TECHNISCHE UNIVERSITÄT MÜNCHEN

Full Professorship Financial Accounting

Prof. Dr. Jürgen Ernstberger

Essays on Capital Structure, Dividend Payments and Quarterly Disclosure

Christopher Fritz, MSc

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: Prof. Dr. Christoph Kaserer

Prüfer der Dissertation: 1. Prof. Dr. Jürgen Ernstberger

2. Prof. Dr. Michael Grüning

Die Dissertation wurde am 07.02.2020 bei der Technischen Universität München eingereicht und durch die Fakultät für Wirtschaftswissenschaften am 15.08.2020 angenommen.

Short Table of Contents

Table of Contents

List of Tables

List of Abbrevations

Abs.	Absatz
Abschn.	Abschnitt
AG	Aktiengesellschaft
Art.	Artikel
ATX	Austrian Traded Index
bspw.	beispielsweise
bzw.	beziehungsweise
coef.	coefficient
BGBl	Bundesgesetzblatt
BörseG	Börsegesetz
bzgl.	bezüglich
CEO	Chief Executive Office
CFO	Chief Financial Officer
CNMV	Comision Nacional del Mercado de Valores
CONSAB	Commissione Nazionale per le Societa e la Borsa
CSA	Canadian Securities Administration
EAA	European Accounting Association
EG	Europäische Gemeinschaft
e.g.	for example

et al.	et alii / et aliae
EU	European Union
EU-15	Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom
GAAP	Generally Accepted Accounting Principles
GDP	gross domestic product
gem.	gemäß
GuV	Gewinn- und Verlustrechnung
i.e.	id est
insb.	insbesondere
IPO	Initial Public Offering
H	Hypothesis
IAS	International Accounting Standards
idF	in der Fassung
IFRS	International Financial Reporting Standards
IMS	Interim Management Statement
k.A.	keine Angabe
n	number of observations
Nr.	Nummer

p	p-value
S.	Seite(n)
SE	Societas Europaea
SEC	United States Securities and Exchange Commission
SIC	Standard Industrial Classification
SGD	Singapore Dollar
SGX	Singapore stock exchange
SG&A	Sales, general and administrative
Tab.	Tabelle
TD	Transparency Directive
t-stat	test statistic
UK	United Kingdom
US	United States
USD	United States Dollar
USA	United States of America
vgl.	vergleiche
WpHG	Wertpapierhandelsgesetz
Z	Ziffer
z.B.	zum Beispiel

1. Introduction

This dissertation studies consequences of mandating quarterly disclosure for firms' capital structure and dividend payments to shareholders, as well as consequences of deregulating quarterly disclosure for the availability, timing, form and content of quarterly disclosure to investors.

1.1. Motivation and Scope

The appropriate mandated disclosure frequency for firms has been a frequently debated policy question within the last 15 years in Europe, North America and Singapore. At the center of the debate on the costs and benefits of quarterly disclosure have been a series of policy changes on the mandated disclosure frequency and (ongoing) considerations to deregulate existing quarterly disclosure requirements.

In Europe, the European Union (EU) introduced mandatory quarterly disclosure as a part of the Transparency Directive (TD) in 2004 with the aim to improve transparency for investors and to enable investors to allocate their funds better (European Commission 2004). However, in 2013 the EU abandoned the requirement for quarterly disclosure by amending the TD amid concerns over managerial short-termism and a high administrative burden for small and medium sized firms (European Commission 2013). Currently, the European Union does not allow national legislation, which requires quarterly disclosure but permits operators of a regulated market to require quarterly disclosure for issuers of securities (European Commission 2013). As a result, quarterly disclosure is still mandated for certain firms in four EU-15 countries (Germany, Italy, Spain and Sweden) (see Erkilet and Kasperzak 2019). However, deregulation of quarterly disclosure requirements was not confined to implementation of the amendment to the TD and is still a relevant policy question today, as highlighted by the decision of the Vienna Stock Exchange ("Wiener Börse AG") in February 2019 to remove all quarterly reporting requirements (Wiener Börse 2019c).

1

In North America, the United States (US) have historically increased the mandated disclosure frequency from annual reporting to semi-annual reporting in 1955 and from semi-annual reporting to quarterly reporting in 1970 (Fu et al. 2012). More recently, the US Securities and Exchange Commission (SEC) has issued a request for comments on quarterly disclosure (United States Securities and Exchange Commission 2018). The request was prompted by an initiative by President Donald Trump to investigate the possibility to remove quarterly disclosure requirements because this would "*allow firms greater flexibility and save money*" (Cox 2018). Currently, the SEC has not yet decided if it will proceed with a formal policy change (Johnson 2019). In a similar vein, in 2017 the Canadian Securities Administration (CSA) has issued a request for public feedback (Canadian Securities Administrators 2017). Currently, the CSA has not initiated a formal initiative to remove the requirement for quarterly disclosure but initiated a project to review the content of interim reports (Canadian Securities Administrators 2018). However, as the Chartered Professional Accountants Canada note, the CSA may reconsider deregulating quarterly disclosure if the SEC were to abandon quarterly disclosure requirements because congruence with US legislation was one of the CSA's reasons to adopt mandatory quarterly disclosure in the 1970s (Mensah and Werner 2008) and to retain quarterly disclosure requirements (McKenzie 2018).

In Singapore, quarterly reporting was mandated by the government and the Singapore Stock Exchange (SGX) in 2003 for issuers with a market capitalization exceeding a threshold of SGD 20 million, which was later raised to SGD 75 million (Kajüter et al. 2019). However, in 2018 the SGX initiated a review of the quarterly disclosure requirement and asked for public feedback on the costs and benefits of requiring quarterly disclosure (Tan 2018). The review was motivated in part by the removal of quarterly disclosure requirements in the EU, perceived high compliance costs of quarterly disclosure for small firms and concerns about

short-termism (Singapore Stock Exchange 2018). Currently, the review of quarterly disclosure requirements is still ongoing (Quah 2019).

In sum, the debate on the cost and benefits of quarterly disclosure is relevant as regulators in Europe, the United States and Singapore are currently reviewing quarterly disclosure requirements or have changed quarterly disclosure requirements within the last decade. This dissertation seeks to inform this debate by investigating the effects of more frequent disclosure on two important capital market outcomes for firms, capital structure and dividend payments, and by exploring quarterly disclosure available to investors following a deregulation of quarterly disclosure requirements. For this purpose, the remainder of Chapter 1.1. reviews the most relevant strands of literature in this context.

Chapter 1.1.1. explains the role and importance of disclosure for capital markets. Chapter 1.1.2. focuses on two important capital market outcomes for firms, namely capital structure and dividend payments to shareholders, and summarizes relevant studies on the influence of disclosure on these capital market outcome variables. Chapter 1.1.3. defines disclosure frequency as a distinct attribute of disclosure and focuses on the effects of an increase in disclosure frequency from semi-annual to quarterly disclosure. The Chapter finds that the role of disclosure frequency for dividend payments and capital structure has not been investigated and that the effect of more frequent disclosure on these outcomes is unclear based on prior theoretical and empirical research. Because this dissertation is concerned with effects of disclosure frequency regulation, the next two sections examine the reasons and possible consequences of regulating and deregulating disclosure. Chapter 1.1.4 deals with the costs and benefits of regulating and deregulating disclosure in general and finds a lack of evidence on the costs and benefits from settings which increase the likelihood of reporting causal evidence (see e.g., Leuz and Wysocki 2016) . Chapter 1.1.5. reports the findings of prior research on the effects of deregulating quarterly disclosure and finds that the

consequences of deregulating quarterly disclosure for the disclosures available to investors are still an open question. In particular, there is a lack of evidence from a setting with previously rigorous quarterly disclosure requirements.

1.1.1. The Importance of Disclosure for Capital Markets

From a theoretical perspective, firms' disclosure is beneficial for the functioning of capital markets in at least two main ways (Healy and Palepu 2001).

First, disclosure can reduce information asymmetry (Healy and Palepu 2001; Verrecchia 2001; Bushman and Smith 2001). Information asymmetry in capital markets arises because the firm's management has private information about the risks and returns of its businesses. This information asymmetry between management and investors could lead to market failure in the spirit of the lemons problem described by Akerlof (1970). Management may try to exaggerate the return potential of the firm to attract capital from investors, and consequently investors may overvalue investments in firms with a low return potential and undervalue investments in firms with a high return potential; because in absence of knowing the true return potential of the assessed firms, they value both, firms with high and low return potential, at an average level (Healy and Palepu 2001; Beyer et al. 2010). Additionally, if information is unevenly distributed across investors, less informed investors may demand a premium to invest (Leuz and Wysocki 2016). Disclosure can therefore help increase market efficiency and prevent market failure in capital markets by providing investors with valuable information about the true return potential and by "leveling the playing field" among investors (Verrecchia 2001; Leuz and Wysocki 2016). The beneficial effects of disclosure for capital markets from a reduction in information asymmetry have been documented in both analytical and empirical studies and include an increase in market liquidity (e.g., Kim and Verrecchia 1994; Welker 1995) and a reduction in the cost of capital (e.g., Diamond and Verrecchia 1991; Daske et al. 2008). This role of disclosure, i.e., reducing information

asymmetry for investors by improving the ability to assess the true return potential of an investment, is also referred to as valuation role of disclosure (Beyer et al. 2010).

Second, disclosure can mitigate agency conflicts (Bushman and Smith 2001; Healy and Palepu 2001; Beyer et al. 2010). Agency conflicts can arise in capital markets due to a separation of ownership and control (e.g., Jensen and Meckling 1976; Beyer et al. 2010) and can exist between management and investors or between different investors, such as debt and equity investors (e.g., Healy and Palepu 2001). For example, management may use resources in their own interest instead of investors' interests (e.g., using firm resources to increase management compensation, see Jensen and Meckling 1976) or in the interest of one group of investors but not the other (e.g., engaging in actions that increase the default risk after receiving debt capital, see Smith and Warner 1979). One way to resolve agency conflicts is to align incentives of management and investors through explicit contracting; for example by including incentives to maximize shareholder value in management compensation contracts (Harris and Raviv 1979) or by including covenants in debt contracts that restrict resource use by management (Smith and Warner 1979). Disclosure provides investors with opportunities to monitor management and therefore allows to assess compliance with explicit or implicit contracts (Bushman and Smith 2001; Healy and Palepu 2001; Beyer et al. 2010). This role of disclosure, i.e., reducing agency conflicts by providing monitoring opportunities, is also referred to as stewardship role of disclosure (Beyer et al. 2010). Investors value the monitoring opportunities provided by disclosure not only ex post, after an initial investment decision, but also ex ante, when considering an investment in the firm (Beyer et al. 2010).

However, disclosure can also be costly for firms and ultimately capital markets (Leuz and Wysocki 2016). Disclosure has direct costs for firms because firms have to spend resources to prepare and publish their disclosure and to comply with existing disclosure standards (see

Coates and Srinivasan 2014; Leuz and Wysocki 2016). Furthermore, disclosure may have indirect costs, which may decrease discretionary disclosure by firms (Verrecchia 1983). These indirect costs include for example a higher risk of litigation by shareholders (Rogers and van Buskirk 2009; Rogers et al. 2011) or an increased risk of imitation by competitors or the use of proprietary information by other stakeholders, such as labor unions, tax authorities or other third parties. If firms perceive the costs of disclosure and compliance as too high, they may ultimately decide to delist from capital markets (e.g., Bushee and Leuz 2005; Engel et al. 2007) or to not enlist in capital markets (e.g., Marra and Suijs 2004). Therefore, too much disclosure may have economically relevant adverse effects on the capital available in capital markets. In addition, too much disclosure may make it harder for some investors to separate relevant from irrelevant information (Johnson 1992) and could therefore increase information asymmetry between investors (Brown and Hillegeist 2007) and thereby impose costs on capital markets such as lower liquidity.

In addition to the theoretical importance of disclosure for capital markets described above, the practical importance and relevance of disclosure for capital markets can be inferred from three exemplary facts. First, regulatory bodies design financial disclosure standards with a strong focus on capital market participants. For example, the International Accounting Standards Board (IASB), an international regulatory body responsible for developing the International Financial Reporting Standards (IFRS), defines "*present and potential investors, lenders and other creditors*" as primary users of financial disclosure in the Conceptual Framework for Financial Reporting, which should assist the IASB in "*developing and revising IFRS*" (IASB 2018). Second, there is a demand by market participants for the (costly) disclosure of private information through intermediaries as well as for the verification of disclosure by external auditors. Several financial intermediaries, such as financial analysts, engage in the production and disclosure of additional information.

For example, Degeorge et al. 2013 report for an international sample that on average 4.1 analysts covered one firm in the 21 investigated countries. Additionally, significant financial resources are spent on the verification of existing disclosure, for example the four largest audit firms generated global revenues in their audit businesses of USD 56 billion in 2018 (Statista 2019). Third, capital market operators such as stock exchanges typically have extensive disclosure requirements in addition to national disclosure requirements. These requirements include initial disclosure requirements as well as ongoing disclosure requirements for being able to list securities on the market. For example, additional initial disclosure demanded by stock exchanges include the disclosure of a prospectus for firms to be able to initially offer equity on the stock exchange. Shi et al. (2013) report that in each of the 34 countries they investigated, firms were required to disclose a prospectus to investors before an initial public offering (Shi et al. 2013). Furthermore, related to ongoing disclosure requirements and disclosure frequency, stock exchanges in the European Union such as the Frankfurt Stock Exchange and the Vienna Stock Exchange required quarterly reporting before the national implementation of the TD (see Link 2012) and continued requiring quarterly disclosure after the national implementation of the amendment of the TD (see Erkilet and Kasperzak 2019).

1.1.2. Capital Structure, Dividend Payments and Disclosure

Until now the literature review illustrates the importance and role of disclosure in capital markets. This section investigates two important outcomes for firms in capital markets: the capital structure, i.e., the mix of debt and equity financing they rely on to finance their projects, and the dividend payments they make to their shareholders. It surveys studies on capital structure and dividend payments and describes how disclosure may influence these outcomes.

Capital markets help allocate household savings to firm investment opportunities (see e.g., Healy and Palepu 2001). That is, firms are able to obtain financing for their projects, in exchange for a fixed interest payment or a variable share of their profits, and households are able to invest their savings at a pre-determined or variable return. Thus, two important financial interactions for firms with capital markets are their financing decisions and their payout decisions. Both corporate finance policies have attracted considerable attention from researchers and practitioners in pursuit of answering questions such as: how should firms finance their operations, why do firms choose specific capital structures, why do firms pay out part of their profits in dividends or, more generally, why are dividend payments and capital structure relevant. In early seminal works Miller and Modigliani (1958, 1961) showed theoretically that capital structure (Miller and Modigliani 1958) as well as dividend payments (Miller and Modigliani 1961) were irrelevant for firm value and therefore for investors. In their model, firm value was solely determined by a firm's investment policy because investments and other decisions were unaffected by financing decisions, as the cost of capital would not vary with the capital structure, and because the distribution of profits would be irrelevant for investors, as only the value of the underlying cash flow mattered to investors (Miller and Modigliani 1958, 1961; Baker and Weigand 2015). Their results, however, were based on the simplifying assumption of perfect and efficient capital markets, i.e., markets without frictions such as information asymmetry or agency costs, with perfectly rational agents as well as without any other market failures, for example due to externalities. As Miller and Modigliani note: *"[...] these and other drastic simplifications have been necessary in order to come to grips with the problem at all. Having served their purpose, they can now be relaxed in the direction of greater realism and relevance"* (Miller and Modigliani 1958, p. 296).

Subsequent work has relaxed the assumption of perfectly efficient capital markets and showed that market frictions can help explain the observed capital structures (for a review see e.g., Frank and Goyal 2009; Graham and Leary 2011) and dividend payments (for a review see e.g., Bhattacharyya 2007; Baker and Weigand 2015). Related to capital structure, prior studies found that financial leverage varies with various market frictions including agency costs (e.g., Berger et al. 1997; Morellec et al. 2012), information asymmetry (e.g., Myers and Majluf 1984; Leary and Roberts 2010) or taxes and bankruptcy costs (e.g., Bradley et al. 1984; Fischer et al. 1989). In addition, prior studies find that capital market conditions and managerial behavior may affect capital structure. For example, firms have been shown to time their equity offerings to coincide with a favorable valuation (Baker and Wurgler 2002), to adapt their financing choices in response to shocks that affect debt capital markets but not equity capital markets (e.g., Faulkender and Petersen 2006; Tang 2009) and to use leverage strategically, for example for take-over defense (e.g., Garvey and Hanka 1999; Safieddine and Titman 1999) or to aid in negotiations with labor unions (e.g., Hennessy and Livdan 2009; Matsa 2010). Related to dividends, prior research has also documented that dividend payments are associated with market frictions, including agency costs (e.g., Easterbrook 1984; La Porta et al. 2000), information asymmetry (e.g., Miller and Rock 1985; La Porta et al. 2000; Myers 2000), and with management behavior (e.g., firms may engage in activity manipulations to meet dividend expectations see Kasanen et al. 1996 and Liu and Espahbodi 2014).

As established in this Chapter, disclosure can reduce information asymmetry and agency costs and may therefore influence firms' capital structure or dividend payments. Furthermore mandatory disclosure may induce changes in management behavior or management focus (e.g., Jin and Leslie 2003; Leuz and Wysocki 2016; Christensen et al. 2017). For example, mandatory more frequent disclosure may foster managerial myopia (Gigler et al. 2014) or

increase focus on disclosed activities (Feng Lu 2012), and thereby affect capital structure or dividend decisions. However, the direction of the effect of disclosure on capital structure and dividend payments is a priori unclear. For example, related to dividends, a disclosure induced reduction in agency costs should lead to higher dividend payments (Easterbrook 1984; Koo et al. 2017), whereas a disclosure induced reduction in information asymmetry should lead to lower dividend payments (Hail et al. 2014). Therefore, the questions of how disclosure affects capital structure and dividend payments, are empirical and this dissertation adopts an empirical approach.

Two related strands of literature investigate the role of disclosure for capital structure and dividend payments. Related to capital structure, prior literature focuses on selective disclosure and disclosure quality and emphasizes the role of disclosure in changing information asymmetry. Petacchi (2015) and Albring et al. (2016) study the capital structure effect of a regulation, which prevents selective disclosure of material information to equity market professionals (e.g. equity investment funds), but not to debt market professionals (e.g., banks). Both studies find that after the implementation of the regulation, firms increase their leverage, i.e., they rely on debt financing, where selective disclosure is still possible, and rely less on equity financing, where selective disclosure is prevented by Reg FD. On the underlying driver of the effect, Petacchi (2015) reports that the effect is more pronounced for firms with higher information asymmetry prior to the regulation and Albring et al. (2016) document that the effect is stronger for firms with higher cost of disclosure (e.g., a higher litigation risk) prior to the regulation. Blaylock et al. (2017) and Naranjo et al. (2018) study the capital structure effect of a regulatory shock to disclosure quality. In Blaylock et al. (2017), the regulatory shock is the Tax Reform Act of 1986 in the United States, which increased book-tax-conformity and therefore represented a decrease in disclosure quality. In Naranjo et al. (2018), the regulatory shock is the implementation of IFRS in 34 countries,

which represented an increase in disclosure quality. Both studies find a change in capital structure, which supports the notion that equity investors are more affected by changes in disclosure quality and that firms substitute to the financing source less affected by the change in disclosure quality, i.e., they report a decrease (increase) in financial leverage following an increase (decrease) in disclosure quality (Blaylock et al. 2017; Naranjo et al. 2018).

Related to dividend payments, extant research focuses on disclosure quality and finds effects consistent with the notion that disclosure can reduce agency costs and information asymmetry. Hail et al. (2014) study an increase in disclosure quality following the enforcement of insider trading laws and the implementation of IFRS for European firms. They find that, following the regulatory shocks, firms are less likely to pay dividends and decrease the amount of dividends paid. These findings are consistent with the view that disclosure reduces information asymmetry and that firms with lower information asymmetry pay less dividends (Hail et al. 2014). Koo et al. (2017) study the association between disclosure quality and dividend payments for US firms. They find that firms with higher disclosure quality exhibit a higher dividend amount and that the association is stronger for firms for which monitoring is more valuable (e.g., for firms with more growth options and higher free cashflow). These findings are consistent with the notion that disclosure provides monitoring opportunities for investors and allows them to extract higher dividends (Koo et al. 2017). Furthermore, Eije and Megginson (2008) study dividend payments in the EU and find a positive association between the voluntary earnings disclosure frequency and dividend payments.

