024		
<i>Family_Type3</i>	?			-0.001	0.045		
<i>Family_Type4</i>	?			0.049*	0.027		
<i>Family_Type5</i>	?			0.068	0.044		
<i>FF_OWN</i>	?					0.052**	0.026
<i>NF_INSIDER</i>	?	-0.023	0.029	-0.029	0.030	-0.026	0.030
<i>HERF</i>	-	0.023	0.023	0.022	0.023	0.009	0.023
<i>MCAP</i>	-	-0.181***	0.008	-0.180***	0.008	-0.183***	0.008
<i>GROWTH</i>	+	0.084***	0.017	0.083***	0.017	0.085***	0.017
<i>AGE</i>	-	-0.001***	0.000	-0.001***	0.000	-0.001***	0.000
<i>PERF</i>	-	-0.061	0.049	-0.062	0.050	-0.063	0.050
<i>INT_ACC</i>	+	0.002	0.020	0.002	0.020	0.006	0.020
Industry Effects		Included		Included		Included	
Year Effects		Included		Included		Included	
F-Value		57.34		49.03		56.35	
p-value F-test		0.000		0.000		0.000	
Adj R ²		0.679		0.678		0.675	
N (groups)		3,728 (640)		3,728 (640)		3,728 (640)	

Note: Results are derived from the between effects model. *C-Score* denotes c-score at t estimated as suggested in Khan/Watts(2009); *Dummy_FF* is an indicator variable that equals one if the founding family holds more than 25% of ordinary shares or positions in the management or supervisory board; *FF_Type* refers to dummy variables that denote family firm types 1 to 5 as defined in the model specification; *FF_OWN* is the cumulative percentage of common shares held by the family; *NF_INSIDER* is the percentage of common shares held by non-family insiders; *HERF* denotes the Herfindahl index on ownership concentration; *MCAP* is log market capitalization; *GROWTH* is sales growth; *AGE* is listing years; *PERF* is net income before extraordinary items scaled by average total assets; *INT_ACC* is a dummy variable and equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero otherwise. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicate a two-tailed significance level at 99% / 95% / 90%. Source: Own Analysis.

Table 66: Family Governance and Conditional Conservatism (II BE)

Dependent Variable: C-Score							
Independent Variable	Expected Sign	Model 4		Model 5		Model 6	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?						
<i>FMB * FF_OWN</i>	?	0.057**	0.029				
<i>FF_OWN</i>	?			0.013	0.030		
<i>FF_MB</i>	?			0.046	0.028		
<i>FF_SB</i>	?			0.114**	0.054		
<i>F_CEO</i>	?					0.048***	0.017
<i>D_CEO</i>	?					0.002	0.031
<i>H_CEO</i>	?					0.034*	0.018
<i>Family_Chair</i>	?					0.005	0.026
<i>NF_INSIDER</i>	?	-0.027	0.030	-0.032	0.029	-0.029	0.029
<i>HERF</i>	-	0.019	0.023	0.008	0.023	0.019	0.024
<i>MCAP</i>	-	-0.180***	0.008	-0.183***	0.008	-0.185***	0.008
<i>GROWTH</i>	+	0.086***	0.017	0.087***	0.017	0.083***	0.017
<i>AGE</i>	-	-0.001***	0.000	-0.001***	0.000	-0.001***	0.000
<i>PERF</i>	-	-0.063	0.050	-0.060	0.050	-0.035	0.050
<i>INT_ACC</i>	+	0.008	0.020	0.006	0.020	-0.004	0.020
Industry Effects		Included		Included		Included	
Year Effects		Included		Included		Included	
F-Value		56.32		52.65		51.18	
p-value F-test		0.000		0.000		0.000	
Adj R ²		0.678		0.675		0.683	
N		3,728 (640)		3,728 (640)		3,728 (640)	

Note: Results are derived from the pooled between effects model. *C-Score* is estimated as suggested in Khan/Watts(2009); *FF_OWN* is the cumulative percentage of common shares held by the family; *FF_MB* is the percentage of family members in the management board; *FF_SB* is the percentage of family members in the supervisory board; *F_CEO* is one if the CEO is the founder of the firm, and zero otherwise; *D_CEO* is one if the CEO is a descendant of the founder, and zero otherwise; *H_CEO* is one if the family firm is managed by an external CEO; *FF_Chair* is one if the chairman of the supervisory board is a family member and zero otherwise; *NF_INSIDER* is the percentage of common shares held by non-family insiders; *HERF* denotes the Herfindahl index on ownership concentration; *MCAP* is log market capitalization; *GROWTH* is sales growth; *AGE* is listing years; *PERF* is net income before extraordinary items scaled by average total assets; *INT_ACC* is a dummy variable and equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero otherwise. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicate a two-tailed significance level at 99% / 95% / 90%. Source: Own Analysis.