In sum, prior literature focuses on disclosure quality and selective disclosure and finds evidence consistent with the notions that disclosure quality and selective disclosure affect capital structure and dividend payments. The findings support the notions that disclosure may change capital structure by influencing information asymmetry exclusively or more

11

strongly for equity investors compared to debt investors, and that a higher disclosure quality reduces dividend payments by reducing information asymmetry or increases dividend payments by reducing agency costs.

1.1.3. Disclosure Frequency and Expected Effects on Capital Structure and Dividend Payments

In contrast to prior literature on the role of disclosure for capital structure and dividend payments, which focused on disclosure quality and selective disclosure, this dissertation focuses on disclosure frequency motivated by an array of international policy changes on disclosure frequency. Disclosure frequency is a distinct attribute of disclosure, which relates to the timeliness of the disclosed information rather than the scope or the precision of the disclosed information (van Buskirk 2012). Prior research on an increase in mandatory disclosure frequency has documented that disclosure frequency influences information asymmetry, agency costs and management behavior.

Extant literature on the relationship between information asymmetry and disclosure frequency finds an insignificant or a negative relationship. Van Buskirk (2012) studies a voluntary increase in disclosure frequency (monthly sales reporting) for US retail firms and finds that a higher voluntary disclosure frequency is not associated with a decrease in information asymmetry. In contrast, Fu et al. (2012) find a decrease in information asymmetry following a mandate to disclose more frequently, while Butler et al. (2007) find an increase in earnings timeliness for firms, which increased disclosure frequency voluntarily, but not for firms for which the increase was mandated by the SEC. In addition, Stoumbos (2017) finds that quarterly disclosure reduces information asymmetry by reducing the growth in information asymmetry between earnings announcements for an EU sample of firms and an US sample of firms. Kajüter et al. (2019) find no informational benefits for

small firms, but informational benefits for large firms following the introduction of mandatory quarterly reporting in Singapore.

Prior studies on the relationship between agency costs and disclosure frequency find a negative relationship. Kanodia and Lee (1998) show analytically that more frequent disclosure of a performance report disciplines management. Balakrishnan and Ertan (2018) find that banks increase their loan quality if they are subject to quarterly financial disclosure and that these results are more pronounced for banks listed in markets with weaker monitoring opportunities, weaker depositor insurance and for capital markets with more listed firms per capita. Downar et al. (2018) find that shareholders value the monitoring opportunities provided by more frequent mandatory disclosure.

Prior literature on the effects of more frequent disclosure on management behavior either finds no significant effect on management behavior or reports evidence of an increase in managerial myopia, i.e., an increased management focus to improve short-term results at the expense of long-run performance. Gigler et al. (2014) show analytically that management can become more myopic following an increase in the required disclosure frequency. Ernstberger et al. (2017) and Kraft et al. (2018) analyze the effect of mandatory more frequent disclosure on real management activities (investment and real earnings management) for a sample of US (Kraft et al. 2018) respectively EU firms (Ernstberger et al. 2017). Consistent with the view that more frequent disclosure induces managerial myopia, they find a decrease in investment and an increase in real earnings management at the expense of a subsequent decline in profitability. However, Kajüter et al. (2019) do not find evidence of managerial myopia following the introduction of mandatory quarterly disclosure in Singapore.

Overall, prior studies exploiting an increase in disclosure frequency in the EU, i.e., the introduction of mandatory quarterly disclosure of Interim Management Statements (IMS),

support the notion that an increase in disclosure frequency reduces information asymmetry (Stoumbos 2017), mitigates agency costs (Downar et al. 2018) and induces managerial short-termism (Ernstberger et al. 2017), while studies from other capital market settings report more mixed evidence. Thus, the effect of an increase in disclosure frequency on capital structure and dividend payments is a priori unclear based on the possible reduction in agency costs, the possible reduction in information asymmetry and the possible increase in managerial myopia. For example, financial leverage may decrease if equity but not debt investors benefit from a reduction in information asymmetry; and financial leverage may increase if reporting frequency induces managerial myopia. Conversely, dividend payments may increase if an increase in disclosure frequency reduces agency costs or increases managerial myopia; and dividend payments may decrease if an increase in disclosure frequency reduces information asymmetry.

1.1.4. Costs and Benefits of Disclosure Regulation

So far, the literature review illustrates that disclosure may have costs and benefits and is a vital element of capital markets. The relevance of disclosure is emphasized by a multitude of existing disclosure regulations at various institutional levels. For example, disclosure is regulated at the capital market level (e.g., prospectus requirements or ongoing disclosure requirements such as ad hoc reporting), at the national level (e.g., national financial reporting regulation such as the Handelsgesetzbuch in Germany/Unternehmensgesetzbuch in Austria), as well as at the international level (e.g., development of the IFRS by the IASB and subsequent adoption of IFRS by approxitmately 90 jurisdictions globally by 2019, see American Institute of Certified Public Accountants 2019). Thus, one relevant question is, if disclosure should be regulated or if investor demand for disclosure and firm optimization of costs and benefits of disclosure would lead to an efficient equilibrium without regulatory intervention. Prior studies have established that firms may indeed disclose their private

information in equilibrium because firms may have incentives to distinguish themselves from "bad" firms, for example if investors value bad firms at a discount (Grossman and Hart 1980; Grossman 1981; Milgrom 1981; Beyer et al. 2010). This argument is referred to as "unravelling result" and relies on several assumptions, for example that disclosure is costless for firms (Beyer et al. 2010; Leuz and Wysocki 2008). Even though a violation of these assumptions in practice may not imply that regulation is desirable (Leuz and Wysocki 2008; Beyer et al. 2010), prior studies also established that there are factors, which provide a rationale for regulatory intervention. These factors include: externalities (e.g., because disclosure by one firm may also provide information about other firms; see Beyer et al. 2010), agency costs (e.g., because inside owners may prefer to withhold private information from outside investors without mandatory disclosure; see Leuz and Wysocki 2008; Beyer et al. 2010) and economies of scale (e.g., because there are substantial cost savings to be expected from auditing standardized mandatory disclosure; see Beyer et al. 2010, or because mandatory disclosure may be a low-cost commitment device for firms because, after raising capital, firms would have incentives to disclose less in absence of mandatory disclosure requirements, see Leuz and Wysocki 2008). However, other studies also argue that too much mandatory disclosure may lead to information overload (Parades 2003; Eppler and Mengis 2004), which could support the deregulation of disclosure. Ultimately, it is still unclear if disclosure should be regulated (Leuz and Wysocki 2016; Beyer et al. 2010) because there is not enough conclusive causal evidence on the costs and benefits of disclosure regulation and the presence of market-wide effects (Leuz and Wysocki 2016).

1.1.5. Disclosure Frequency Regulation and Deregulation

As summarized in the previous section, the desirability of disclosure regulation in general is still unclear. In a similar vein, extant studies on the question whether disclosure frequency should be regulated provide mixed evidence.

Two studies report evidence consistent with the notion that regulating disclosure frequency can be beneficial because it has market-wide effects. Kajüter et al. (2019) find information spillovers from large firms, who report quarterly, to small firms, who report semi-annually, around the publication date of quarterly reports in Singapore. In a similar vein, Arif and De George (2018) report significant information spillovers from large US firms, who report quarterly, to EU firms, who do not report quarterly, around publication dates of quarterly reports by US firms. Their results support the notion that these spillovers are significant enough to mandate quarterly reporting because investors in EU firms overreact to news from US firms as stock returns for EU firms subsequently revert (Arif and De George 2018).

In contrast, other studies suggest that regulating quarterly disclosure may be ineffective and could lead to adverse effects. Butler et al. (2007) find that firm level information asymmetry from quarterly disclosure is only reduced if firms increase their disclosure frequency voluntarily, but not when quarterly reporting is mandated and conclude that disclosure frequency should not be regulated. Furthermore, quarterly reporting may be costly for firms, for example due to compliance costs or a decline in operating performance (e.g., Ernstberger et al. 2017). Whether these costs outweigh benefits at the firm and market level is still unclear. However, Kajüter et al. (2019) find that investors perceive the costs of quarterly reporting to outweigh the benefits at least for small firms because the value of small firms decreases around the implementation of quarterly reporting. In sum, whether disclosure frequency should be regulated or not is still an open question.

Several regulators have recently opted to deregulate quarterly disclosure requirements (e.g., the EU) or consider deregulating quarterly disclosure requirements (e.g., the US and Singapore), as discussed in the beginning of this Chapter. However, in the EU several firms still report quarterly, either because they are required to do so by regulation at the capital market level or because they do so on a voluntary basis. For example, Hitz and Moritz (2019)

examine the deregulation of quarterly reporting in the EU and find that subsequent to deregulation, 88.9% of firms still report quarterly. They also find evidence that investment increases and that liquidity decreases for firms which stop quarterly reporting, i.e., evidence for the reversal of a cost and a benefit of quarterly reporting subsequent to deregulation. Furthermore, a number of studies examined the deregulation of quarterly reporting at the German stock market level (see Loy and Balzer 2017; Pellens et al. 2017; Tausch-Nebel et al. 2017; Zülch and Hecht 2017; Gluch et al. 2019). Prior to deregulation, firms listed in the most liquid prime standard stock market segment were required to produce full quarterly financial statements (QFS), which had to contain full financial statements similar to those required by IAS 34 (e.g., Pellens et al. 2017). After the deregulation German prime standard firms were no longer required to report QFS but were required to provide less extensive quarterly disclosure, which no longer had to contain certain disclosure element. In detail a balance sheet, an income statement, a cash flow statement, a statement of changes in equity or selected notes were no longer required (see e.g., Pellens et al. 2017). Overall, the studies examining this deregulation find a reduction in the number of firms disclosing the deregulated disclosure elements (see Loy and Balzer 2017; Pellens et al. 2017; Tausch-Nebel et al. 2017; Zülch and Hecht 2017; Gluch et al. 2019). However, it should be noted that studies examining the German deregulation for Prime Standard firms at the Frankfurt Stock Exchange, by nature of the deregulation, can only examine the deregulation of disclosure frequency for certain elements of quarterly disclosure and not a full deregulation of quarterly disclosure. Nevertheless, it should be pointed out that a full deregulation of quarterly disclosure from previously rigorous quarterly disclosure requirements is rather uncommon at least within the EU-15 countries. This is because five countries did not fully deregulate quarterly disclosure and the remaining countries did not have rigorous quarterly disclosure requirements in place prior to the deregulation. In detail, until 2019 five countries out of the EU-15 countries still required quarterly disclosure, e.g., through the stock exchange

operator, and hence did not deregulate quarterly disclosure (Erkilet and Kasperzak 2019). Furthermore, eight out of the ten remaining countries, which abandoned quarterly disclosure, did not have quarterly disclosure requirements in place prior to the implementation of the TD. Hence, prior to the deregulation these eight countries required quarterly disclosure through IMS, which contain relevant information but do not comprise full quarterly reports in the spirit of quarterly reports according to IAS 34 or Form 10-Q (Erkilet and Kasperzak 2019). For example, the UK required no quarterly disclosure prior to the reduction of the TD and did not require any quarterly disclosure after the implementation of the amendment to the TD (Erkilet and Kasperzak 2019). In sum, the consequences of a full deregulation of quarterly disclosure requirements from previously strict disclosure requirements are still an open question.

1.2. Essays on Capital Structure, Dividend Payments and Quarterly Disclosure

So far, the literature review illustrates that the effect of more frequent disclosure on capital structure and dividend payments is theoretically unclear and thus an empirical question. Furthermore, to examine quarterly disclosure following a deregulation, this dissertation exploits a recent deregulation in Austria, which is a rare case of an extensive deregulation within the EU-15 countries from previously rigorous quarterly disclosure requirements. In detail, the dissertation empirically analyzes and describes the consequences of a deregulation by the Vienna Stock Exchange for the availability, form, timing and content of quarterly disclosure to investors.

1.2.1. Methodology and Research Setting

This dissertation empirically investigates the effect of more frequent disclosure on capital structure and on dividend payments by exploiting a natural experiment in the EU. Between 2007 and 2009 the EU-15 countries implemented the TD, which required quarterly

disclosure of IMS[1]. This setting has at least four desirable properties for the identification of the effect of an increase in disclosure frequency. First, it allows to exploit variation in the required reporting frequency prior to the implementation of the TD to estimate the effect of more frequent disclosure by comparing firms from treatment group countries, i.e., firms newly required to disclose quarterly, with firms from control group countries, i.e., firms which were constantly required to disclose quarterly. Second, all firms are subject to the same shock (the new legislation), thus vulnerability to selection effects should be reduced[2]. Third, the staggered shock to reporting frequency and the plausibly exogenous variation in implementation dates of the legislation make it less likely that the estimated effect is influenced by concurring events (Christensen et al. 2016). Fourth, the panel structure of the data allows to control for time trends and unobservable country characteristics, which are constant across the investigation period. To exploit the advantages of the setting and to estimate the effect of more frequent disclosure on capital structure in essay 1 and on dividend payments in essay 2, this dissertation employs the difference-in-differences estimator. Thus, essay1 and essay 2 also contribute to the stream of literature investigating costs and benefits of disclosure regulation by exploiting a quasi-experimental and international setting in the EU. As called for by Leuz and Wysocki 2016, essay 1 and essay 2 thus provide evidence on the costs and benefits of disclosure regulation, which comes closer to causality than evidence from other settings. For example, settings investigating voluntary disclosure may suffer from selection bias (see e.g., Heckman 1979) and settings without a natural control group or cross-sectional studies may suffer from bias due to limited comparability, self-selection or a violation of the parallel trends assumption (Leuz and Wysocki 2016).

---

[1] This setting has also been employed by prior literature (e.g., Christensen et al. 2016; Ernstberger et al. 2017; Downar et al. 2018) The description here is confined to some general features to highlight, why this setting is suitable to identify the effect of an increase in reporting frequency empirically. A more detailed description of the setting is provided in Chapter 2.2 and Chapter 3.2.

[2] In addition, this dissertation addresses possible selection problems from non-random treatment assignment through matching.

In addition, this dissertation examines the quarterly disclosure practice following a deregulation of quarterly disclosure requirements in essay 3. For this purpose, essay 3 studies the 2019 deregulation of mandatory quarterly disclosure requirements for firms listed in the prime market segment of the Vienna Stock Exchange in Austria. This deregulation offers a complete deregulation of quarterly disclosure from previously rigorous quarterly disclosure requirements, which required firms to report quarterly financial statements similar to IAS 34 before the deregulation. Prior literature on the deregulation of disclosure frequency examined the form, content and timing of disclosure following a deregulation of individual elements of quarterly disclosure in Germany (see Loy and Balzer 2017; Pellens et al. 2017; Tausch-Nebel et al. 2017; Zülch and Hecht 2017; Gluch et al. 2019) and quarterly reporting practice and consequences in Europe following the amendment of the transparency directive (see Hitz and Moritz 2019). Essay 3 contributes to this strand of the literature by adding empirical evidence following a complete deregulation of quarterly disclosure, which was separated from the amendment of the TD. Furthermore, it provides a description of quarterly disclosure available to investors in absence of quarterly disclosure regulations in capital markets and thus informs regulators about short-term effects of deregulating quarterly disclosure.[3]

1.2.2. Main Findings

The main findings of the individual essays in the dissertation are summarized below.[4]

Essay 1 investigates the effect of more frequent disclosure on capital structure. The capital structure or financial leverage of a firm measures how much management relies on debt capital and equity capital to finance the firm's assets and operations. Disclosure may thus

---

[3] These effects are discussed in greater detail in section 1.2.2.
[4] Please note that the chapters in this dissertation are subject to change, for example due to requests for revisions in the review process by the editors or reviewers of international journals to which the essays are submitted. For this reason, the final published versions of the individual chapters may differ from the submitted versions reported in this dissertation.

affect capital structure, if it has a stronger effect on either debt or equity investors (the supply of debt and equity capital) or if it affects management behavior and financing decisions (the demand for debt and equity capital). Prior analytical research supports the notion that disclosure affects equity investors more than debt investors. For example, debt investors such as banks have access to private information and can request financial statements at any time (Minnis and Sutherland 2017). Other debt investors can free-ride on bank monitoring (Diamond 1991) or contractually align their payoffs with banks using covenants (Beatty et al. 2012)). Equity investors may value more frequent disclosure because it provides more timely information to investors (Fu et al. 2012; Stoumbos 2017) or because it allows investors to better monitor or management (Kanodia and Lee 1998; Downar et al. 2018). That is, equity investors are expected to increase their willingness to invest and thus increase their supply of capital, as more frequent disclosure reduces information asymmetry or agency costs. Management could react to this improved willingness to invest and increased supply of capital by issuing more equity and thus decrease financial leverage. Additionally, prior literature indicates that management times security issuance to coincide with disclosure events with lower information asymmetry (e.g., earnings announcements) (Wang and Welker 2011; Kerr and Ozel 2015) and that this relationship is stronger for equity than for debt securities (Kerr and Ozel 2015). Because more frequent disclosure may provide more frequent disclosure events, management may exploit these opportunities to offer and issue more equity. In contrast, management could also increase financial leverage as a result of reporting frequency induced changes to management behavior, i.e. managerial myopia (Gigler et al. 2014; Ernstberger et al. 2017; Kraft et al. 2018). For example, myopic management may prefer to improve short-term total returns to shareholders by issuing debt to increase payouts and short-term profits for shareholders and hence increase leverage.

We exploit the introduction of the TD as a shock to disclosure frequency by using the difference-in-differences estimator. We find a lower financial leverage for prior semi-annually reporting firms compared to a matched control group of constantly quarterly reporting firms. The reduction in leverage is economically significant (12.6 percent to 15.2 percent for an average firm). The results are robust to the influence of the sample composition and alternative measurement of financial leverage. Further, an assessment of the parallel trends assumption, which is central to the identification strategy, indicates no significant differences in pre-treatment trends and therefore no indication of a violation of the assumption. Furthermore, we find stronger results for firms with a lower analyst coverage or a higher financing deficit, which supports the notion that firms are able to exploit a benefit of more frequent disclosure because firms with traditionally less favorable financing conditions (i.e., a weaker information environment) and a higher demand for external financing (i.e., a higher financing deficit respectively lower ability to cover cash outflow with cash inflow) are able to reduce leverage more by issuing equity.

In additional analyses, we find that the reduction in leverage is driven by firms issuing more equity, while debt issuance is unchanged. That is, the reduction in leverage is driven by firms actively taking different financing decisions and not due to mechanical changes in leverage (e.g., because debt matures and is not rolled over).

Last, our findings indicate that the reduction in leverage is more pronounced for firms with higher agency costs, while differences in information asymmetry or market timing opportunities do not significantly influence the effect.

These findings contribute to prior research in three ways. First, prior research on the role of disclosure for capital structure and financing decisions focuses on disclosure quality (Blaylock et al. 2017) and selective disclosure (Petacchi 2015; Albring et al. 2016). In contrast, we study disclosure frequency and provide evidence that disclosure frequency

reduces financial leverage by increasing equity issuance. Second, prior research on the regulation of disclosure frequency indicates costs (Ernstberger et al. 2017; Kraft et al. 2018) and benefits (Fu et al. 2012; Stoumbos 2017; Downar et al. 2018) of mandating an increase in disclosure frequency. We add to this literature by providing evidence of a benefit of mandatory more frequent disclosure, i.e., firms are able to issue more equity and reduce financial leverage if have a higher need for external financing or a weaker information environment. Third, prior research indicates that of disclosure influences capital structure because of its valuation role, i.e., a reduction information asymmetry (Petacchi 2015; Albring et al. 2016; Blaylock et al. 2017). In contrast, our results highlight that disclosure influences capital structure through its stewardship role, i.e., a reduction in agency costs.

Essay 2 investigates the effect of more frequent disclosure on dividend payments. Prior research focuses on two mechanisms how disclosure may affect dividend payments. On the one hand, according to the substitute view (La Porta et al. 2000) or signaling theory, firms pay dividends to signal good quality or to signal their commitment to avoid overinvestment (Bhattacharyya 2007; Baker and Weigand 2015). Disclosure may substitute for this signal and therefore reduce the need for firms to pay dividens. Consistent with this prediction Hail et al. (2014) find lower dividend payments after the introduction of two (disclosure) regulations that reduce information asymmetry. On the other hand, according to the outcome view (La Porta et al. 2000), firms with more entrenched management pay lower dividends (e.g. to have more discretionary cash at their deposal) and thus, better monitoring allows shareholders to extract higher dividends from the firm (Easterbrook 1984; Bhattacharyya 2007; Baker and Weigand 2015). Disclosure may substitute as a monitoring tool and therefore may increase dividends to shareholders. Consistent with this prediction, Koo et al. (2017) find that higher disclosure quality is associated with higher dividends. I argue that disclosure frequency may also influence dividends via a third mechanism, by inducing

managerial myopia. Supporting this notion, prior studies document that firms dividend payments are positively associated with (real) activity manipulations (Kasanen et al. 1996; Liu and Espahbodi 2014), which have been found to decrease future performance.

I exploit the introduction of the TD as a shock to disclosure frequency and employ the difference-in-differences estimator. I find a higher dividend amount for prior semi-annually reporting firms compared to a matched control group of constantly quarterly reporting firms. This increase in dividends is robust to the sample composition, alternative measures of dividends and alternative control variables. Furthermore, there is no indication of different pre-treatment trends and thus no indication of a violation of the parallel trends assumption.

In additional tests, I find that the increase in dividend payments is stronger for firms with higher managerial myopia (i.e., lower investment, higher real earnings management), while it does not vary significantly with measures of agency costs (shareholder value of cash, sales, general and administrative expenses).

These findings add to extant studies. First, the findings add to studies investigating the role of disclosure in dividend payments, which find evidence that higher disclosure quality may decrease dividends by reducing information asymmetry (Hail et al. 2014) or increase dividends by improving shareholder monitoring (Koo et al. 2017). In contrast, my findings indicate that higher disclosure frequency may increase dividends due to reporting frequency induced managerial myopia. Second, the findings contribute to literature investigating the relationship between disclosure frequency and dividends. Eije and Megginson (2008) study determinants of European dividend payments and consider the frequency of earnings disclosure as one of 14 determinants. They find, contrary to their expectation, that a higher voluntary disclosure frequency is positively associated with dividend payments (Eije and Megginson 2008). Koo et al. (2017) study the increases in disclosure frequency in the US in 1956 and 1970 and find an increase in dividend payments. However, the association found

by studying voluntary disclosure frequency may be subject to selection bias (Heckman 1979; Leuz and Wysocki 2016) and studying the increases in disclosure frequency in the US in 1956 and 1970 does not allow to control for share buybacks, which were illegal prior to 1982 in the US (Alsin 2017). I thus add to prior studies by documenting a positive relationship between a mandatory increase in disclosure frequency and dividend payments exploiting a more recent international sample and controlling for share buybacks as an alternative payout method. Third, I contribute to prior literature, which identifies costs (Ernstberger et al. 2017; Kraft et al. 2018) and benefits (Fu et al. 2012; Downar et al. 2018) of a higher mandated disclosure frequency. My findings support the notion that an increase in the mandated disclosure frequency may be costly because the increase in dividends is positively associated with activities which have been found to decrease subsequent operating performance, i.e., increased real earnings management (see Ernstberger et al. 2017) and less investment (see Kraft et al. 2018).

Essay 3 provides an empirical analysis of the form, timing and content of quarterly disclosure following a deregulation of disclosure requirements. For the analysis we exploit a recent deregulation in Austria. More specifically, we study the deregulation of quarterly reporting requirements for firms listed in the prime market of the Vienna Stock Exchange, which became effective on 20 February 2019 and removed any obligation for firms to provide quarterly disclosure. This deregulation is interesting for at least three reasons. First, the extent of the deregulation was significant. Prior to the deregulation the requirements for quarterly reporting deregulation were comparatively strict, akin to IAS 34, however following the deregulation all requirements are waived and the form, timing and content of quarterly disclosure is completely voluntary (Wiener Börse 2018, 2019b). Second, quarterly reporting requirements for firms listed in the prime market segment on the Vienna stock exchange had a long tradition dating back to the introduction of the segment in 2003 (FMA

Finanzmarktaufsicht 2002). The deregulation was announced without prior public communication two days after the deregulation became effective (Wiener Börse 2019a, 2019b). The deregulation was thus surprising for investors and the media. However, the regulation of disclosure requirements was aligned with the firms listed on the Vienna Stock Exchange according to an interview with the CEO of the Vienna Stock Exchange (Stern 2019). Third, the deregulation occurred in 2019 and was implemented independently of Europe wide deregulation following the implementation of the amendment to the TD (for example the Frankfurt Stock Exchange in Germany deregulated quarterly disclosure in 2015 see Loy and Balzer 2017). For these reasons, our findings might be particularly relevant for countries with strict quarterly disclosure requirements, which currently consider abolishing these requirements (e.g., the United States or Singapore) and for other European regulators from similar institutional environments if they seek to review their existing quarterly disclosure requirements (e.g., quarterly reporting is still mandated in Germany, Italy, Spain and Sweden see Erkilet and Kasperzak 2019).

We analyze the form, timing and content of quarterly disclosure of all firms listed in the Austrian prime market segment for the first quarter of the 2019 fiscal year, which is the first quarter without any disclosure requirements.

We find short-term consequences of the deregulation of quarterly disclosure requirements. First, we find that 14.3% of firms stop providing quarterly reports. However, although these firms do not provide quarterly reports, they still disclose quarterly information (e.g., key performance indicators) through disclosure, which already existed prior to the deregulation (e.g., press releases, investor presentations). Second, for those firms that still release quarterly reports, we find significant changes to the form and content of quarterly disclosure, but we do not find changes in the timing of quarterly disclosure.

Related to the form of quarterly disclosure, we find changes to the label and disclosure channel of the quarterly reports. We find that firms change their disclosure channel because more firms disclose their quarterly report only on their own website (13.3% Q1 2019 vs. 3.3% Q1 2018) and no longer on the website of the Vienna Stock Exchange. Further, we find that firms rename their reports and that more firms use a name, which does not contain the word "report" (26.7% Q1 2019 vs. 20% Q1 2018).

Related to the disclosure content of the reports, we document a significant reduction in the length of the reports of about one third (-25.9% in the number of pages, -33.2% in the number of words, -33.1% in the number of signs used in the report). In additional analysis of the individual disclosure elements of the reports, we find that firms reduce qualitative disclosure elements, which were voluntary before the deregulation (e.g., notes, events after the end of the reporting period, disclosure of transactions with related parties, introduction by the board). However, quantitative disclosure elements, which were mandatory prior to the deregulation, remain almost unchanged (e.g., balance sheet, income statement, cash flow statement, segment reporting) except for the statement of changes in equity and the statement of comprehensive income, which are no longer disclosed by approximately one fifth of the firms who still disclose a quarterly report (-20% in the number of quarterly reporting firms disclosing a statement of comprehensive income; -23.3% in the number of quarterly reporting firms disclosing a statement of changes in equity).

Overall, we find a significant reduction in the content of quarterly reports. However, we also find evidence supporting the notion that firms use the deregulation to systematically review their quarterly disclosure and to focus their reports. First, we find that the elements with the largest relative disclosure reduction are elements, which were voluntary prior to and after the deregulation (e.g., notes, transactions with related parties, balance sheet oath, risk report). This finding supports the notion that firms reviewed individual reporting elements and

decided on the appropriate disclosure frequency of the reporting element. Furthermore, this finding illustrates that short-term consequences of deregulating quarterly disclosure are not confined to quarterly disclosure elements, for which disclosure becomes voluntary for the first time. Second, we find that firms particularly reduce disclosure elements, which are still contained in mandatory semi-annual reports (e.g., transactions with related parties, balance sheet oath) and we do not find that a firm chooses to discontinue quarterly disclosure. Instead firms, who do not file quarterly reports anymore, still rely on existing quarterly disclosure channels to update investors and the public (e.g., press statements investor presentations). These findings support the notion that firms use the deregulation as an opportunity to focus their reports and to reduce possible redundancies in their disclosure strategies. Third, we find that firms reduce notes to quarterly reports and therefore reduce disclosure of a reporting element, which was already deregulated in 2016 and no longer mandatory (see Gstatter 2016). This finding supports the notion that deregulation may be a multi-stage process and that firms systematically redesign their existing reports following a deregulation. This finding may be of particular interest for regulators, which deregulated quarterly disclosure requirements for certain elements of a quarterly report but still require publication of quarterly reports (e.g., the Frankfurt Stock Exchange) and may consider further deregulation of quarterly disclosure requirements.

Our findings contribute to prior literature analyzing the effects of deregulation of disclosure frequency. Prior studies studied the deregulation of quarterly disclosure in Europe focusing on the national implementation of the amendment to the TD (Hitz and Moritz 2019) and focused in particular on Germany (see Loy and Balzer 2017; Pellens et al. 2017; Tausch-Nebel et al. 2017; Zülch and Hecht 2017; Gluch et al. 2019). In contrast to prior studies, we examine a setting, in which the deregulation occurred independent of the amendment to the TD. In addition, the Austrian deregulation setting has the feature that it allows us to

empirically investigate the consequences of an extensive deregulation of previously rigorous quarterly reporting requirements, while other deregulations did not feature rigorous reporting requirements prior to the implementation of the TD (e.g., the UK) or affected only the content of the report without changing the mandated quarterly disclosure frequency (e.g., the Frankfurt Stock Exchange). We therefore add to this literature by providing empirical evidence on significant short-term consequences of a complete and recent deregulation of quarterly reporting requirements for the form, content and timing of quarterly disclosure from a setting with previously strict reporting requirements.

The remainder of this dissertation is structured as follows. Chapter 2 presents the essay "More Frequent Disclosure and Capital Structure". Chapter 3 introduces the essay "More Frequent Disclosure and increasing Dividend Payments- Shareholder Monitoring or Managerial Myopia?". Chapter 4 encompasses the essay "Praxis der Quartalsberichterstattung in Österreich – erste empirische Evidenz zur Abschaffung der verpflichtenden Quartalsberichterstattung". Chapter 5 concludes.

2. More Frequent Disclosure and Capital Structure

Abstract

This paper examines the effect of more frequent disclosure on firms' capital structure. We argue that more frequent disclosure enables firms to raise equity at more favorable conditions because shareholders are more willing to invest due to improved transparency and better monitoring of managers. By contrast, debt investors are less affected by more frequent disclosure because of access to private information and mitigation of agency conflicts through financial covenants. We exploit the staggered implementation of a directive that harmonized the reporting frequency requirements across and within European countries. Using a difference-in-differences approach for a matched sample of firms, we find that more frequent disclosure is associated with lower financial leverage. In additional analyses, we find that this effect is stronger for firms with higher demands for external financing, weaker information environments, and higher ex-ante agency costs. We also provide evidence that the reporting frequency-induced reduction in leverage is attributable to a higher amount of equity issuance by firms and not to a change in debt issuance.

2.1.   Introduction

This study investigates the effect of more frequent disclosure on firms' capital structure. The costs and benefits of frequent disclosure are frequent topics of discussion. As an example, higher disclosure frequency is associated with costs due to myopic investment decisions by managers (Gigler et al. 2014; Ernstberger et al. 2017; Kraft et al. 2018). Due to the ongoing criticism, the United States (de la Merced and Phillips 2018), Canada (Canadian Securities Administrators 2017), or Singapore (Thu 2018) consider to abolish mandatory quarterly reporting. In a similar vein, the European Union (EU) adopted directives to implement and subsequently to abolish quarterly disclosure over a ten-year period. We focus on a potential benefit of more frequent disclosure by examining if and to what extent more frequent disclosure influences firms' capital structure.

We argue that more frequent disclosure enables firms to raise equity at more favorable conditions by fostering shareholders' willingness to invest funds. The potential influence of disclosure frequency on shareholders' willingness to invest funds is highlighted by David Tawil, manager at the hedge-fund Maglan Capital:

> *I am very confident that less reporting will lead to less public company investment. More capital will be channeled to private equity and less-liquid investments. The retail investor will suffer*" (Krauskopf 2018).

From a theoretical perspective, more frequent disclosure favors equity investors relative to debt investors. Debt investors have direct access to financial information[5] (e.g., Minnis and Sutherland 2017) and mitigate agency conflicts through financial covenants (e.g., Watts and Zimmerman 1978; Bushman and Smith 2001). Equity investors (i.e., shareholders) are directly affected by more frequent disclosure because shareholders have no access to private

---

[5] Banks actively request more frequent disclosure (Minnis and Sutherland 2017). Other debt capital providers may free-ride on this monitoring (Diamond 1991, Rajan 1992) or even contractually align their payoffs with banks, for example through cross-acceleration covenants (Beatty, Liao and Weber 2012).

information and their payoffs are more sensitive to new information (Myers and Majluf 1984).

Prior research supports the notion that more frequent disclosure improves transparency (Diamond 1985; Fu et al. 2012) and enables shareholders to better monitor managerial decisions (Kanodia and Lee 1998; Downar et al. 2018), leading to lower expected agency costs. Building on this notion, we expect that more frequent disclosure is associated with a higher shareholder willingness to invest and, thus, more favorable equity financing conditions.[6] This should lead to more equity versus debt financing and, thus, a lower financial leverage. By contrast, more frequent disclosure may foster myopic management decisions (Gigler et al. 2014; Ernstberger et al. 2017; Kraft et al. 2018), which could motivate managers to improve short-term returns to shareholders by increasing leverage. For example, firms could use the proceeds from new debt to increase dividend payments or to buy back shares.

To test the influence of more frequent disclosure on firms' capital structure, we use a setting in the European Union (EU). EU countries historically featured different reporting frequencies, with some countries requiring quarterly reporting and other countries requiring only semi-annual reporting. In 2004, the European Commission issued the Transparency Directive (TD) requiring countries to implement laws for quarterly reporting, in addition to annual and semi-annual reporting, if they had not already mandated quarterly reporting (European Commission 2004).[7] From 2007 to 2009 EU countries implemented national laws, which required firms to publish Interim Management Statements (IMS) for the first and third quarter in addition to annual and semi-annual financial statements. While quarterly

---

[6] Supporting this notion, Christensen et al. (2016) show that quarterly disclosure in the European Union is associated with improved market liquidity.

[7] The EU amended the TD in 2013 requiring countries not to mandate quarterly reporting anymore (European Commission 2013). EU countries subsequently abolished requirements for quarterly reporting. For example, the parliament of the United Kingdom abolished the mandate for quarterly disclosure in 2014 (The Treasury 2014).

financial statements comprise detailed information, IMS only comprise information on material events and transactions that occurred during the relevant period along with information on the financial performance of the firms. IMS are on average two pages long and approximately 90 percent of them comprise quantitative information (see Downar et al. 2018). The mandate to publish IMS enables us to examine the effect of more frequent disclosure on firms' capital structure.

For our analyses, we use a difference-in-differences design exploiting the staggered implementation of the TD. We use a matched sample of firms from EU-15 countries. The treatment group consists of firms required to publish IMS following the TD and the control group consists of firms that already published quarterly reports prior to the TD. Because reporting frequency regulation varies at the country level in most countries, we match across countries and control for country differences in multivariate regressions. We measure capital structure by firms' financial leverage, i.e., book and market leverage (e.g., Petacchi 2015; Serfling 2016). As control variables, we use measures to control for time-variant drivers of capital structure at the firm-, industry-, and country-level (Frank and Goyal 2009; Öztekin 2015). In addition, we include fixed-effects to control for variation across countries and years.

Following the mandate to publish IMS, we find a significantly lower financial leverage for treatment group firms relative to control group firms. For book leverage, we find a reduction of 2.7 percentage points and for market leverage, we find a reduction of 4.2 percentage points. These results are not only statistically but also economically significant, because the reductions in leverage are equivalent to a decrease of 12.6 (15.2) percent of book (market) leverage for an average firm.

To provide support for the applicability of a difference-in-differences design and to examine the persistence of the effect, we test for differences in pre-treatment trends for control and treatment group firms. Supporting the applicability of a difference-in-differences design, we

do not find a significant difference in pre-treatment trends between treatment and control group firms and we find that the reduction in leverage persists over time.

To assess the influence of our cross-country matched sample approach (see Cram et al. 2009), we focus on German firms only because Germany exhibits within-country variation in disclosure frequency due to regulations at the stock-segment level (see Link 2012). Again, we find a significant reduction in financial leverage for treatment group firms relative to control group firms following the mandate to publish IMS.

To provide insights into the underlying mechanism of the observed result, we examine changes in firms' decisions to issue equity and debt. We follow prior literature (e.g., Chang et al. 2006; Leary and Roberts 2010; Kerr and Ozel 2015; Albring et al. 2016) and examine changes in the likelihood and amount of equity and debt issuances. We find no change in the likelihood to issue debt or equity but a higher amount of equity issued and no change in the amount of debt issued for treatment group firms relative to control group firms following the IMS mandate. These results support the notion that the observed reduction in leverage is attributable to firms taking different equity financing decisions (i.e., offering more equity to exploit more favorable equity financing opportunities) and that more frequent disclosure does not influence debt financing.

Next, we conduct split-sample analyses to provide insights into the incremental importance of firms' financing needs and information environment for the effect of more frequent disclosure on capital structure. We conjecture that firms with higher financing needs and a weaker information environment benefit from more frequent disclosure by reducing financial leverage. In line with this notion, we find a significant reduction in leverage for firms with low analyst coverage or high financing needs.

Finally, we examine the potential underlying mechanism leading to the observed effect. Prior literature indicates that disclosure may influence capital structure via changes in information asymmetry (e.g., Myers and Majluf 1984; Fu et al. 2012; Petacchi 2015; Albring et al. 2016;

Blaylock et al. 2017) and via changes in the timing of equity or debt issuances (e.g., Baker and Wurgler 2002; Wang and Welker 2011; Kerr and Ozel 2015). In contrast, our results support the notion that more frequent disclosure influences capital structure via changes in agency costs, i.e., firms reduce leverage more if they face higher agency costs prior to the IMS mandate.

Our study contributes to several streams of research. First, we contribute to the literature on the relationship between disclosure and capital structure. While prior studies provide insights on the effects of disclosure quality and quantity (Petacchi 2015; Albring et al. 2016; Blaylock et al. 2017), we focus on the influence of a higher disclosure frequency. We show that more frequent disclosure is associated with a lower financial leverage. Second, we contribute to the literature on disclosure frequency regulation. Prior research documents benefits of more frequent disclosure due to less information asymmetry (Fu et al. 2012) or reduced expected agency costs (Downar et al. 2018), as well as costs of more frequent disclosure due to myopic investment decisions (Kraft et al. 2018), real activity manipulations (Ernstberger et al. 2017) and lower firm value for small firms (Kajüter et al. 2019). We document a benefit of more frequent disclosure for firms due to better equity financing opportunities. Finally, we contribute to the literature on how financial accounting information influences capital market outcomes such as firms' financing decisions and capital structure. Prior studies document effects on capital structure, which are attributable to the valuation role of accounting information (Petacchi 2015; Albring et al. 2016; Blaylock et al. 2017; Naranjo et al. 2018). By contrast, our results are attributable to the stewardship role of accounting information. In detail, more frequent disclosure enables firms to rely more on equity financing because equity investors can better monitor managers' use of invested capital, which is not only valuable ex-post but also increases investors' ex-ante willingness to invest.

The remainder of the paper is organized as follows. Section 2.2. describes the institutional background. Section 2.3. discusses prior literature and develops the hypothesis. Section 2.4.

presents data and methodology. Section 2.5. presents descriptive and multivariate results. Section 2.6. examines the robustness and drivers of the results. Section 2.7. concludes.

2.2. Institutional Background

To examine the influence of more frequent disclosure on firms' capital structure, we focus on a European setting, where disclosure frequency requirements differed across and within countries before being harmonized by a directive mandating quarterly disclosure. In detail, we focus on the EU-15 countries, i.e., the member states before the enlargement of the EU in 2004.[8] These countries have historically varied in their required reporting frequency due to different regulations at the country and stock market level. Seven countries required only semi-annual reporting, whereas the remaining countries mandated quarterly reporting for some or all firms.[9]

In 2004, the European Commission issued the Transparency Directive (TD) requiring countries to implement national laws for quarterly reporting if they had not already mandated quarterly reporting (European Commission 2004). While quarterly reports, for example in the US, comprise disclosures similar to annual reports (e.g., balance sheet, income statement, notes), the European Commission only mandates quarterly reporting using Interim Management Statements (IMS). IMS must include explanations of material events and transactions that have occurred during the respective quarter. In addition, the issuing firm must provide a general description of the financial position and performance of the firm (European Commission 2004, Art. 6, No. 1). Downar et al. (2018) show that IMS are-on average-2.35 pages long and 90.25 percent comprise quantitative information.