Table 67: Non-linearity between Family Ownership and Conditional Conservatism (BE)

Dependent Variable: C-Score							
Independent Variable	Expected Sign	Model 1		Model 2		Model 3	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
Intercept	?	1.102***	0.058	1.082***	0.059	1.102***	0.059
<i>No_FAM</i>	?	0.055**	0.023				
<i>W_FAM</i>	?	0.049***	0.018				
<i>S_FAM</i>	?	0.035**	0.016				
<i>FF_OWN</i>	?			0.237**	0.097		
<i>FF_OWN</i> ²	?			-0.288**	0.145		
<i>FF_1</i>	?					0.019	0.022
<i>FF_2</i>	?					0.044**	0.021
<i>FF_3</i>	?					0.032*	0.019
<i>FF_4</i>	?					-0.007	0.048
<i>NF_INSIDER</i>	?	-0.025	0.030	-0.028	0.030	-0.018	0.031
<i>HERF</i>	-	0.023	0.024	0.029	0.024	0.019	0.025
<i>SIZE</i>	-	-0.181***	0.008	-0.181***	0.008	-0.182***	0.008
<i>GROWTH</i>	+	0.087***	0.017	0.085***	0.017	0.091***	0.019
<i>AGE</i>	-	-0.001***	0.000	-0.001***	0.000	-0.001***	0.000
<i>PERF</i>	-	-0.068	0.050	-0.056	0.050	-0.081	0.051
<i>INT_ACC</i>	+	0.000	0.020	0.003	0.020	0.003	0.020
Industry Effects		Included		Included		Included	
Year Effects		Included		Included		Included	
F-Value		52.79		54.51		49.25	
p-value F-test		0.000		0.000		0.000	
Adj. R ²		0.678		0.677		0.671	
N (groups)		3,728 (640)		3,728 (640)		3,728 (640)	

Note: Results are derived from the between effects model. *C-Score* is estimated based on Khan/Watts(2009); *No_FAM* is a dummy variable and one if the family holds no shares but positions in the board(s), *W_FAM* is a dummy variable and one if family ownership is below the median of family ownership in the observation year and zero otherwise; *S_FAM* is a dummy variable and one if family ownership is above the median of family ownership in the observation year and zero otherwise; *FF_OWN* (*FF_OWN*²) is the (squared) percentage of shares held by the family; *NF_INSIDER* is the percentage of common shares held by non-family insiders; *HERF* denotes the Herfindahl index on ownership concentration; *MCAP* is log market capitalization; *GROWTH* is sales growth; *AGE* is listing years; *PERF* is net income before extraordinary items scaled by average total assets; *INT_ACC* is a dummy variable and equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero otherwise. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicate a two-tailed significance level at 99% / 95% / 90%. Source: Own Analysis.

Table 68: Family Governance, Discretionary Accruals and Conditional Conservatism (I BE)

Dependent Variable: C-Score							
Independent Variable	Expected Sign	Model 1		Model 2		Model 3	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?	1.276***	0.062	1.273***	0.063	1.305***	0.062
<i>Dummy_FF</i>	?	0.048***	0.014				
<i>Family_Type1</i>	?			0.048***	0.016		
<i>Family_Type2</i>	?			0.037	0.023		
<i>Family_Type3</i>	?			-0.019	0.045		
<i>Family_Type4</i>	?			0.076***	0.029		
<i>Family_Type5</i>	?			0.067	0.045		
<i>FF_OWN</i>	?					0.043	0.027
<i>ABS_ACC</i>	?	0.325**	0.149	0.316**	0.149	0.360**	0.150
<i>NF_INSIDER</i>	?	0.025	0.031	0.013	0.032	0.016	0.033
<i>HERF</i>	-	0.012	0.025	0.012	0.025	-0.003	0.025
<i>MCAP</i>	-	-0.217***	0.008	-0.216***	0.008	-0.219***	0.009
<i>GROWTH</i>	+	0.087***	0.019	0.086***	0.019	0.089***	0.019
<i>AGE</i>	-	0.000***	0.000	0.000***	0.000	-0.001***	0.000
<i>PERF</i>	-	0.062	0.059	0.069	0.060	0.062	0.060
<i>INT_ACC</i>	+	0.018	0.020	0.018	0.020	0.024	0.020
Industry Effects		Included		Included		Included	
Year Effects		Included		Included		Included	
F-Value		68.65		58.61		67.02	
p-value F-test		0.000		0.000		0.000	
Adj R ²		0.743		0.743		0.738	
N (groups)		2,810 (539)		2,810 (539)		2,810 (539)	