---

[8] EU-15 member states are: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden, and the United Kingdom.
[9] For example: In Austria, firms listed in the *Prime Market* stock-segment were required to publish quarterly reports. Firms listed in other Austrian stock market segments were not required to report quarterly. By contrast, in Finland all firms were required to report quarterly and in France no firms were required to report quarterly.

The national laws for IMS reporting were implemented on a staggered basis between 2007 and 2009. While most countries implemented laws in 2007, Belgium and Luxembourg implemented laws in 2008, and Italy and the Netherlands implemented laws in 2009.[10] Due to an amendment of the TD in 2013, EU countries are essentially no longer allowed to mandate quarterly reporting by the end of 2015. For our study, we do not include years following the amendment of the TD in 2013 because some countries already implemented amended laws in 2014.[11] However, many firms still voluntarily publish quarterly disclosure. Prior to the amendment of the TD all firms listed on a regulated stock market segment in the European Union were required to publish IMS for the first and third quarter, in addition to semi-annual and annual financial statements.

2.3.   Prior Literature and Hypothesis Development

2.3.1.   Prior Literature

Prior literature on the link between financial disclosure and capital structure indicates that different attributes of disclosure influence a firms' capital structure. Related to selective disclosure Petacchi (2015) and Albring et al. (2016) exploit the introduction of Regulation Fair Disclosure (Reg FD), which limits selective disclosure to equity investors but not debt investors. Both studies show that limiting selective disclosure to equity investors is associated with firms relying more on debt financing if they disclosed selectively prior to the regulation. Related to disclosure quality Blaylock et al. (2017) and Naranjo et al. (2018) investigate the effect of an increase in disclosure quality on firms' capital structure. Blaylock et al. (2017) document that an increase in book-tax conformity, which indicates a decrease in earnings informativeness and accounting quality for equity investors, is associated with

---

[10] We note that the implementation period–to some extent–overlaps with the financial crises which had an influence on firms financing opportunities too(e.g., Campello et al. 2010). Controlling for the influence of the financial crises by excluding years 2008 and 2009 and firms with a market-to-book ratio less than 1, we find virtually unchanged results.

[11] For example, the UK parliament abolished the requirement for share issuers to publish interim management statements or quarterly reports in 2014 (The Treasury 2014).

an increase in financial leverage. Naranjo et al. (2018) find that the adoption of IFRS leads firms to rely more on external financing and to issue more equity if they are subject to higher financial constraints.

In contrast to prior literature, we examine the effect of more frequent disclosure on firms' capital structure. While disclosure quantity and quality pertain to the scope and precision of information, disclosure frequency is related to the timeliness of information provided to shareholders (van Buskirk 2012).

2.3.2. Hypothesis Development

More frequent disclosure may have an influence on capital structure by affecting the supply and/or demand of equity and debt capital. With regard to the supply of capital, the incremental benefits of more frequent disclosure are more pronounced for equity investors and less pronounced for debt investors for several reasons. First, debt investors may obtain information through private channels (e.g., Minnis and Sutherland 2017) and do not primarily rely on financial disclosure for information updating.[12] Second, debt investors mitigate agency conflicts by including covenants in debt contracts (e.g., Watts and Zimmerman 1978; Smith and Warner 1979; Bushman and Smith 2001; Billet et al. 2007; Armstrong et al. 2010) and do not primarily rely on financial disclosure for managerial monitoring. Third, debt investors' payoffs are less sensitive to new information because the payoffs are contractually agreed upon. Therefore, the value of their claims should not be impeded as long as the assets of the firm are worth more than outstanding liabilities (Black and Scholes 1973). Finally, debt capital providers can secure the value of their claims by

---

[12] Banks may request more frequent disclosure at their own discretion independent of legal requirements (e.g., Diamond 1991; Rajan 1992). Supporting this notion, Minnis and Sutherland (2017) find that banks actively request financial statements from small commercial borrowers to monitor these firms. In a similar vein, other debt capital providers benefit from bank monitoring via free-riding (Diamond 1991; Rajan 1992) or cross-acceleration covenants (Beatty et al. 2012).

requesting assets of the borrower as collateral (e.g., Stulz and Johnson 1985; Armstrong et al. 2010).

Equity investors, by contrast, may benefit from an increase in disclosure frequency, since more frequent disclosure provides them more frequent and previously private information. Compared to debt investors, equity investors are more likely to use new information obtained from more frequent disclosure, since their payoffs are more sensitive to updated information about the firm (e.g., Myers and Majluf 1984). The potential benefits of new information are attributable to the valuation and stewardship role of accounting information (see Beyer et al. 2010). More frequent disclosure fulfills the valuation role of accounting information because it helps investors to evaluate the expected return of investments by reducing information asymmetry (Fu et al. 2012). More frequent disclosure fulfills the stewardship role of accounting information because it enables investors to better monitor managers' use of invested funds (Downar et al. 2018). As outlined by Beyer et al. (2010), investors not only value better monitoring opportunities ex-post but are also ex-ante more willing to invest in case of better monitoring opportunities. Building on this notion, we expect equity investors to be more likely to invest in stocks as a result of more frequent disclosure.[13] This should ceteris paribus increase the supply of equity capital available to the firm.[14]

More frequent disclosure may affect the demand for capital if it influences firms' debt and equity financing decisions, i.e., firms respond to a change in supply of equity capital. From a company perspective, we expect that management observes an increase in capital supply in equity markets following an increase in reporting frequency. In response to more favorable equity financing conditions, management may strive to benefit by issuing more equity. Supporting this notion, Hanselaar et al. (2019) show that an increase in market

---

[13] In additional analyses, we find that changes in capital structure due to more frequent disclosure are more pronounced for firms with ex-ante higher agency costs. Consequently, our results are likely attributable to improvements in managerial monitoring due to more frequent disclosure.

[14] Supporting this argument Christensen et al. (2016) find an increase in market liquidity following the TD.

liquidity is associated with an increase in equity financing by firms. In addition, more frequent disclosure provides firms with additional financing opportunities. For example, firms have been shown to exploit mandatory disclosure by timing security offerings to coincide with the disclosure event (Wang and Welker 2011; Kerr and Ozel 2015). Since more frequent mandatory disclosure provides more disclosure events, firms may also exploit these events for equity offerings, in particular if the firm features a favorable valuation (Baker and Wurgler 2002).

In sum, equity investors are likely to increase the supply of capital due to more frequent disclosure and firms are likely to benefit from better financing opportunities by raising equity capital. We therefore expect to find a lower financial leverage for firms with a higher reporting frequency.

However, reporting frequency induced myopia (Gigler et al. 2014; Ernstberger et al. 2017; Kraft et al. 2018) could lead to a different outcome. If management acts myopically when choosing the capital structure of the firm, they could increase leverage since higher leverage will increase short-term returns for equity investors at the expense of a higher financial risk in the long-term.[15]

Overall, we expect that firms rely more on equity financing following the introduction of frequent disclosure and state the following hypothesis:

HYPOTHESIS: *More frequent disclosure reduces firms' financial leverage.*

---

[15] Higher leverage, due to an increase in debt, can boost short-term total returns if management is able to invest the newly obtained funds at a rate of return which is higher than the cost of debt or if management uses funds for paying higher dividends or buying back outstanding shares. The concern that companies take on too much debt to increase short-term returns has been voiced by practitioners. For example, Warren Buffet, James Wolfensohn, Bill George, and other (former) high level US corporate executives, politicians and researchers noted in a statement that firms should "not push for `high-leverage and high-risk corporate strategies designed to produce high short-term returns´." Crippen (2009).

2.4.   Data and Methodology

2.4.1. Sample Data

Our starting sample comprises all IFRS reporting firms in the EU-15 countries included in Thomson Reuters Datastream/Worldscope. We focus on the period 2006 to 2013 and use 2006 as base year because of divergent national GAAPs prior to the mandatory IFRS adoption in 2005 and amendments to the TD in the years following 2013 (37,480 firm-year observations). To derive our final sample, we exclude the following observations: We eliminate firm-years with missing or erroneous information on reporting frequency (e.g., annual reporters) or with different fiscal year lengths (e.g., fiscal year length less than 360 days) (5,827 firm-year observations). We exclude voluntary quarterly reporters and firms that are cross-listed in the US to avoid a self-selection bias (5,891 firm-year observations). We exclude financial firms (SIC between 6000 and 6999) and utility firms (SIC between 4900 and 4999), in line with prior literature (e.g., Frank and Goyal 2009; Öztekin 2015) because these firms face regulations regarding capital structure decisions (5,777 firm-year observations). [16] We exclude firm-years in distress, defined as negative common equity (955 firm-year observations). Finally, we exclude firm-years with missing data for our main model (3,111 firm-year observations).

To control for differences in firm characteristics between quarterly reporting and semi-annual reporting firms, we match each quarterly reporting firm to a semi-annual reporting firm using propensity score matching. For each firm, we require at least one observation prior to and after the TD, which leads to 4,917 firm-year observations being omitted from our sample. For each industry, using the 12-industry definition by Fama and French (2018), we match firms based on firm size (natural logarithm of total assets) and firm performance

---

[16] Banks and other financial firms face limits on their degree of financial leverage. Utility companies often face limits on debt financing due to regulations (e.g., in Germany the regulated remuneration of investments by transmission system operators depends on the degree of financial leverage (Roland Berger 2011)).

(earnings before interest and tax divided by lagged total assets). We use average values prior to the TD to avoid a potential influence of the TD on our matching variables. We match across countries because disclosure frequency regulation varies at the country level in most cases. To address this issue, we control for country differences using a panel approach with country fixed effects.[17]

Our final matched sample comprises 9,670 firm-year observations from 1,456 unique firms, i.e., 728 matched firm pairs. Table 2-1 reports the sample distribution by country. The countries with the highest number of observations are France, Sweden, and the United Kingdom. Germany has both quarterly and semi-annual observations because disclosure frequency requirements depend on the stock market segment in Germany.

Table 2-1 Sample Composition

Country	Control Group	Treatment Group	Total
Austria	109	0	109
Belgium	0	297	297
Denmark	0	47	47
Finland	686	0	686
France	0	1,775	1,775
Germany	1,003	269	1,272
Greece	602	0	602
Ireland	0	85	85
Italy	698	0	698
Luxembourg	0	34	34
Netherlands	0	277	277
Portugal	221	0	221
Spain	289	0	289
Sweden	1,495	0	1,495
United Kingdom	0	1,783	1,783
Observations	5,103	4,567	9,670
Unique firms	728	728	1,456

Notes: This Table presents the sample composition by country. Prior to the staggered implementation of the Transparency Directive (TD), EU-15 countries differed in their required reporting frequency. Seven countries required only semi-annual reporting, whereas the remaining countries mandated quarterly reporting for some or all firms. (Link 2012). The TD harmonized reporting frequency requirements and required countries to enact laws requiring quarterly reporting. The EU-15 countries implemented the directive between 2007 and 2009. Treatment group firms are semi-annual reporters that are additionally required to publish IMS for the first and third quarter after the staggered implementation of the TD. Control group firms are required to publish quarterly reports prior to and after the implementation of the TD.

---

[17] We note that country fixed effects do not fully eliminate effects of a cross-country matching. To address the issue, we replicate our analysis using a subsample of German firms because of within country variation in disclosure frequency. In addition, we use alternative matching techniques, i.e., matching using a caliper of 1 percent, matching on all covariates of model (1), matching controlling for growth expectations (Downar et al. 2018), and matching at the industry-year level. All approaches lead to virtually unchanged results.

2.4.2. Methodology

For our study, we examine the influence of more frequent disclosure on firms' capital structure by estimating the following regression model:

$$Leverage = \beta_0 + \beta_1 Post + \beta_2(Treatment * Post) + \beta_{3-8} Controls$$
$$+ Fixed\ Effects\ for\ country\ and\ year + e,$$

where all variables are explained in the Appendix A2. To measure financial leverage, we follow prior literature (e.g., Serfling 2016) and use book and market leverage. Following Graham and Harvey (2002), most managers focus on book leverage rather than market leverage. In addition, market leverage is stronger affected by confounding effects due to the financial crisis. Supporting this notion, Welch (2004) finds that the variation in market leverage is mostly explained by variation in market values than by changes in capital structure. Notwithstanding that, we present all analyses for book and market leverage.[18]

To measure the effect of reporting frequency on firms' capital structure, we use binary variables indicating treatment group firms (*Treatment*) and the time period following the implementation of the TD (*Post*). *Treatment* takes a value of one for treatment group firms and zero for control group firms. Because the mandate to publish IMS only affects semi-annual reporters, we use semi-annual reporting firms prior to the TD as treatment group and quarterly reporting firms prior to the TD as control group. Reporting frequency information is derived from Datastream/Worldscope. Due to the staggered implementation of the TD during the period 2007 to 2009, *Post* takes a value of one for firm-years following the respective national implementation date of TD laws and zero otherwise. The entry-into-force year is included in the pre TD period because the countries implemented the TD at different

---

[18] We find virtually unchanged results using alternative definitions of financial leverage, e.g., long-term leverage and leverage net of cash and short-term investments.

points during the year and hence, only a fraction of firms report IMS during the entry-into-force year.[19]

*Treatment*Post* is the difference-in-differences estimator indicating the incremental influence of more frequent disclosure for treatment group firms. Following H1, we expect a significant negative coefficient on the interaction *Treatment*Post*.

As control variables, we follow prior literature (e.g., Frank and Goyal 2009; Öztekin 2015; Serfling 2016) and include variables that control for changes in financial leverage due differences in firm, industry, and macro-economic characteristics.[20] In detail, we include the following variables identified by Frank and Goyal (2009) and Öztekin (2015) to explain changes in capital structure unrelated to disclosure frequency: firm size, profitability, asset tangibility, market to book ratio, industry leverage, and inflation. We control for firm size because larger firms tend to be higher leveraged. We control for profitability because better performing firms tend to have lower leverage. We control for asset tangibility to account for potential collateral. We control for differences in market to book ratio as a proxy of growth expectations. We control for industry leverage because firms in higher levered industries tend to carry higher leverage. Finally, we control for inflation because firms in lower inflationary environments tend to have lower leverage. All variables are defined in the Appendix A2.

To reduce the influence of outliers, we winsorize all continuous variables at the 1st and 99th percentiles. Because we are matching across countries, we include country fixed effects for all analyses. We include year fixed effects to control for the staggered implementation of the

---

[19] We obtain similar results if we omit the entry-into-force year.
[20] We use control variables as defined by Öztekin (2015) because he studies an international sample of firms. We find virtually unchanged results, if we use one-period lagged control variables. Using a set of control variables based on prior US studies (Petacchi 2015) leads to virtually unchanged results. The alternative set of control variables comprises: realized return, market to book, dividends, depreciation, tangibility, profitability, size, and R&D.

TD and other unobservable time-variant changes in leverage.[21] We draw our inferences based on standard errors clustered by country because reporting frequency varies at the country level in most cases.[22]

2.5. Results

2.5.1. Descriptive Statistics

Panel A of Table 2-2 reports descriptive statistics for all variables used in the regression analyses. The average book leverage for our sample firms' amounts to 21.4 percentage points and the average market leverage for our sample firms' amounts to 27.7 percentage points. Differentiating by country leads to mean values ranging between 6.1 and 39.1 percentage points for book leverage and 13.3 and 51.5 percentage points for market leverage.[23] Panel B of Table 2-2 presents Pearson (above the diagonal) and Spearman (below the diagonal) correlations. We note that correlations between *Industry Book Leverage* and *Industry Market Leverage* do not lead to multicollinearity problems because both variables are not included in the same regression model.

---

[21] Including *Treatment* and country fixed effects leads to multicollinearity problems, because reporting frequency in most cases varies at the country level. Thus, we suppress the *Treatment* dummy. We find similar results if we include the *Treatment* dummy.

[22] As noted by Daske et al. (2008) clustering at the firm level may lead to overstated statistical significance compared to clustering at the country level in case of country level regulations. Consequently, we choose a more conservative approach and cluster at the country level. Our results are robust to using firm-level clustering.

[23] We find virtually unchanged results, if we exclude countries with the highest leverage.

Table 2-2 Descriptive Statistics and Correlations

Panel A: Descriptive Statistics

Variables	N	Mean	1st Quartile	Median	3rd Quartile	Std. dev.
Book Leverage	9,670	0.214	0.070	0.197	0.326	0.166
Market Leverage	9,670	0.277	0.067	0.224	0.435	0.241
Size	9,670	12.747	11.410	12.611	14.046	1.864
Performance	9,670	0.058	0.017	0.066	0.122	0.136
Tangibility	9,670	0.221	0.053	0.162	0.333	0.201
Market to Book	9,670	1.478	0.962	1.192	1.616	0.946
Industry Book Leverage	9,670	0.174	0.145	0.190	0.219	0.056
Industry Market Leverage	9,670	0.207	0.127	0.204	0.276	0.094
Inflation	9,670	2.054	1.360	2.117	2.814	1.178

Panel B: Correlations

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Book Leverage	(1)		**0.86**	**0.35**	**-0.16**	**0.37**	**-0.23**	**0.20**	**0.19**	0.01
Market Leverage	(2)	**0.81**		**0.30**	**-0.35**	**0.33**	**-0.59**	**0.21**	**0.28**	**0.04**
Size	(3)	**0.32**	**0.26**		**0.20**	**0.31**	-0.02	**0.20**	**0.19**	0.02
Performance	(4)	**-0.10**	**-0.21**	**0.25**		0.03	**0.48**	0.03	-0.06	**0.05**
Tangibility	(5)	**0.34**	**0.28**	**0.25**	0.05		**-0.13**	**0.36**	**0.34**	**0.07**
Market to Book	(6)	**-0.23**	**-0.46**	**-0.12**	**0.19**	**-0.12**		**-0.12**	**-0.25**	**-0.10**
Industry Book Leverage	(7)	**0.18**	**0.20**	**0.22**	**0.06**	**0.28**	**-0.10**		**0.88**	**0.07**
Industry Market Leverage	(8)	**0.18**	**0.27**	**0.18**	0.01	**0.26**	**-0.19**	**0.88**		**0.13**
Inflation	(9)	0.01	**0.06**	0.01	**0.05**	**0.06**	**-0.06**	**0.05**	**0.12**	

Notes: This Table presents descriptive statistics (Panel A) as well as Pearson (below) and Spearman (above the diagonal) correlations of all variables used for estimating model (1). Bold figures in Panel B indicate statistically significant correlations that are at least at the 10 percent level. Variable definitions are presented in the Appendix A2. All continuous variables are winsorized at the 1st and 99th percentiles.

To provide an initial indication on the relationship between more frequent disclosure and financial leverage, we conduct univariate difference-in-differences analyses. Table 2-3 presents the results. Using book leverage, we find a decrease in book leverage from 19.2 percentage points to 18.2 percentage points for treatment group firms. Whereas for control group firms book leverage increases from 23.2 to 24.4 percentage points. The difference-in-differences of -2.2 percentage points is significant at the 1 percent level. Using market leverage, we find an increase in market leverage for treatment group firms from 21.0 to 26.2 percentage points. Whereas for control group firms market leverage increases from 24.2 to 32.7 percentage points. Overall, the increase in market leverage from pre to post periods is 3.3 percentage points lower for treatment compared to control group firms. The difference-in-differences of -3.3 percentage points is significant at the 1 percent level.

Table 2-3 Univariate Difference-in-Differences Analysis

			Book Leverage		
			Pre	Post	Difference
			(1)	(2)	(2) - (1)
Control group (N = 5,103)		(i)	0.232	0.244	0.012**
Treatment group (N = 4,567)		(ii)	0.192	0.182	-0.010**
Difference		(ii) - (i)	-0.040***	-0.062***	**-0.022*****

			Market Leverage		
			Pre	Post	Difference
			(1)	(2)	(2) - (1)
Control group (N = 5,103)		(i)	0.242	0.327	0.085***
Treatment group (N = 4,567)		(ii)	0.210	0.262	0.052***
Difference		(ii) - (i)	-0.032***	-0.065***	**-0.033*****

Notes: This Table presents results of univariate difference-in-differences analyses examining the effect of more frequent disclosure on book and market leverage. Treatment group firms are semi-annual reporters that are additionally required to publish IMS for the first and third quarter after the staggered implementation of the Transparency Directive (TD). Control group firms are required to publish quarterly reports prior to and after the implementation of the TD. Post refers to fiscal years following the respective national entry-into-force year of the TD. Post refers to fiscal years following the entry-into-force year (different for each country). The Table reports mean values of the respective variables for control and treatment group firms prior to and after the mandate to publish IMS. All variables are defined in the Appendix A2. All continuous variables are winsorized at the 1st and 99th percentiles. ***, **, and * indicate significance at 1 percent, 5 percent, and 10 percent levels, respectively, using a two-tailed test.

2.5.2. Main Model

Table 2-4 presents the results of estimating model (1). Columns (1) and (2) refer to a difference-in-differences analysis using book leverage as dependent variable. Columns (3) and (4) refer to a difference-in-differences analysis using market leverage as dependent variable. We present results with time-variant control variables (Columns (3) and (4)) and without them (Columns (2) and (4)).

Using book leverage as dependent variable, we find negative and significant coefficient estimates on the interaction term *Treatment*Post* without (coef.: -3.3 percentage points, $p < 0.01$) and with (coef.: -2.7 percentage points, $p < 0.01$) control variables. Using market leverage as dependent variable, we find negative and significant coefficient estimates on the interaction term *Treatment*Post* without control variables (coef.: -4.4 percentage points, p

< 0.01) and including them (coef.: -4.2 percentage points, p < 0.01). These results are consistent with the notion of a lower financial leverage due to more frequent disclosure. These coefficient estimates are economically meaningful. For an average firm, the book (market) leverage amounts to 21.4 (27.7) percentage points. A reduction of -2.7 percentage points (-4.2 percentage points) is economically significant because it is equivalent to a book leverage decrease of 12.6 percent and a market leverage decrease of 15.2 percent for an average firm.

For the variable *Post*, we find significant positive coefficient estimates for all specifications. This coefficient indicates an increase in financial leverage in the years following the TD for all firms. Besides our difference-in-differences variables, we include a set of control variables to control for other drivers of financial leverage. Coefficient estimates of control variables are in the predicted direction and significant for at least one of the two models. The explanatory power (adjusted R^2) of the models ranges between 12.5 and 41.7 percentage points. In line with prior literature (e.g., Serfling 2016), the explanatory power of the models using market leverage is higher compared to the models using book leverage as dependent variable.

Taken together, our results indicate that a mandate for more frequent disclosure is associated with a reduction in financial leverage.

Table 2-4 The influence of more frequent disclosure on capital structure

	Book Leverage	Book Leverage	Market Leverage	Market Leverage
	(1)	(2)	(3)	(4)
Diff-in-diff variables				
Post	0.015*	0.014*	0.031**	0.025**
	(1.837)	(1.880)	(2.296)	(2.159)
Treatment*Post	-0.030***	-0.027***	-0.044**	-0.042***
	(-5.567)	(-5.651)	(-2.267)	(-3.146)
Control variables				
Size		0.023***		0.025***
		(9.933)		(13.312)
Performance		-0.175***		-0.329***
		(-6.948)		(-6.286)
Tangibility		0.180***		0.163***
		(8.897)		(6.122)
Market to Book		-0.021***		-0.081***
		(-5.634)		(-8.808)
Industry Leverage		0.144**		0.270***
		(2.750)		(6.110)
Inflation		0.001		0.005
		(0.417)		(1.536)
Constant	0.188***	-0.147***	0.154***	-0.103***
	(60.407)	(-4.224)	(10.192)	(-3.493)
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Adjusted R²	12.50%	29.40%	18.40%	41.70%
Observations	9,670	9,670	9,670	9,670

Notes: This Table presents the results of regression analyses examining the influence of higher reporting frequency on firms' capital structure. Columns (1) and (2) refer to difference-in-differences analyses using book leverage as dependent variable. Columns (3) and (4) refer to difference-in-differences analyses using market leverage as dependent variable. All variables are defined in the Appendix A2. All continuous variables are winsorized at the 1st and 99th percentiles. ***, **, and * refer to statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a two-tailed test. Standard errors are clustered by country, and t-statistics are reported in parentheses.

2.6.   Robustness and Additional Tests

2.6.1. Pre-Treatment Trend Analysis

One key assumption of a difference-in-differences design is a similar pre-treatment trend for

treatment and control group firms (see Roberts and Whited 2013).[24] If treatment and control

group firms do not share a similar pre-treatment trend, changes in leverage are more likely

---

[24] We note that a formal test of the parallel trend assumption is not feasible because a post treatment trend for treatment group firms without treatment is not observable.

attributable to effects other than the mandate to publish IMS. To test for a similar pre-treatment trend, we follow Bourveau et al. (2018) and Serfling (2016) and use separate indicator variables for periods prior to and after the mandate to publish IMS instead of *Treatment*Post*. In detail, we use the following variables: *Treatment*Event(t=-1)*, *Treatment*Event(t=0)*, *Treatment*Event(t=1)*, and *Treatment*Event(t=2+)*. For example, *Treatment*Event(t=-1)* takes a value of one for treatment group firms one year prior to the entry-into-force year of the TD in the respective country and zero otherwise. By contrast, *Event(t=0)* refers to the entry-into-force year, *Event(t=1)* refers to the first year after the entry-into-force year, and *Event(t=2+)* refers to all years two or more years after the entry-into-force year. If firms share a similar pre-treatment trend, we expect to observe insignificant coefficient estimates on *Treatment*Event(t=-1)* and *Treatment*Event(t=0)*. Significant coefficient estimates for periods t>0 indicate a significant effect of the TD on treatment group firms.

Table 2-5 presents the results. For periods prior to the entry-into-force year (*Treatment*Event(t=-1)*), we do not find a significant coefficient estimate using either book leverage or market leverage. For the coefficient estimates indicating changes in leverage in the entry-into-force year (*Treatment*Event(t=0)*), we also find insignificant coefficient estimates.[25] For the interaction terms *Treatment*Event(t=1)* and *Treatment*Event(t=2+),* we find significant negative coefficient estimates indicating lower book and market leverage for treatment group firms. These results suggest that the change in financial leverage does not precede the mandate to publish IMS. In addition, the effect is not short-lived but persists over time.

---

[25] Because all countries implemented the TD at different points in time only a fraction of sample firms published IMS during the entry-into-force year. For example, the United Kingdom implemented the TD January 2007 whereas France implemented the TD December 2007. Consequently, we do not define the entry-into-force year as post period.

Table 2-5 Pre-Treatment Trend Analysis

	Book Leverage	Market Leverage
	(1)	(2)
Diff-in-diff variables		
Post	0.009	0.020
	(1.288)	(1.756)
*Treatment*Event(t=-1)*	0.007	0.015
	(0.805)	(1.233)
*Treatment*Event(t=0)*	-0.008	0.000
	(-1.136)	(0.012)
*Treatment*Event(t=1)*	-0.019**	-0.021**
	(-2.274)	(-2.866)
*Treatment*Event(t=2+)*	-0.032***	-0.043***
	(-4.557)	(-4.149)
Control variables		
Size	0.023***	0.025***
	(9.793)	(13.202)
Performance	-0.175***	-0.328***
	(-6.968)	(-6.314)
Tangibility	0.180***	0.164***
	(8.895)	(6.114)
Market to Book	-0.021***	-0.081***
	(-5.599)	(-8.810)
Industry Leverage	0.145**	0.269***
	(2.740)	(6.048)
Inflation	0.002	0.007*
	(0.760)	(2.139)
Constant	-0.099**	-0.035
	(-2.754)	(-1.162)
Country fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Adjusted R²	29.40%	41.80%
Observations	9,670	9,670

Notes: This Table presents the results of regression analyses examining the pre- and post-treatment trends between control and treatment group firms. *Event(t=0)* is an indicator variable set to one if a firm is headquartered in a country that implemented the TD in year *t* (entry-into-force year). *Event(t=-1)* is an indicator set to one if a firm is headquartered in a country that implements the TD in the following year. *Event(t=1)* is an indicator set to one if a firm is headquartered in a country that implemented the TD in the previous year. *Event(t=2+)* is an indicator set to one if a firm is headquartered in a country that implemented the TD two or more than two years ago. We present results separately for book and market leverage. All variables are defined in the Appendix A2. All continuous variables are winsorized at the 1st and 99th percentiles. ***, **, and * refer to statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a two-tailed test. Standard errors are clustered by country, and t-statistics are reported in parentheses.

2.6.2. Influence of the Sample Composition

To examine the influence of more frequent disclosure on capital structure, we use a matched

sample of firms from EU-15 countries. Using a matched sample and matching across

countries might have an influence on our results due to divergent institutional characteristics and lower generalizability (see Cram et al. 2009; Shipman et al. 2017). Next, we conduct tests to examine the robustness of our results with regard to the sample composition.

First, we use all observations prior to matching (semi-annual and quarterly reporting firms) and include our matching variables as additional control variables.[26] Using an unmatched sample increases the size of our sample to 11,002 firm-year observations. Table 2-6 Columns (1) and (2) present the results. We still find a negative and significant coefficient on the interaction term *Treatment*Post* for book leverage (coef. -1.6 percentage points, $p < 0.05$) and market leverage (coef.: -3.0 percentage points, $p < 0.10$). We conclude that reduced generalizability of the matched sample does not drive our results.

Second, we limit our final sample to German firms. Focusing on German firms enables us to examine within-country effects because in Germany, the mandate to publish quarterly reports depends on the stock market segment. This setting enables us to limit the influence of potential problems due to our multi-country setting and to control for within-country variation in disclosure frequency, i.e., we are able to include a binary variable indicating treatment group firms. First, we replicate our main model, including a binary variable indicating treatment group firms, and cluster standard errors at the firm level. Table 6, Columns (3) and (4) present the results. We still find a significant negative coefficient on the interaction term *Treatment*Post* using book leverage (coef. -3.9 percentage points, $p < 0.05$) and market leverage (coef. -6.1 percentage points, $p < 0.01$).

Second, we estimate a generalized difference-in-differences model by including firm- and year-fixed effects, and we cluster standard errors at the firm level. Table 6, Columns (5) and (6) present the results. We still find a significant negative coefficient on the interaction term *Treatment*Post* using book leverage (coef. -3.3 percentage points, $p < 0.05$) and market

---

[26] For this test, we additionally include industry fixed effects because we are matching within industries. All other matching variables are already included in our model.

leverage (coef. -6.1 percentage points, p < 0.01). We conclude that using a multi-country setting and matching across country does not drive our results.

Third, we examine if differences in countries legal enforcement influence our results. Prior research on disclosure regulation provides evidence that the effect of a regulation depends on its implementation and enforcement (e.g., Daske et al. 2008; Christensen et al. 2016). To test for the influence of differences in implementation and enforcement of the TD, we include a variable, as well as interactions with our variables of interest, indicating whether a country has implemented all enforcement requirements of the EU, i.e., CESR Standard No. 1 (Christensen et al. 2016). Table 6, Columns (7) and (8) present the results. We still find a significant negative coefficient on the interaction term *Treatment*Post* using book leverage (coef. -2.6 percentage points, p < 0.1) and market leverage (coef. -4.1 percentage points, p < 0.05), and no moderating effect of differences in countries implementation and enforcement of the TD.[27] We conclude that differences in legal enforcement do not drive our results.

---

[27] We find virtually unchanged results, if we use variables indicating differences in regulatory quality (see Kaufmann et al. 2009) and supervisory resources (Christensen et al. 2016). Our results remain robust, if we exclude all observations from Sweden and Ireland because these countries implemented enforcement reforms concurrent to the implementation of the TD.

Table 2-6 The Influence of the Sample Composition

	Unmatched sSmple Analysis		Within Country Analysis				Enforcement Analysis	
	Book Leverage	**Market Leverage**	**Book Leverage**	**Market Leverage**	**Book Leverage**	**Market Leverage**	**Book Leverage**	**Market Leverage**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Diff-in-diff-variables								
Treatment			-0.007	0.011				
			(-0.285)	(0.416)				
Post	0.009	0.015	0.003	0.017			0.009	0.013
	(1.531)	(1.529)	(0.358)	(1.389)			(0.987)	(0.536)
*Treatment*Post*	-0.016**	-0.030*	-0.039**	-0.061***	-0.033**	-0.061***	-0.026*	-0.041**
	(-2.850)	(-2.048)	(-2.287)	(-2.780)	(-2.282)	(-3.041)	(-1.893)	(-2.428)
*Treatment *Post*Enforcement*							-0.006	-0.011
							(-0.432)	(-0.402)
*Post*Enforcement*							0.008	0.020
							(1.393)	(0.610)
Control variables								
Size	0.022***	0.026***	0.013**	0.020***	0.050**	0.090***	0.023***	0.025***
	(8.312)	(14.132)	(2.391)	(3.257)	(2.395)	(3.411)	(9.855)	(13.099)
Performance	-0.174***	-0.327***	-0.114**	-0.250***	-0.168***	-0.318***	-0.175***	-0.329***
	(-7.260)	(-6.975)	(-2.279)	(-4.089)	(-3.214)	(-3.700)	(-6.955)	(-6.242)
Tangibility	0.201***	0.189***	0.224***	0.198***	0.331***	0.293**	0.180***	0.164***
	(9.672)	(7.075)	(3.723)	(3.074)	(3.089)	(2.440)	(8.894)	(6.076)
Market to Book	-0.022***	-0.084***	-0.025***	-0.068***	-0.014*	-0.052***	-0.021***	-0.081***
	(-6.740)	(-8.984)	(-3.379)	(-6.591)	(-1.670)	(-3.813)	(-5.608)	(-8.774)
Industry Leverage	0.179*	0.361***	0.134	0.315***	0.030	0.092	0.144**	0.269***
	(1.889)	(5.385)	(0.851)	(2.767)	(0.135)	(0.548)	(2.742)	(6.077)
Inflation	-0.000	0.004	0.002	0.014***	0.247	0.533**	0.001	0.005
	(-0.083)	(1.371)	(0.699)	(3.201)	(1.173)	(2.046)	(0.366)	(1.656)

	Unmatched Sample Analysis		Within Country Analysis				Enforcement Analysis	
	Book Leverage	Market Leverage	Book Leverage	Market Leverage	Book Leverage	Market Leverage	Book Leverage	Market Leverage
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	-0.128*	-0.120**	-0.008	-0.045	-0.877*	-1.747**	-0.145***	-0.098***
	(-2.048)	(-2.458)	(-0.113)	(-0.561)	(-1.684)	(-2.563)	(-4.151)	(-3.399)
Firm fixed effects	No	No	No	No	Yes	Yes	No	No
Industry fixed effects	Yes	Yes	No	No	No	No	No	No
Country fixed effects	Yes	Yes	No	No	No	No	Yes	Yes
Year fixed effects	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Standard error clustering	Country	Country	Firm	Firm	Firm	Firm	Country	Country
Adjusted R²	29.20%	41.80%	18.00%	31.30%	79.00%	76.60%	29.60%	41.90%
Observations	11,002	11,002	1,272	1,272	1,272	1,272	9,670	9,670

Notes: This Table presents the results of regression analyses examining the effect of higher reporting frequency on firms' capital structure using alternative sample compositions as well as additional control variables to control for differences in the enforcement of the TD. For Columns (1) and (2), we use all available observations prior to propensity score matching and include matching variables as additional control variables. For Columns (3) to (6), we limit our sample to German firms because for Germany, we have disclosure frequency variation within a single country. For Columns (7) and (8), we examine the incremental effect of differences in the enforcement of the TD. We measure *Enforcement* using an indicator variable, which equals one for countries with high enforcement, i.e., countries which comply with all enforcement provisions outlined in the Committee of European Securities Regulators (CESR) Standard No.1 by the end of 2009 (Christensen et al. 2016). We present results separately for book and market leverage. All variables are defined in the Appendix A2. All continuous variables are winsorized at the 1st and 99th percentiles. ***, **, and * refer to statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a two-tailed test. For the unmatched analyses, we cluster standard errors at the country level. For the within-country analyses, we cluster standard errors at the firm level. T-statistics are reported in parentheses.

2.6.3. Alternative Measures of Financial Leverage

We test alternative definitions of financial leverage to investigate the influence of variable definitions on our results (see e.g.,Serfling 2016). First, both measures of financial leverage do not control for the level of liquid assets within a firm. Consequently, changes in leverage might be attributable to debt repayments using internal funds. To address this issue, we replicate our main analysis and use total debt less cash and short-term investments to calculate book and market leverage. Second, we replicate our analysis using only long-term debt to control for the influence of short-term changes in debt contracting opportunities. Table 2-7 presents the results. We find significant negative coefficient estimates on the interaction term *Treatment*Post* for both alternative definitions. These results support the notion that our observed results are not primarily attributable to the definition of financial leverage or alternative explanations like debt repayment using internal funds.

Table 2-7 Alternative Measures of Financial Leverage

	Long-Term Book Leverage	Long-Term Market Leverage	Net Book Leverage	Net Market Leverage
	(1)	(2)	(3)	(4)
Diff-in-diff variables				
Post	0.016***	0.023***	0.013	0.017
	(4.436)	(3.171)	(1.072)	(0.903)
*Treatment*Post*	-0.017***	-0.022***	-0.020***	-0.048***
	(-3.531)	(-5.076)	(-4.683)	(-3.620)
Control variables				
s Size	0.026***	0.031***	0.034***	0.034***
	(9.408)	(9.718)	(10.015)	(12.546)
Performance	-0.090***	-0.169***	-0.077**	-0.247***
	(-6.122)	(-9.114)	(-2.266)	(-4.257)
Tangibility	0.162***	0.149***	0.307***	0.324***
	(10.867)	(8.582)	(11.741)	(10.294)
Market to Book	-0.009***	-0.045***	-0.071***	-0.044***
	(-3.991)	(-9.534)	(-7.739)	(-4.834)
Industry Leverage	-0.030	0.060	0.339***	0.374***
	(-0.626)	(1.720)	(6.005)	(5.301)
Inflation	0.003*	0.006***	0.001	0.006*
	(1.835)	(3.201)	(0.625)	(2.068)
Constant	-0.249***	-0.271***	-0.479***	-0.522***
	(-7.145)	(-7.268)	(-9.441)	(-9.116)
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Adjusted R²	26.30%	32.10%	34.70%	29.40%
Observations	9,662	9,662	9,668	9,668

Notes: This Table presents the results of regression analyses examining the effect of higher reporting frequency on firms' capital structure using alternative measures of financial leverage. For Columns (1) and (2), we use long-term debt instead of total debt to ensure that our results are not driven by changes in short-term debt. For Columns (3) to (4), we use debt net of cash and cash equivalents to ensure that our results are not driven by differences in liquid assets. We present results separately for book and market leverage. All variables are defined in the Appendix A2. All continuous variables are winsorized at the 1st and 99th percentiles. ***, **, and * refer to statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a two-tailed test. Standard errors are clustered by country, and t-statistics are reported in parentheses.

2.6.4. Financing Decision Analysis

Changes in financial leverage might be attributable to an increase in equity issuance, a decrease in debt issuance, debt repayments, an increase in retained earnings, or buybacks of shares outstanding. Based on our hypothesis, we expect that changes in financial leverage should be attributable to changes in equity financing (i.e., higher likelihood of equity issuance and/or higher amount of equity issued). To test this assumption, we examine

changes in the likelihood and amount of equity and debt issuances. For the likelihood analysis, we define a firm as issuing equity if the amount of equity issued in year t exceeds 5 percent of total assets at the beginning of the year and as issuing debt if the change in total debt in year t exceeds 5 percent of total assets at the beginning of the year (e.g., Chang et al. 2006; Leary and Roberts 2010; Albring et al. 2016; Naranjo et al. 2018).[28] For the amount analysis, we use the amount of equity (debt) issued in year t scaled by total assets at the beginning of the year as dependent variable (e.g., Chang et al. 2006; Kerr and Ozel 2015). We refer to the Appendix A2 for measurement details. If more frequent disclosure changes firms' equity but not debt financing decisions, we expect to find a positive and significant coefficient estimate on *Treatment*Post* for the regression models using equity financing decisions (likelihood and/or amount) as dependent variable and an insignificant coefficient estimate on *Treatment*Post* for the regression models using debt financing decisions (likelihood and/or amount) as dependent variable.