Note: Results are derived from the between effects model. *C-Score* at *t* is estimated as suggested in Khan/Watts(2009); *Dummy_FF* is an indicator variable that equals one if the founding family holds more than 25% of ordinary shares or positions in the management or supervisory board; *FF_Type* refers to dummy variables that denote family firm types 1 to 5 as defined in the model specification; *FF_OWN* is the cumulative percentage of common shares held by the family; *ABS_DACC* is absolute discretionary accruals; *NF_INSIDER* is the percentage of common shares held by non-family insiders; *HERF* denotes the Herfindahl index on ownership concentration; *MCAP* is log market capitalization; *GROWTH* is sales growth; *AGE* is listing years; *PERF* is net income before extraordinary items scaled by average total assets; *INT_ACC* is a dummy variable and equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero otherwise. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicate a two-tailed significance level at 99% / 95% / 90%. Source: Own Analysis.

Table 69: Family Governance, Discretionary Accruals and Conditional Conservatism (II BE)

Dependent Variable: C-Score							
Independent Variable	Expected Sign	Model 4		Model 5		Model 6	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?						
<i>FMB * FF_OWN</i>	?	0.052*	0.030				
<i>FF_OWN</i>	?			0.014	0.031		
<i>FF_MB</i>	?			0.058**	0.029		
<i>FF_SB</i>	?			0.035	0.057		
<i>F_CEO</i>	?					0.066***	0.017
<i>D_CEO</i>	?					0.019	0.031
<i>H_CEO</i>	?					0.028	0.019
<i>Family_Chair</i>	?					0.009	0.026
<i>ABS_ACC</i>	?	0.361**	0.150	0.327**	0.151	0.342**	0.147
<i>NF_INSIDER</i>	?	0.013	0.032	0.020	0.033	0.014	0.031
<i>HERF</i>	-	-0.003	0.025	0.005	0.025	0.023	0.025
<i>MCAP</i>	-	-0.219***	0.009	-0.215***	0.009	-0.219***	0.008
<i>GROWTH</i>	+	0.088***	0.019	0.086***	0.019	0.089***	0.019
<i>AGE</i>	-	0.000***	0.000	0.000***	0.000	0.000***	0.000
<i>PERF</i>	-	0.065	0.059	0.059	0.060	0.084	0.059
<i>INT_ACC</i>	+	0.023	0.020	0.022	0.020	0.018	0.020
Industry Effects		Included		Included		Included	
Year Effects		Included		Included		Included	
F-Value		67.10		62.08		62.82	
p-value F-test		0.000		0.000		0.000	
Adj R ²		0.739		0.739		0.751	
N		2,810 (539)		2,819 (539)		2,810 (539)	

Note: Results are derived from the between effects model. *C-Score* denotes c-score at t estimated as suggested in Khan/Watts(2009); *FF_OWN* is the cumulative percentage of common shares held by the family; *FF_MB* is the percentage of family members in the management board; *FF_SB* is the percentage of family members in the supervisory board; *F_CEO* is one if the CEO is the founder of the firm, and zero otherwise; *D_CEO* is one if the CEO is a descendant of the founder, and zero otherwise; *H_CEO* is one if the family firm is managed by an external CEO; *FF_Chair* is one if the chairman of the supervisory board is a family member and zero otherwise; *ABS_DACC* is absolute discretionary accruals; *NF_INSIDER* is the percentage of common shares held by non-family insiders; *HERF* denotes the Herfindahl index on ownership concentration; *SIZE* is log market capitalization; *GROWTH* is sales growth; *AGE* is listing years; *PERF* is net income before extraordinary items scaled by average total assets; *INT_ACC* is a dummy variable and equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero if prepared under German GAAP. Standard errors are clustered on a year and firm level following Petersen (2009). *** / ** / * indicate a two-tailed significance level at 99% / 95% / 90%. Source: Own Analysis.