Table 2-8 presents the results. Columns (1) and (2) refer to the likelihood of issuing equity (debt). Columns (3) and (4) refer to the amount of equity (debt) issued. We find no significant change in the likelihood of equity issuance for treatment group firms after the implementation of the TD but a positive and significant coefficient estimate ($p < 0.05$) indicating a higher amount of equity issued for treatment group firms following the mandate to publish IMS. Furthermore, we find insignificant coefficient estimates on *Treatment*Post* for both the likelihood of issuing debt the amount of debt issued. Overall, this result supports the notion that changes in financial leverage are attributable to changes in equity financing.

---

[28] These limits were imposed in line with prior literature (e.g., Chang et al. 2006; Leary and Roberts 2010; Albring et al. 2016) to ensure that our dependent variable reflects equity/debt issuance decisions to finance investments and not stock issues as a result of stock issuance to employees via options/grants. As Leary and Roberts (2010) note "applying a cutoff of 5% effectively eliminates such issues" (p. 340).

Table 2-8 Financing Decisions Analysis

	Likelihood Analysis		Amount Analysis	
	Equity Issuance (1)	**Debt Issuance** (2)	**Equity Amount** (3)	**Debt Amount** (4)
Diff-in-diff variables				
Post	-0.106**	-0.033	-0.012*	-0.010**
	(-2.357)	(-0.298)	(-2.093)	(-2.735)
*Treatment*Post*	-0.099	-0.015	0.011**	0.005
	(-1.306)	(-0.195)	(2.657)	(0.841)
Control variables				
Size	-0.029***	0.062***	-0.002**	0.005***
	(-2.745)	(4.360)	(-2.451)	(8.633)
Performance	-1.771***	0.233*	-0.405***	0.033***
	(-12.788)	(1.687)	(-5.979)	(6.095)
Tangibility	-0.384***	0.355**	-0.029**	0.009
	(-2.762)	(2.566)	(-2.687)	(0.904)
Market to Book	0.121***	-0.059**	0.033***	-0.001
	(2.723)	(-2.012)	(5.525)	(-0.939)
Industry Leverage	-1.371***	-0.468**	-0.053**	-0.050***
	(-9.884)	(-1.980)	(-2.307)	(-3.378)
Inflation	0.033	0.007	-0.000	-0.001
	(1.165)	(0.196)	(-0.041)	(-0.501)
Constant	-0.389*	-0.906***	0.092***	0.022**
	(-1.844)	(-4.884)	(9.669)	(2.241)
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Adjusted R²	-	-	16.70%	7.60%
McFadden R²	11.50%	6.70%	-	-
Observations	9,519	9,665	9,566	9,665

Notes: This Table presents the results of regression analyses examining the effect of higher reporting frequency on firms' financing decisions, i.e., the likelihood of equity(debt) issuances and the amount of equity(debt) issuances. Columns (1) and (2) report probit regressions investigating the likelihood to issue equity (debt). We measure equity (debt) issuance using a binary dependent variable, which takes a value of one if the firm issues equity (debt) above 5% of beginning period total assets in year t and zero otherwise (e.g., Chang et al. 2006; Leary and Roberts 2010; Albring et al. 2016). Columns (3) and (4) report linear regressions investigating the amount of equity (debt) issuances. We scale the amount of equity (debt) issued by beginning period total assets (e.g., Chang et al. 2006). All variables are defined in the Appendix A2. All continuous variables are winsorized at the 1st and 99th percentiles. ***, **, and * refer to statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a two-tailed test. Standard errors are clustered by country. For Columns (1) and (2), z-statistics are reported in parentheses. For Columns (3) and (4), t-statistics are reported in parentheses.

Our analyses implicitly assume that there are no differences in the effect of more frequent

disclosure on different types of debt investors, such as bond investors and banks, and firms'

decision to issue different types of debt, such as public bonds or private loans. Nevertheless,

prior research provides evidence of different effects of disclosure on bond investors and

banks and differences in firms' bond or loan debt financing decisions (e.g., Florou and Kosi 2015). As a consequence, insignificant results for debt financing might be attributable to a substitution between different types of debt financing.

To test for differences in bond or loan financing decisions, we use the research design of Florou and Kosi (2015). We obtain data on bond issuances from SDC Platinum and on loan issuances from Dealscan. We match available bond and loan data to our sample and estimate the effect of more frequent disclosure on the likelihood and amount of the bond or loan financing decision.

In untabulated analyses, we find no significant coefficient estimates on *Treatment*Post* for either the likelihood of issuing a bond or a loan (coef.: 0.8 percentage points, , $p>0.1$) or the amount issued in bonds relative to the amount issued in bonds and loans (coef: 5.0 percentage points $p>0.1$). We conclude that more frequent disclosure has no distinct influence on firms' on firms' bond or loan financing decisions.

2.6.5. Influence of Financing Needs and the Information Environment

Next, we examine two aspects which may moderate the influence of more frequent disclosure on firms' capital structure: firms financing needs and firms' information environment.

First, financing needs may influence the observed effect on capital structure since firms, which have a higher demand for external financing, are more likely to exploit more favorable financing conditions. We follow prior literature (e.g., Shyam-Sunder and Myers 1999; Bharath et al. 2009; Leary and Roberts 2010) and measure financing needs by firms' financing deficit. This measure allows to compare a firm's requirements for funding investments, dividend payments, and working capital to its cash generation ability given by operating cash flow. Higher values of the measure indicate a higher need for external financing. We refer to the Appendix A2 for measurement details. To examine the

incremental importance of divergent financing needs, we estimate our main model separately for firms in the top versus bottom three deciles of the sample distribution.

If firms with a high financing deficit are more likely to take advantage of more favorable equity financing conditions, we expect to find a stronger reduction in leverage for this subsample of firms. Table 2-9 Columns (1) to (4) present the results. Using either book or market leverage, we find significant negative coefficient estimates on the interaction term *Treatment*Post* for the subsample of high deficit firms and no significant coefficient estimates on the interaction term *Treatment*Post* for firms with financial slack. This result supports the notion that firms with a higher financing deficit, i.e., firms with a higher need for external financing, exploit better opportunities for equity financing due to the mandate to publish IMS.

Second, we examine the influence of firms' information environment. As pointed out by Healy and Palepu (2001), disclosure is a central element to ensure capital market efficiency. However, other information intermediaries contribute to capital market efficiency by providing additional disclosure. For example, analysts may issue forecasts and buy/sell recommendations. These forecasts and recommendations may substitute for more frequent disclosure. In particular, analysts may acquire and disclose previously private information (e.g., Brown et al. 2015) and may issue reports at distinct points in time, which also leads to a higher disclosure frequency. Thus, we expect that the benefits of a mandatory increase in disclosure frequency should be more pronounced for firms with a lower analyst coverage.

To examine the influence of analysts' information provision, we estimate our main model separately for firms with a high or low analyst coverage. We split the sample at the top versus bottom three deciles of the sample distribution. If our notion holds, we expect to find stronger effects for firms with lower analyst coverage due to a higher incremental importance of IMS reporting.

Table 2-9 Columns (5) to (8) present the results. Using either book or market leverage, we find significant negative coefficient estimates on the interaction term *Treatment*Post* for the subsample of firms with low analyst coverage and no significant coefficient estimates on the interaction term *Treatment*Post* for firms with high analyst coverage. These results support the notion that the benefits of more frequent disclosure are more pronounced for firms with lower analyst coverage and, thus, less information provision by other information intermediaries.

Table 2-9 Influence of Financing Needs and the Information Environment

	Financing Needs Analysis				Information Environment Analysis			
	High Financing Deficit		Low Financing Deficit		High Analyst Coverage		Low Analyst Coverage	
	Book Leverage	Market Leverage	Book Leverage	Market Leverage	Book Leverage	Market Leverage	Book Leverage	Market Leverage
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Diff-in-diff variables								
Post	0.015	0.023	0.010	0.026	-0.018	-0.004	0.013	0.053***
	(1.450)	(1.254)	(0.722)	(1.601)	(-1.732)	(-0.238)	(0.970)	(3.863)
*Treatment*Post*	-0.043***	-0.070**	-0.013	-0.016	0.017	-0.015	-0.037***	-0.067***
	(-3.349)	(-2.686)	(-0.656)	(-0.675)	(1.069)	(-1.381)	(-3.183)	(-4.325)
Control variables								
Size	0.017***	0.022***	0.026***	0.026***	0.027***	0.041***	0.021***	0.036***
	(5.482)	(5.195)	(7.114)	(10.292)	(5.469)	(5.744)	(3.591)	(4.926)
Performance	-0.070*	-0.205***	-0.170***	-0.354***	-0.354***	-0.644***	-0.161***	-0.322***
	(-1.905)	(-3.288)	(-5.500)	(-6.149)	(-5.830)	(-8.876)	(-4.920)	(-5.303)
Tangibility	0.196***	0.156***	0.138***	0.141***	0.132***	0.105**	0.223***	0.209***
	(7.084)	(4.846)	(3.192)	(3.152)	(3.163)	(2.825)	(4.449)	(3.994)
Market to Book	-0.027***	-0.097***	-0.013**	-0.047***	-0.013	-0.053***	-0.025***	-0.081***
	(-4.094)	(-7.428)	(-2.657)	(-8.055)	(-1.680)	(-6.004)	(-4.108)	(-5.047)
Industry Leverage	0.227***	0.361***	0.061	0.139**	0.001	0,085	0.197**	0.280***
	(4.030)	(5.711)	(0.957)	(2.703)	(0.007)	(1.067)	(2.267)	(4.711)
Inflation	-0.005	-0.003	0.001	0.007	0.003	0.014**	0.000	0.009
	(-0.908)	(-0.387)	(0.194)	(1.494)	(0.690)	(2.577)	(0.133)	(1.724)

	Financing Needs Analysis				Information Environment Analysis			
	High Financing Deficit		Low Financing Deficit		High Analyst Coverage		Low Analyst Coverage	
	Book Leverage	Market Leverage	Book Leverage	Market Leverage	Book Leverage	Market Leverage	Book Leverage	Market Leverage
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	-0.005	-0.003	0.001	0.007	-0.119	-0.320***	-0.145*	-0.283**
	(-0.908)	(-0.387)	(0.194)	(1.494)	(-1.503)	(-3.295)	(-2.090)	(-3.009)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R²	32.30%	51.00%	23.20%	32.00%	25.60%	47.60%	33.50%	42.90%
Observations.	2,790	2,790	2,790	2,790	2,052	2,052	2,410	2,410

Notes: This Table presents the results of regression analyses examining the effect of higher reporting frequency on firms' capital structure depending on firms' financing needs and information environment. We measure financing needs using the financing deficit and we measure information environment using analyst coverage (Shyam-Sunder and Myers 1999; Bharath et al. 2009; Leary and Roberts 2010). For both variables, we split the sample at the bottom and top three deciles and exclude all other observations. High values of the financing needs proxy indicate a high financing deficit and lower values indicate financial slack. For our information environment measure, a low analyst coverage indicates a lower information environment and a high analyst coverage indicates a higher information environment. We present results separately for book and market leverage. All variables are defined in the Appendix A2. All continuous variables are winsorized at the 1st and 99th percentiles. ***, **, and * refer to statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a two-tailed test. Standard errors are clustered by country, and t-statistics are reported in parentheses.

2.6.6. Influence of Information Asymmetry, Agency Costs and Market Timing

To examine the potential underlying mechanism leading to the observed effect, we analyze different channels. Prior literature (Fu et al. 2012; Petacchi 2015; Wang and Welker 2011; Kerr and Ozel 2015) suggests that disclosure may influence capital structure via changes in information asymmetry due to the provision of prior private information or changes in the timing of equity or debt issuances due to better timing opportunities. Furthermore, based on the notion that more frequent disclosure improves shareholders' willingness to invest because it improves monitoring of managers, changes in capital structure should vary with ex-ante agency costs. To provide insights into the underlying channel of changes in leverage, we follow Petacchi (2015) and examine the effect of differences in information asymmetry, agency costs and market timing opportunities on the change in financial leverage e following the mandate to publish IMS. We measure information asymmetry using the Amihud illiquidity measure (Amihud 2002), we measure agency costs using the market value of cash (Faulkender and Wang 2006), and we measure timing opportunities using the market to book ratio (Baker and Wurgler 2002). We refer to the Appendix A2 for measurement details. For each proxy, we use the firm-level average of the respective variable prior to the mandate to publish IMS and include separate difference-in-differences variables for each of the three channels. This approach enables us to test if ex-ante differences in the respective variables have a moderating effect on the change in financial leverage. If one of the three channels influences the change in leverage, we expect to find a significant coefficient estimate on the respective interaction terms, i.e., *Treatment*Post*{InfoAsym, Agency, Timing}*.

Table 2-10 presents the results. Using book leverage, we find a significant influence of agency costs on financial leverage for treatment group firms following the mandate to publish IMS (*Treatment*Post*Agency*) and no effect for the other two channels. The negative and significant coefficient indicates a stronger reduction in financial leverage for treatment group firms with a higher level of agency costs prior to the TD. This result supports

the notion that the change in leverage is attributable to improvements in shareholder-manager agency conflicts. For our baseline difference-in-differences (*Treatment*Post*) we still find a significant negative effect indicating that more frequent disclosure is associated with a lower leverage for all treatment group firms. Using market leverage, we do not find significant coefficient estimates. Because our three moderator variables are to some extent, correlated with changes in market values, we caution not to overstate weaker results. Overall, we find some indications that changes in leverage are influenced by the ex-ante level of agency costs.

Table 2-10 Influence of Information Asymmetry, Agency Costs and Market Timing

	Book Leverage (1)	Market Leverage (2)
Diff-in-diff variables		
Treatment*Post*InfoAsym	0.002	-0.001
	(0.302)	(-0.070)
Treatment*Post*Agency	-0.073*	-0.095
	(-1.762)	(-1.678)
Treatment*Post*Timing	0.005	0.002
	(0.826)	(0.443)
Post*InfoAsym	0.003	-0.005
	(0.646)	(-0.832)
Post*Agency	-0.033	0.016
	(-0.934)	(0.331)
Post*Timing	-0.020***	-0.054***
	(-5.024)	(-6.605)
Post	0.029	0.125***
	(1.646)	(4.124)
Treatment*Post	-0.081***	-0.108**
	(-3.703)	(-2.455)
InfoAsym	-0.008	0.002
	(-1.390)	(0.300)
Agency	0.416***	0.672***
	(14.915)	(29.225)
Timing	0.036***	0.072***
	(7.477)	(9.636)
Control variables	Yes	Yes
Country fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Adjusted R²	41.10%	59.40%
Observations	9,539	9,539

Notes: This Table presents the results of regression analyses to examine which attributes of more frequent disclosure, i.e., changes in information asymmetry, changes in agency costs and, changes in market timing opportunities influence the relationship between more frequent disclosure and firms' capital structure. To examine the incremental influence of the different channels, we interact the difference-in-differences variables with pre-treatment averages of measures for information asymmetry (Amihud-illiquidity, see Amihud 2002), agency costs (market value of cash assets, see Faulkender and Wang 2006) and market timing (market-to-book ratio, see Baker and Wurgler 2002). We present results separately for book and market leverage. All variables are defined in the Appendix A2. All continuous variables are winsorized at the 1st and 99th percentiles. ***, **, and * refer to statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a two-tailed test. Standard errors are clustered by country, and t-statistics are reported in parentheses.

2.6.7. Other Sensitivity Analyses

We conduct several other sensitivity tests (untabulated) to substantiate our findings. First, due to the temporal overlap of the financial crisis and the implementation of the TD, we examine whether the effect of more frequent disclosure on financial leverage is driven by the financial crisis. We exclude years that are strongly influenced by the financial crises (i.e., 2008 and 2009) and we exclude all observations with a market-to-book ratio less than 1.

Second, we exclude countries with fewer than 100 observations to control for a sample bias. Third, we exclude firms from Spain and Italy. Both countries have officially adopted the lower reporting requirements of the TD. However, regulators strongly recommend to adhere to previous reporting practices (Link 2012). Fourth, we control for divergent levels of financial leverage between treatment and control group countries. In detail, our control group comprises three countries (Spain, Greece, and Portugal) with considerably higher leverage compared to other countries (i.e., book leverage of more than 30 percent - Greece: 34.3 percent, Spain: 30.0 percent, Portugal: 39.1 percent-, whereas overall mean book leverage equals 21.4 percent). To reduce adverse effects of these countries, we replicate our main model without these countries. Fifth, we control for the staggered implementation of the TD, because most countries implemented the TD in 2007. In detail, we focus on the first year of application for countries that implemented the TD in 2007 ('early adopter') and focus on the periods 2006 and 2008. Sixth, we control for the divergent length of the post period due to different entry-into-force years and limit the sample period to (one) two years around the entry-into-force year. Finally, because the UK may differ from continental European countries in terms of institutional characteristics and the importance of equity financing, we exclude observations from the UK. Overall, all tests lead to virtually unchanged results.

2.7. Conclusion

We examine the effect of more frequent disclosure on firms' capital structure. For our analysis, we use a setting in the European Union. Following a directive by the European Commission, EU countries implemented laws mandating quarterly disclosure for previously semi-annual reporting firms. The increase in disclosure frequency enables firms to rely more on equity financing because an increase in disclosure frequency favors shareholders' willingness to invest funds because of timelier disclosure and better monitoring of managers.

To test our assertion, we use a matched sample and a difference-in-differences design. Following the mandate to publish quarterly disclosure, we find a lower financial leverage for prior semi-annual reporting firms. In addition, we find stronger effects for firms which have a higher demand for external financing and a weaker information environment. With regard to the underlying mechanism, we find that reductions in financial leverage are attributable to firms issuing more equity, while debt issuance is not affected. Further, reductions are more pronounced for firms with higher ex-ante agency costs. Our results are robust to the assumptions of a difference-in-differences design, alternative sample compositions, alternative measures of capital structure, and a variety of sensitivity analyses. We contribute to prior literature by documenting a benefit for more frequent disclosure. We show that firms change their capital structure to rely more on equity financing following a mandate for more frequent disclosure, while debt financing is not affected. Our results emphasize the importance of the stewardship role of accounting information by supporting the notion that shareholders increase their willingness to invest as a result of better monitoring and that firms are able to exploit these more favorable financing conditions by issuing equity.

Our study is subject to limitations. First, because we investigate a particular outcome of more frequent disclosure, we cannot conclude on the overall costs and benefits of disclosure frequency regulation. Second, because our study is limited to a European setting, it remains an open question whether our inferences hold in other institutional settings.

2.8. References

Albring, Susan; Banyi, Monica; Dhaliwal, Dan; Pereira, Raynolde (2016): Does the Firm Information Environment Influence Financing Decisions? A Test Using Disclosure Regulation. In *Management Science* 62 (2), pp. 456–478. DOI: 10.1287/mnsc.2014.2123.

Amihud, Yakov (2002): Illiquidity and Stock Returns: Cross-Section and Time-Series Effects. In *Journal of Financial Markets* 5 (1), pp. 31–56. DOI: 10.1016/S1386-4181(01)00024-6.

Armstrong, Christopher S.; Guay, Wayne R.; Weber, Joseph P. (2010): The Role of Information and Financial Reporting in Corporate Governance and Debt Contracting. In *Journal of Accounting and Economics* 50 (2-3), pp. 179–234. DOI: 10.1016/j.jacceco.2010.10.001.

Baker, Malcolm; Wurgler, Jeffrey (2002): Market Timing and Capital Structure. In *The Journal of Finance* 57 (1), pp. 1–32. DOI: 10.1111/1540-6261.00414.

Beatty, Anne; Liao, Scott; Weber, Joseph (2012): Evidence on the Determinants and Economic Consequences of Delegated Monitoring. In *Journal of Accounting and Economics* 53 (3), pp. 555–576. DOI: 10.1016/j.jacceco.2011.12.002.

Beyer, Anne; Cohen, Daniel A.; Lys, Thomas Z.; Walther, Beverly R. (2010): The Financial Reporting Environment: Review of the Recent Literature. In *Journal of Accounting and Economics* 50 (2-3), pp. 296–343. DOI: 10.1016/j.jacceco.2010.10.003.

Bharath, Sreedhar T.; Pasquariello, Paolo; Wu, Guojun (2009): Does Asymmetric Information Drive Capital Structure Decisions? In *Review of Financial Studies.* 22 (8), pp. 3211–3243. DOI: 10.1093/rfs/hhn076.

Billet, Matthew T.; King, Tao-Hsien D.; Mauer, David C. (2007): Growth Opportunities and the Choice of Leverage, Debt Maturity, and Covenants. In *The Journal of Finance* 62 (2), pp. 697–730. DOI: 10.1111/j.1540-6261.2007.01221.x.

Black, Fischer; Scholes, Myron (1973): The Pricing of Options and Corporate Liabilities. In *Journal of Political Economy* 81 (3), pp. 637–654. DOI: 10.1086/260062.

Blaylock, Bradley; Gaertner, Fabio B.; Shevlin, Terry (2017): Book-Tax Conformity and Capital Structure. In *Review of Accounting Studies* 22 (2), pp. 903–932. DOI: 10.1007/s11142-017-9386-2.

Bourveau, Thomas; Lou, Yun; Wang, Rencheng (2018): Shareholder Litigation and Corporate Disclosure: Evidence from Derivative Lawsuits. In *Journal of Accounting Research* 56 (3), pp. 797–842. DOI: 10.1111/1475-679X.12191.

Brown, Lawrence D.; Call, Andrew C.; Clement, Michael B.; Sharp, Nathan Y. (2015): Inside the "Black Box" of Sell-Side Financial Analysts. In *Journal of Accounting Research* 53 (1), pp. 1–47. DOI: 10.1111/1475-679X.12067.

Bushman, Robert M.; Smith, Abbie J. (2001): Financial Accounting Information and Corporate Governance. In *Journal of Accounting and Economics* 32 (1-3), pp. 237–333. DOI: 10.1016/S0165-4101(01)00027-1.

Campello, Murillo; Graham, John R.; Harvey, Campbell R. (2010): The Real Effects of Financial Constraints: Evidence from a Financial Crisis. In *Journal of Financial Economics* 97 (3), pp. 470–487. DOI: 10.1016/j.jfineco.2010.02.009.

Canadian Securities Administrators (2017): CSA Consultation Paper 51-404 Considerations for Reducing Regulatory Burden for Non-Investment Fund Reporting Issuers. Available online at https://www.osc.gov.on.ca/en/SecuritiesLaw_csa_20170405_51-404_considerations-for-reducing-regulatory-burden.htm, last accessed on 04.11.2019.

Chang, Xin; Dasgupta, Sudipto; Hilary, Gilles (2006): Analyst Coverage and Financing Decisions. In *The Journal of Finance* 61 (6), pp. 3009–3048. DOI: 10.1111/j.1540-6261.2006.01010.x.

Christensen, Hans B.; Hail, Luzi; Leuz, Christian (2016): Capital-Market Effects of Securities Regulation: Prior Conditions, Implementation, and Enforcement. In *Review of Financial Studies.* 29 (11), pp. 2885–2924. DOI: 10.1093/rfs/hhw055.

Cram, Donald P.; Karan, Vijay; Stuart, Iris (2009): Three Threats to Validity of Choice-based and Matched-Sample Studies in Accounting Research. In *Contemporary Accounting Research* 26 (2), pp. 477–516. DOI: 10.1506/car.26.2.7.

Daske, Holger; Hail, Luzi; Leuz, Christian; Verdi, Rodrigo (2008): Mandatory IFRS Reporting around the World: Early Evidence on the Economic Consequences. In *Journal of Accounting Research* 46 (5), pp. 1085–1142. DOI: 10.1111/j.1475-679X.2008.00306.x.

de la Merced, Michael J.; Phillips, Matt (2018): Trump Asks S.E.C. to Study Quarterly Earnings Requirements for Public Firms. In *The New York Times*, 8/17/2018. Available online at https://www.nytimes.com/2018/08/17/business/dealbook/trump-quarterly-earnings.html, last accessed on 04.11.2019.

Diamond, Douglas W. (1985): Optimal Release of Information By Firms. In *The Journal of Finance* 40 (4), pp. 1071–1094. DOI: 10.1111/j.1540-6261.1985.tb02364.x.

Diamond, Douglas W. (1991): Monitoring and Reputation: The Choice between Bank Loans and Directly Placed Debt. In *Journal of Political Economy* 99 (4), pp. 689–721. DOI: 10.1086/261775.

Downar, Benedikt; Ernstberger, Jürgen; Link, Benedikt (2018): The Monitoring Effect of More Frequent Disclosure. In *Contemporary Accounting Reserach* 35 (4), pp. 2058–2081. DOI: 10.1111/1911-3846.12386.

Ernstberger, Jürgen; Link, Benedikt; Stich, Michael; Vogler, Oliver (2017): The Real Effects of Mandatory Quarterly Reporting. In *The Accounting Review* 92 (5), pp. 33–60. DOI: 10.2308/accr-51705.

European Commission (12/31/2004): Directive 2004/109/EC of the European Parliament and of the council. In *Official Journal of the European Union* (L 390/38), pp. 13–27. Available online at https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:390:0038:0057:EN:PDF, last accessed on 04.11.2019.

European Commission (11/6/2013): Directive 2013/50/EU of the Parliament and of the Council. In *Official Journal of the European Union* (L294), pp. 13–27. Available online at https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013L0050&from=EN, last accessed on 04.11.2019.

Fama, Eugene F.; French, Kenneth R. (2018): Industry Classification. Available online at http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html., last accessed on 01.10.2018.

Faulkender, Michael; Wang, Rong (2006): Corporate Financial Policy and the Value of Cash. In *The Journal of Finance* 61 (4), pp. 1957–1990. DOI: 10.1111/j.1540-6261.2006.00894.x.

Florou, Annita; Kosi, Urska (2015): Does Mandatory IFRS Adoption Facilitate Debt Financing? In *Review of Accounting Studies* 20 (4), pp. 1407–1456. DOI: 10.1007/s11142-015-9325-z.

Frank, Murray Z.; Goyal, Vidhan K. (2009): Capital Structure Decisions: Which Factors Are Reliably Important? In *Financial Management* 38 (1), pp. 1–37. DOI: 10.1111/j.1755-053X.2009.01026.x.

Fu, Renhui; Kraft, Arthur; Zhang, Huai (2012): Financial Reporting Frequency, Information Asymmetry, and the Cost of Equity. In *Journal of Accounting and Economics* 54 (2-3), pp. 132–149. DOI: 10.1016/j.jacceco.2012.07.003.

Gigler, Frank; Kanodia, Chandra; Sapra, Haresh; Venugopalan, Raghu (2014): How Frequent Financial Reporting Can Cause Managerial Short-Termism: An Analysis of the Costs and Benefits of Increasing Reporting Frequency. In *Journal of Accounting Research* 52 (2), pp. 357–387. DOI: 10.1111/1475-679X.12043.

Graham, John; Harvey, Campbell (2002): How do CFOs Make Capital Budgeting and Capital Structure Decisions? In *Journal of Applied Corporate Finance* 15 (1), pp. 8–23. DOI: 10.1111/j.1745-6622.2002.tb00337.x.

Healy, Paul M.; Palepu, Krishna G. (2001): Information Asymmetry, Corporate Disclosure, and the Capital Markets: A Review of the Empirical Disclosure Literature. In *Journal of Accounting and Economics* 31 (1-3), pp. 405–440. DOI: 10.1016/S0165-4101(01)00018-0.

Kajüter, Peter; Klassmann, Florian; Nienhaus, Martin (2019): The Effect of Mandatory Quarterly Reporting on Firm Value. In *The Accounting Review* 94 (3), pp. 251–277. DOI: 10.2308/accr-52212.

Kanodia, Chandra; Lee, Deokheon (1998): Investment and Disclosure: The Disciplinary Role of Periodic Performance Reports. In *Journal of Accounting Research* 36 (1), pp. 33–55. DOI: 10.2307/2491319.

Kaufmann, Daniel; Kraay, Aart; Mastruzzi, Massimo (2009): Governance Matters VIII: Aggregate And Individual Governance Indicators 1996-2008: The World Bank.

Kerr, Jon N.; Ozel, Naim B. (2015): Earnings Announcements, Information Asymmetry, and Timing of Debt Offerings. In *The Accounting Review* 90 (6), pp. 2375–2410. DOI: 10.2308/accr-51116.

Kraft, Arthur G.; Vashishtha, Rahul; Venkatachalam, Mohan (2018): Frequent Financial Reporting and Managerial Myopia. In *The Accounting Review* 93 (2), pp. 249–275. DOI: 10.2308/accr-51838.

Krauskopf, Lewis (2018): Kill Quarterly Reporting? Some Investors Ring Alarm Bells. Edited by Reuters. Available online at https://www.reuters.com/article/us-usa-sec-trump-investors-analysis/kill-quarterly-reporting-some-investors-ring-alarm-bells-idUSKBN1L2227?feedType=RSS&feedName=businessNews, last accessed on 04.11.2019.

Leary, Mark T.; Roberts, Michael R. (2010): The Pecking Order, Debt Capacity, and Information Asymmetry. In *Journal of Financial Economics* 95 (3), pp. 332–355. DOI: 10.1016/j.jfineco.2009.10.009.

Link, Benedikt (2012): The Struggle for a Common Interim Reporting Frequency Regime in Europe. In *Accounting in Europe* 9 (2), pp. 191–226. DOI: 10.1080/17449480.2012.720874.

Minnis, Michael; Sutherland, Andrew (2017): Financial Statements as Monitoring Mechanisms: Evidence from Small Commercial Loans. In *Journal of Accounting Research* 55 (1), pp. 197–233. DOI: 10.1111/1475-679X.12127.

Myers, Stewart C.; Majluf, Nicholas S. (1984): Corporate Financing and Investment Decisions when Firms Have Information that Investors Do Not Have. In *Journal of Financial Economics* 13 (2), pp. 187–221. DOI: 10.1016/0304-405X(84)90023-0.

Naranjo, Patricia L.; Saavedra, Daniel; Verdi, Rodrigo S. (2018): Information Asymmetry and Financing Decisions Around the World. In *SSRN Journal*. DOI: 10.2139/ssrn.2147838.

Öztekin, Özde (2015): Capital Structure Decisions around the World: Which Factors Are Reliably Important? In *Journal of Financial and Quantitative Analysis* 50 (3), pp. 301–323. DOI: 10.1017/S0022109014000660.

Petacchi, Reining (2015): Information Asymmetry and Capital Structure: Evidence from Regulation FD. In *Journal of Accounting and Economics* 59 (2-3), pp. 143–162. DOI: 10.1016/j.jacceco.2015.01.002.

Rajan, Raghuram G. (1992): Insiders and Outsiders: The Choice between Informed and Arm's-Length Debt. In *The Journal of Finance* 47 (4), pp. 1367–1400. DOI: 10.1111/j.1540-6261.1992.tb04662.x.

Roberts, Michael R.; Whited, Toni M. (2013): Endogeneity in Empirical Corporate Finance. In : Handbook of the Economics of Finance, vol. 2. 2nd ed. 2 volumes: Elsevier, pp. 493–572.

Roland Berger (2011): The Structuring and Financing of Energy Infrastructure Projects, Financing Gaps and Recommendations Regarding the New TEN-E Financial Instrument. Edited by European Commission Directorate-General for Energy. Berlin/Brussels.

Available online at https://ec.europa.eu/energy/sites/ener/files/documents/2011_ten_e_financing_report.pdf , last accessed on 07.11.2019.

Serfling, Matthew (2016): Firing Costs and Capital Structure Decisions. In *The Journal of Finance* 71 (5), pp. 2239–2286. DOI: 10.1111/jofi.12403.

Shipman, Jonathan E.; Swanquist, Quinn T.; Whited, Robert L. (2017): Propensity Score Matching in Accounting Research. In *The Accounting Review* 92 (1), pp. 213–244. DOI: 10.2308/accr-51449.

Shyam-Sunder, Lakshmi; Myers, Stewart C. (1999): Testing Static Tradeoff against Pecking Order Models of Capital Structure. In *Journal of Financial Economics* 51 (2), pp. 219–244. DOI: 10.1016/S0304-405X(98)00051-8.

Smith, Clifford W.; Warner, Jerold B. (1979): On Financial Contracting. In *Journal of Financial Economics* 7 (2), pp. 117–161. DOI: 10.1016/0304-405X(79)90011-4.

Stulz, René M.; Johnson, Herb (1985): An Analysis of Secured Debt. In *Journal of Financial Economics* 14 (4), pp. 501–521. DOI: 10.1016/0304-405X(85)90024-8.

The Treasury (6/6/2014): The Financial Services and Markets Act 2000 (Transparency) Regulations 2014. In *The National Archives* (1261). Available online at http://www.legislation.gov.uk/uksi/2014/1261/made, last accessed on 04.11.2019.

Thu, Jan (2018): SGX May Tweak Requirements for Quarterly Reporting in H2 2018. Edited by Business Times. Available online at https://www.businesstimes.com.sg/companies-markets/sgx-may-tweak-requirements-for-quarterly-reporting-in-h2-2018, updated on 1/11/2018, last accessed on 04.11.2019.

van Buskirk, Andrew (2012): Disclosure Frequency and Information Asymmetry. In *Review of Quantitative Finance and Accounting* 38 (4), pp. 411–440. DOI: 10.1007/s11156-011-0237-0.

Wang, Shiheng; Welker, Michael (2011): Timing Equity Issuance in Response to Information Asymmetry Arising from IFRS Adoption in Australia and Europe. In *Journal of Accounting Research* 49 (1), pp. 257–307. DOI: 10.1111/j.1475-679X.2010.00392.x.

Watts, Ross L.; Zimmerman, Jerod L. (1978): Towards a Positive Theory of the Determination of Accounting Standards. In *The Accounting Review* 53 (1), pp. 112–134. Available online at www.jstor.org/stable/245729, last accessed on 04.11.2019.

Welch, Ivo (2004): Capital Structure and Stock Returns. In *Journal of Political Economy* 112 (1), pp. 106–132. DOI: 10.1086/379933.

Appendix A2 – Definition of Variables

Variable	Definition
Main Dependent Variables	
Book Leverage	Total debt at the end of year *t* divided by total assets at the end of year *t*.
Market Leverage	Total debt at the end of year *t* divided by total debt at the end of year *t* plus market value of equity at the end of year *t*.
Difference-in-Differences Variables	
Treatment	Indicator variable, 1: a firm is not required to publish quarterly disclosure for the first and third quarter prior to the TD, 0: otherwise.
Post	Indicator variable, 1: for all fiscal-years after the respective national entry-into-force year of the TD in each country; 0: otherwise.
Control Variables	
Size	The natural logarithm of total assets in year *t*.
Performance	Earnings before interest and taxes in year *t* divided by total assets at the end of year *t-1*.
Tangibility	Net property plant and equipment in year *t* divided by total assets in year *t*.
Market to Book	Total assets at the end of year *t* less common equity at the end of year *t* plus market value of equity at the end of year *t* divided by total assets at the end of year *t*.
Industry Leverage	
Industry Book Leverage	Median *Book Leverage* at the end of year *t* for the respective industry using the Fama-French 12 Industries classification.
Industry Market Leverage	Median *Market Leverage* at the end of year *t* for the respective industry using the Fama-French 12 Industries classification.
Inflation	Annual growth in the consumer price index in percent (Source: International Monetary Fund, International Financial Statistics and data files.)

Table continued on the next page

Variable	Definition
Financing Needs and Information Environment Analysis	
Financing Deficit	Capital expenditure in year *t* plus cash dividends paid in year *t* plus change in net working capital from year *t-1* to year *t* plus short-term debt and current portion of long-term debt at the end of year *t-1* less operating cash flow in year *t* plus interest expense in year *t* plus income taxes paid in year *t* divided by total assets at the end of year *t-1*, where net working capital is defined as current assets at the end of year *t* less cash and cash equivalents at the end of year *t* less current liabilities at the end of year *t* plus short-term debt and current portion of long-term debt at the end of year *t* (see e.g., Albring et al. 2016).
Analyst Coverage	Number of analysts covering a firm in year *t*.
Pre-Treatment Trend Analysis	
Event(t=-1)	Indicator variable, 1: one year prior to the entry-into-force year of the TD in the respective country; 0: otherwise.
Event(t=0)	Indicator variable, 1: entry-into-force year of the TD in the respective country; 0: otherwise.
Event(t=1)	Indicator variable, 1: first year after the entry-into-force year of the TD in the respective country; 0: otherwise.
Event(t=2+)	Indicator variable, 1: two or more years following the entry-into-force year of the TD in the respective country; 0: otherwise.
Influence of the Sample Somposition	
Enforcement	Indicator variable, 1: countries with high enforcement, i.e., countries which comply with all enforcement provisions outlined in the Committee of European Securities Regulators (CESR) Standard No.1 by the end of 2009; 0: otherwise (Christensen et al. 2016).
Alternative Measures of Financial Leverage	
Long-Term Book Leverage	Long-term debt at the end of year *t* divided by total assets at the end of year *t*.
Long-Term Market Leverage	Long-term debt at the end of year *t* divided by total debt at the end of year *t* plus market value of equity at the end of year *t*.
Net Book Leverage	Total debt at the end of year *t* less cash and short-term investments at the end of year *t* divided by total assets at the end of year *t*.
Net Market Leverage	Total debt at the end of year *t* less cash and short-term investments at the end of year *t* divided by total debt at the end of year *t* plus market value of equity at the end of year *t*.

Variable	Definition
Financing Decision Analysis	
Equity Issuance	Indicator variable, 1: a firm issues equity in year *t*, i.e., the annual sum of daily changes in the market value of equity not explained by the change in dividend and split-adjusted stock prices is larger than 5 percent of total assets in year *t-1*; 0: otherwise (see e.g., Leary and Roberts 2010; Naranjo et al. 2018).
Debt Issuance	Indicator variable, 1: a firm issues debt in year *t*, i.e., if a firm exhibits a change in total debt from year *t-1* to year *t* larger than 5 percent of total assets in year *t-1*; 0: otherwise.
Equity Amount	Annual sum of daily changes in the market value of equity not explained by the change in dividend and split-adjusted prices divided by total assets in year *t-1*.
Debt Amount	The change in total debt from year *t-1* to year *t* divided by total assets in year *t-1*.

Variable	Definition
Influence of Information Asymmetry, Agency Costs and Market Timing	
InfoAsym	Mean value of Amihud-Illiquidity (Amihud 2002) for the years up to the implementation of the TD (i.e., years for which *Post* equals 0). Amihud-Illiquidity is calculated as the annual median of daily Amihud-Illiquidity (i.e., daily absolute stock return divided by USD trading volume in thousands).
Agency	The mean value of the Market Value of Cash (*CASH_AC*) for the years up to the implementation of the TD (i.e., years for which *Post* equals 0). As a first step, we estimate the following regression using all observations prior to the TD (i.e., all observations for which *Post* equals 0): $ABNORMAL_{it} = \beta_0 + \beta_1 DELTACASH_{it} + \beta_2 DELTACASH_{it} * LEV_{it} + \beta_2 DELTACASH_{it} * CASH_{it-1} + \beta_{3-10} Controls_{it} + \varepsilon_{it}$, where all variables are as defined by Downar et al. (2018). We estimate the market value of cash (CASH_AC) as the fitted value for each firm-year: $\widehat{CASH\_AC}_{it} = \beta_1 DELTACASH_{it} + \beta_2 DELTACASH_{it} * LEV_{it} + \beta_3 DELTACASH_{it} * CASH_{it-1}$ where β_1, β_2, and β_3 are estimated coefficients from the first equation.
Timing	Mean value of *Market to Book* for the years up to the implementation of the TD (i.e., years for which *Post* equals 0).

Notes: This Appendix includes all variables used in this Chapter. All continuous variables are converted to USD using end-of-fiscal year exchange rates.

3. More Frequent Disclosure and increasing Dividend Payments – Shareholder Monitoring or Managerial Myopia?

Abstract

This paper investigates the effect of more frequent disclosure on dividend payments. Prior literature emphasizes two links between disclosure and dividend payments, a reduction due to reduced information asymmetry or an increase due to improved monitoring (La Porta et al. 2000; Hail et al. 2014; Koo et al. 2017). Furthermore, Eije and Megginson (2008) document a positive association between dividend payments and disclosure frequency. I contend that the perceived increase in dividends is not driven by shareholder monitoring but rather by increased managerial myopia, a hitherto unexamined channel. To test the effect of more frequent disclosure on dividend payments, I exploit the implementation of the Transparency Directive (TD) in the European Union, which required firms from countries without prior quarterly reporting requirements to disclose quarterly. I find that post implementation dividend payments increase for prior semi-annual reporters compared to quarterly reporters. This increase is robust to the assumptions of a difference-in-differences design, alternative measures of dividend payments, alternative sample compositions and various sensitivity analyses. Furthermore, I find that the increase is driven by higher managerial myopia, while the effect does not vary significantly with agency costs. Overall, these results support the notion that more frequent disclosure increases dividend payments through managerial myopia.