Table 70: Family Governance, Discretionary Accruals and Conditional Conservatism (III BE)

Dependent Variable: C-Score							
Independent Variable	Expected Sign	Model 1		Model 2		Model 3	
		Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
<i>Intercept</i>	?	1.280***	0.063	1.291***	0.063	1.305***	0.064
<i>No_FAM</i>	?	0.073***	0.025				
<i>W_FAM</i>	?	0.041**	0.019				
<i>S_FAM</i>	?	0.034*	0.018				
<i>FF_OWN</i>	?			0.178*	0.099		
<i>FF_OWN²</i>	?			-0.206	0.146		
<i>FF_1</i>	?					0.002	0.022
<i>FF_2</i>	?					0.043**	0.022
<i>FF_3</i>	?					0.013	0.020
<i>FF_4</i>	?					0.003	0.044
<i>ABS_ACC</i>	?	0.323**	0.149	0.340**	0.150	0.276*	0.151
<i>NF_INSIDER</i>	?	0.018	0.033	0.014	0.032	0.026	0.033
<i>HERF</i>	-	0.008	0.026	0.015	0.026	0.008	0.027
<i>SIZE</i>	-	-0.218***	0.009	-0.218***	0.009	-0.219***	0.009
<i>GROWTH</i>	+	0.091***	0.019	0.088***	0.019	0.086***	0.022
<i>AGE</i>	-	0.000***	0.000	0.000***	0.000	0.000***	0.000
<i>PERF</i>	-	0.060	0.060	0.074	0.060	0.043	0.061
<i>INT_ACC</i>	+	0.019	0.020	0.019	0.020	0.024	0.021
Industry Effects		Included		Included		Included	
Year Effects		Included		Included		Included	
F-Value		62.89		64.44		58.14	
p-value F-test		0.000		0.000		0.000	
Adj. R ²		0.742		0.739		0.735	
N (groups)		2,810 (539)		2,810 (539)		2,810 (539)	

Note: Results are derived from the between effects model. *C-Score* is c-score estimated as suggested in Khan/Watts(2009); *No_FAM* is a dummy variable and one if the family holds no shares but positions in the board(s), *W_FAM* is a dummy variable and one if family ownership is below the median of family ownership and zero otherwise; *S_FAM* is a dummy variable and one if family ownership is above the median of family ownership and zero otherwise; *FF_OWN* (*FF_OWN²*) is the (squared) percentage of shares held by the family; *ABS_DACC* is absolute discretionary accruals; *NF_INSIDER* is the percentage of common shares held by non-family insiders; *HERF* denotes the Herfindahl index on ownership concentration; *SIZE* is log market capitalization; *GROWTH* is sales growth; *AGE* is listing years; *PERF* is net income before extraordinary items scaled by average total assets; *INT_ACC* is a dummy variable and equals 1 if consolidated financial statements are prepared according to IFRS or US GAAP and zero otherwise. Standard errors are clustered according to Petersen (2009). *** / ** / * indicate a two-tailed significance level at 99% / 95% / 90%. Source: Own Analysis.

Appendix C: Summary and Conclusion

Table 71: Summary of Results from the Empirical Analyses⁹⁵¹

Subject of the Analysis	Earnings Smoothing	Discretionary Accruals	Real Earnings Management	Conditional Conservatism
IFRS Adoption	Less earnings smoothing under voluntary mandatory adoption But: Result driven by market timing and firm size heterogeneity	Discretionary accruals unaffected by voluntary IFRS adoption But: Result driven by market timing	Level of naly cash flows is unaffected by voluntary/ mandatory IFRS adoption. ⁹⁵²	Increase in conditional conservatism under voluntary mandatory IFRS adoption (Ball/Shivakumar 2005 model) But: Result driven by market timing and firm size heterogeneity
Family Governance	No significant differences in earnings smoothing between family and non-family firms ⁹⁵³	Family governance is on average associated with higher levels of discretionary accruals but: discretionary accruals decrease with increasing family ownership	Medium and high levels of family ownership associated with lower levels of real earnings management	Higher levels of conditional conservatism in family firms particularly if family not only acts as large shareholders but is also active in the management/supervisory board

⁹⁵¹ Source: Author's illustration. Note that this is a simplified illustration of the results found in the analyses.

⁹⁵² This analysis is run to complement the findings in this thesis but does not form part of the main analysis in chapter 6. For this reason results are not tabulated. However, this result supports evidence from the other analyses in chapter 6 that IFRS is not a main driver of earnings characteristics among German firms. Results are untabulated.

⁹⁵³ This analysis is run to complement results in this thesis but does not form an integrative part in the analysis in chapter 7. Results on earnings smoothing in family versus non-family firms are tabulated in table 67, appendix B.

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