3.1. Introduction

This paper investigates the effect of more frequent disclosure on dividends. Critics of more frequent disclosure often argue that it fosters myopic behavior. One frequently perceived indicator of such increased myopia or short-termism is increasing payouts to shareholders accompanied by decreasing investments. Politicians (e.g., Hilary Clinton see Udland 2016) as well as business and legal professionals (e.g., management consultants McKinsey & Company and law firm Watchell Lipton see Murphy 2015) have attributed higher shareholder payouts and lower investment to "quarterly capitalism", meaning an increased focus on short-term results and quarterly financial reporting instead of long-term value creation. For example, Larry Fink the CEO of Blackrock, a large institutional asset manager, voiced his concern that:

> "*Too many companies have cut capital expenditure and even increased debt to boost dividends and increase share buybacks*" (Atkins 2015).

Indeed, the magnitude and relevance of payouts to shareholders have increased in this century. For example, in the United States the average SP 500 firm paid out 91 percent of their net income for dividends or share buybacks over the period 2003 to 2012 (Lazonick 2014), while historically the average payout ratio of US firms amounted to 40% in 1971 (Weston and Siu 2003). In Europe the average payout to shareholders from the largest 300 companies amounted to 44% in 2010 and 53% in 2015 (Smith and Mathurin 2015). Furthermore, Eije and Megginson 2008 document a positive association between increasing (voluntary) disclosure frequency and increasing dividend payments for European firms.

However, if frequent disclosure contributes to increasing dividend payments, it may also do so via an alternative link: improved shareholder monitoring. This is because firms with higher agency costs and managerial entrenchment pay lower dividends (Easterbrook 1984; Jensen 1986). More frequent disclosure may improve monitoring and reduce agency conflicts (e.g., Kanodia and Lee 1998; Downar et al. 2018) and thus allow shareholders to

85

extract higher dividends. This monitoring role of more frequent disclosure is also evident

from statements of practitioners. For example, asked on the drawbacks of switching from a

quarterly to a semi-annual reporting frequency, David Kotok, the chairman and CIO of

Cumberland, an asset manager, said:

> "*Cut reporting frequency in half and you invite mischief and remove an established*
>
> *discipline*" (Krauskopf 2018).

Thus, if there is a relationship between more frequent disclosure and dividend payments, a

perceived increase in dividend payments could be the result of either improved shareholder

monitoring or an increase in managerial myopia. Differentiating between the two channels

is important because the long-term consequences for shareholders are different and are likely

to be adverse in case of managerial myopia (e.g., reduced long-term performance as in

Ernstberger et al. 2017). I contend that dividends may increase due to managerial myopia

and test this hitherto unexamined link.

Testing the effect of more frequent disclosure on dividend payments is also interesting from

a theoretical perspective, because not only the driver, but also the direction of the effect is a

priori unclear. On the one hand, firms may increase dividends if they are required to

disclosure more frequently based on the above presented myopia and agency explanations

for dividends[29]. On the other hand, firms may also decrease dividend payments if they are

required to disclose more frequently based on the signaling explanation for dividends.

According to the signaling explanation, firms pay dividends to signal good future prospects

---

[29] According to the agency explanation or outcome view for dividends, firms with higher agency costs pay
lower dividends (Easterbrook 1984; La Porta et al. 2000; Baker and Weigand 2015). More frequent disclosure
may improve shareholder monitoring (Downar et al. 2018) and thus represent a governance mechanism for
shareholders (Kanodia and Lee 1998). Therefore, shareholders can act on improved transparency due to more
frequent disclosure by demanding higher payouts and dividends may increase.
According to the myopia explanation, firms may increase dividends to increase short-term total returns to
shareholders. For example, management may feel pressured by capital markets to increase dividend payouts
because financial analysts may increase the focus of management on short-term results instead of investing in
long-term profitable projects (He and Tian 2013)or because shareholders value dividends and pay a premium
for dividend paying firms (Baker and Wurgler 2004). Since more frequent disclosure can foster myopic
management behavior (Gigler et al. 2014), dividends may increase following a mandate to disclose more
frequently.

and to signal commitment to decreasing potential agency conflicts from excess cash holdings (Myers 2000; La Porta et al. 2000; Baker and Weigand 2015). More frequent disclosure may act as a substitute to this signal because it reduces information asymmetry (Fu et al. 2012; Stoumbos 2017) and may thus reduce dividend payments by firms.

Prior empirical research on the role of disclosure in dividend payments emphasizes the role of disclosure quality in the signaling and agency explanations of dividends. Hail et al. (2014) investigate the influence of the introduction of International Financial Reporting Standards (IFRS) and dividends and find that following the introduction of IFRS and laws to prevent insider trading, dividend payments decrease, supporting the notion that higher quality financial reporting reduces information asymmetry and reduces the requirement for firms to pay dividends as a signal to outsiders. Koo et al. (2017) investigate the association between reporting quality and dividends and find that firms with a higher reporting quality pay higher dividends, which supports the notion that reporting quality acts as governance mechanism for shareholders to extract higher dividends.

I argue that more frequent disclosure is associated with an increase in dividends due to an increase in managerial myopia and focus on disclosure frequency.

To test the effect of more frequent disclosure on dividend payments, I use a setting in the European Union (EU). In 2004 the EU issued the Transparency Directive (TD), which included a mandate for semi-annually reporting firms to additionally issue an Interim Management Statement (IMS) for the first and third quarter. These IMS convey important information to investors such as: an explanation of material events, their impact on the financial position, and a general description of the financial position and performance of the firm (European Commission 2004). However, they do not comprise full quarterly financial statements in the spirit of the United States 10-Q reports and as required in other European countries (e.g., in Sweden). Nevertheless, IMS present useful and more timely information for investors (Stoumbos 2017; Downar et al. 2018) and thus an exogenous shock to

disclosure frequency. The TD, and thus the requirement to publish IMS, was implemented into national laws by the investigated EU-15 member states between 2007 and 2009. Prior to the implementation of the TD, the mandatory disclosure frequency varied across the EU-15 with 6 countries requiring quarterly reporting, whereas 9 countries required only semi-annual reporting[30] (Link 2012). For my identification strategy, the setting has the distinct advantages that the staggered implementation of a constant legal act in a narrow implementation window makes the estimated effect less susceptible to confounding events (Christensen et al. 2016) and that the historical variation in mandated disclosure frequency allows me to compare the effect of an exogenous shock to the mandated disclosure frequency between treatment and control group firms, which increases the likelihood of finding a causal relationship. Ultimately, the setting has prior precedent in the literature (e.g., Christensen et al. 2016) and has been employed to study the effect of an increase in disclosure frequency (see Ernstberger et al. 2017; Downar et al. 2018).

To examine the influence of more frequent disclosure on dividend payments, I adopt a difference-in-differences research design around the implementation of the TD in the EU. In detail, I first investigate the decision to pay a dividend and the amount paid separately to examine if a change in dividends is attributed to a change in the likelihood to pay any dividend or due to a change in the amount paid as dividends. In the analyses I control for other factors which have been identified to influence dividends and controlled for by Hail et al. (2014). My set of control variables comprises prior dividend payment, contemporaneous share buybacks, profitability, size, market to book, financial leverage, stock returns, stock return variability and differences in dividends due to operating losses (Hail et al. 2014). Furthermore, I include firm and year fixed effects to control for firm-specific factors and time trends in dividends and I cluster the standard errors by firm to correct for

---

[30] Germany and Austria required quarterly reporting for firms listed in the prime market standard of the Deutsche or Wiener Börse (Link 2012).

interdependence of the error term. All variables are defined in detail in the Appendix A3. For my analyses, I obtain a sample of EU-15 firms and match them 1 to 1 by pre-treatment firm size and profitability to account for any possible non-linearities in these factors affecting my results. My final sample comprises 6083 firm-years from 952 firms (i.e., 476 treatment and 476 control firms).

The results indicate that more frequent disclosure is associated with a higher dividend amount. However, I do not find evidence of a significant effect of more frequent disclosure on the likelihood to pay dividends. In detail, I find an increase of approximately 4 percent in the dividend amount for firms which report semi-annually prior to the TD and are required to report quarterly IMS post the TD compared to firms which report quarterly before and after the TD. Thus, I find that dividends increase following a mandate for more frequent disclosure, which is consistent with the notion that more frequent disclosure affects dividend payments either through improving shareholder monitoring or through fostering managerial myopia, but not through substituting for signaling good firm prospects by paying dividends, which would have implied a decrease in dividends after the mandate to disclose more frequently. My identification strategy rests on the assumption of a parallel trend between treatment and control group firms in dividend payments. I test for pre-treatment trends in dividends and persistence of the effect by including leads and lags of the difference-in-differences variable assuming earlier and later implementation than the respective entry into force year (e.g., Hail et al. 2014). I find no indication of significant pre-treatment trends. In addition, the increase in dividend payments persists over time.

To examine the underlying driver for the observed increase in dividends, I examine firms with high and low levels of indicators for managerial myopia and agency costs separately. I find a significant increase in dividends for firms with high real earnings management, low investment and high analyst coverage. In contrast, I do not find significant differences in the effect of more frequent disclosure on dividend payments for firms with high and low agency

costs. These results support the notion that firms increase dividends to shareholders due to managerial myopia and not due to shareholder monitoring.

I examine the robustness of the increase in dividends from more frequent disclosure to alternative sample compositions, alternative dependent variables and alternative control variables. The increase in dividends is robust to investigating an unmatched sample and robust to investigating samples excluding the financial crisis years and distressed firms. The results are also robust to excluding observations from countries with high national debt, with high stock market importance and with contemporary enforcement reforms. In addition, I focus on German firms because Germany exhibits within country variation in the required disclosure frequency[31], and find an increase in dividends for firms, which are newly required to disclose quarterly. I conclude that the sample composition does not drive my results. Next, I investigate the robustness of the increase in dividends to alternative measurements of the dependent variable by using the dividend amount including special dividends, the dividend amount paid in cash and indicator variables, which equal 1 for an increase (decrease) in dividends as in Hail et al. (2014). The results are robust to alternative measurement of the dependent variable. Furthermore, I include alternative control variables, namely cash flow from operations, reporting quality and retained earnings and find robust results.

My study mainly contributes to three strands of prior research. First, I contribute to the literature on the relationship between disclosure and dividend payments. Prior studies identified two links between disclosure and dividend payments: the signaling explanation or substitute view (e,g., La Porta et al. 2000; Hail et al. 2014) and the agency cost explanation or outcome view (e.g., La Porta et al. 2000; Koo et al. 2017). I contribute to this literature by identifying a third link between disclosure and dividend payments, namely increased managerial myopia. Second, I add to the literature on dividend determinants in the European

---

[31] German firms included in the prime market segment of Deutsche Börse are required to issue quarterly reports (Link 2012).

Union. A prior study by von Eije and Megginson (2008) found a positive association between (partly voluntary) disclosure frequency and dividend payments for EU firms. However, the reporting frequency of a firm may be endogenous, for example if more profitable firms choose to disclose more frequently or cross-list on stock exchanges where quarterly reporting is mandated (e.g., in the US). I thus, add to this literature by addressing this endogeneity concern through investigating an exogenous shock to reporting frequency and documenting an increase in dividend amount in response to this shock. Another study by Koo et al. (2017) finds an increase in dividend yield for a sample of 184 US firms studying the 3 years prior and after the SEC mandate to increase reporting frequency from annual to semi-annual in 1956 and from semi-annual to quarterly in 1970. Because share buy backs were illegal and considered market manipulation in the US until 1982 (Alsin 2017), their setting does not allow them to control for alternative payout methods. I add to their study by investigating a larger sample from various institutional backgrounds from a more recent time period when the magnitude and thus relevance of payouts to shareholders increased and by controlling for share buybacks as an alternative payout method. Third, I contribute to the literature on the effects of disclosure frequency. Prior literature has identified both costs and benefits of an increase in mandatory disclosure frequency. The identified costs include for example reduced investment (Kraft et al. 2018) and increased real earnings management (Ernstberger et al. 2017). I contribute to this literature by identifying an additional likely cost of more frequent disclosure, i.e., that the increase in the dividend amount is driven by managerial myopia.

The remainder of this paper is structured as follows. Section 3.2. presents the institutional background and the hypothesis development. Section 3.3. lays out the data and methodology used for the analyses. Section 3.4. presents descriptive statistics and the results of the regression analyses and includes tests assessing the identification strategy and the robustness of the effect. Section 3.5. concludes.

3.2. Institutional Background and Hypothesis Development

3.2.1. Institutional Background

In 2004 the European Union issued the Transparency Directive (TD) with the aim *"to upgrade the information available to investors, thus helping them to allocate their funds on the basis of a more informed assessment. The Directive aims to ensure that investors receive interim management statements from those share issuers who do not publish quarterly reports"* (European Commission 2004). These Interim Management Statements (IMS) were to be released for the first and third quarter in addition to existing semi-annual reports. Because disclosure frequency historically varied across the EU-15, it represented a shock to disclosure frequency for those countries who priorly required semi-annual reporting. In detail, 6 countries constantly required quarterly reporting whereas 9 countries required only semi-annual reporting prior to the TD[32] (Link 2012).

In terms of their content IMS should "*provide: an explanation of material events and transactions that have taken place during the relevant period and their impact on the financial position of the issuer and its controlled undertakings, and a general description of the financial position and performance of the issuer and its controlled undertakings during the relevant period* " (European Commission 2004). Hence, they convey important information to investors but do not comprise full quarterly financial statements in the spirit of the United States 10-Q reports and as required in other European countries (e.g., in Sweden). Downar et al. (2018) provide details on the content of IMS for a sample of 2319 IMS and document that they are on average 2.35 pages long and that approximately 90 percent of IMS contain quantitative information, while approximately 71 percent present a financial outlook. Regarding financial performance they note that approximately 83 percent

---

[32] Germany and Austria required quarterly reporting for firms listed in the prime market standard of the Deutsche or Wiener Börse (Link 2012).

disclose financial performance qualitatively or quantitatively (Downar et al. 2018). Ernstberger et al. (2017) analyze the content of 4896 IMS and find that approximately 51 percent disclose information on quarterly earnings. Regarding cash holdings, Downar et al. (2018) report that approximately 33 percent disclose cash or debt and approximately 7% disclose cash flows. In sum, IMS are relevant because they can provide investors with better monitoring opportunities and the ability to extract excess cash in the form of payouts but they also expose management to more frequent (performance) evaluation, which can lead to myopic management decisions.

Analyzing the mandate to disclose IMS has two further benefits for my analysis. First, the TD was implemented through national legislation in the individual countries between 2007 and 2009[33]. This staggered implementation has the advantage that I can estimate the effect of the same shock at several points in time and this variation is plausibly exogenous given the requirements by the European Union and the narrow implementation window (Christensen et al. 2016). Ceteris paribus this makes my results less susceptible to confounding events and increases the reliability of my estimates. Second, the historic variation in disclosure frequency allows us to form treatment and control groups which form part of a single European market, are thus comparable, and subject to the same exogenous shock. Thus, the setting can be efficiently exploited as a natural experiment by employing the difference-in-differences estimator. Ultimately, the setting has prior precedent in the literature (e.g., Christensen et al. 2016) and has been employed to investigate the effects of a mandatory increase in disclosure frequency (e.g., Ernstberger et al. 2017; Downar et al. 2018).

---

[33] Belgium and Luxembourg implemented the TD in 2008. The Netherlands and Italy in 2009. The remaining countries implemented the TD in 2007 (Link 2012).

3.2.2. Prior Literature and Hypothesis Development

Prior research on disclosure and dividends emphasizes two links between disclosure and dividend payments and focuses on disclosure quality.

The first link is based on the signaling explanation for dividends, which is also referred to as the substitute view of dividends (Myers 2000; La Porta et al. 2000; Baker and Weigand 2015). According to the signaling explanation, firms pay dividends to signal good future prospects and to signal commitment to reduce potential agency conflicts, which may result from excess funds (La Porta et al. 2000; Baker and Weigand 2015). Accounting information quality can improve the information environment of the firm and reduce information asymmetry (Leuz and Verrecchia 2005; van Buskirk 2012). Thus better accounting information can serve as a substitute to (costly) signaling by paying dividend payments, and therefore firms may decrease their dividend payments (La Porta et al. 2000) following a disclosure mandate. Hail et al. (2014) provide evidence consistent with this link in their examination of the effects of the enforcement of laws designed to prevent insider trading and the introduction of International Financial Reporting Standards (IFRS) on dividend payments for an international sample. They find that following reductions in information asymmetry, firms are less likely to pay dividends, more likely to decrease their dividend amounts and less likely to decrease their dividends (Hail et al. 2014).

The second link is based on the agency cost explanation for dividends, which is also referred to as the outcome view of dividends (La Porta et al. 2000; Baker and Weigand 2015). According to the agency cost explanation, firms pay dividends if agency conflicts between managers and shareholders are reduced, which enables investors to extract higher payouts and reduce excess funds available to managers (Easterbrook 1984; La Porta et al. 2000; Baker and Weigand 2015). Higher quality of accounting information can improve shareholder monitoring (Bushman and Smith 2001), and therefore allow investors to demand

and extract higher dividend payments from the firm. Koo et al. (2017) examine a sample of US firms and present results supporting the notion that higher reporting quality helps investors monitor management and demand higher dividend payments. They find that reporting quality, measured as the standard deviation of abnormal accruals, is positively associated with dividend payments and that this relationship is stronger for firms, which are more exposed to agency problems of free cash flows i.e., higher cash flows and lower market to book ratios (Koo et al. 2017).

In sum existing research on disclosure quality and dividend payments points to two possible channels, how disclosure can affect dividend payments. Nevertheless, disclosure quality and frequency are two distinct attributes of disclosure, which do not necessarily need to lead to similar outcomes. For example, van Buskirk (2012) finds that disclosure quality reduces information asymmetry, while disclosure frequency increases information asymmetry. Therefore, the results from studies of disclosure quality do not necessarily need to apply to the effect of disclosure frequency.

However, prior research on disclosure frequency indicates that higher disclosure frequency can be associated with both a reduction in information asymmetry (Fu et al. 2012; Stoumbos 2017) and an improvement in shareholder monitoring (Kanodia and Lee 1998; Downar et al. 2018). Thus, higher disclosure frequency could be associated with both an increase in dividends from improved shareholder monitoring according to the agency cost explanation or a decrease in dividends from reduced information asymmetry according to the signaling explanation.

In addition to the benefits of reduced information asymmetry and improved shareholder monitoring, more frequent disclosure may also come at the cost of increased managerial myopia and short-termism. Gigler et al. (2014) develop a model, in which managers are more likely to engage in short-termism and myopic behavior if they are required to disclose more

frequently. Consistent with this theoretical prediction, empirical studies provide evidence on managerial short-termism following a mandate to increase disclosure frequency. Ernstberger et al. (2017) document an increase in real activity manipulations to increase earnings, at the expense of long-run performance. Kraft et al. (2018) find that firms decrease investment following the introduction of mandatory quarterly reporting in the US over the period 1950-1970. Furthermore, the European Commission cited concerns over increased managerial short-termism when it amended the TD in 2013, which effectively eliminated the requirement to produce quarterly IMS for firms (Link 2012). In detail the European Commission stated that "*In order to encourage sustainable value creation and long-term oriented investment strategy, it is essential to reduce short-term pressure on issuers and give investors an incentive to adopt a longer term vision. The requirement to publish interim management statements should therefore be abolished* " (European Commission 2013). Firms with more myopic management should ceteris paribus feature higher dividend payments. This is because myopic managers with an increased focus on short-term results are more likely to increase short-term total returns to shareholders, by increasing dividends at the expense of long-term investment and returns. This effect is likely to be more pronounced if management faces more pressure from stock markets, for example because more analysts are covering the firm (He and Tian 2013) [34]. Supporting the notion that firms engage in disclosure manipulation to meet dividend expectations by stock markets, Kasanen et al. (1996) and Daniel et al. (2008) find a positive relationship between accrual-based earnings management and dividends. Furthermore, Liu and Espahbodi (2014) report evidence that firms are more likely to engage in real earnings management to smooth

---

[34] Alternatively, shareholders may also act myopically and pressure management to increase short-term returns, for example because they prefer higher short-term returns over long-term value creation (see Nickell and Wadhwani (1987)). However, myopic shareholders are not a strict requirement for management to increase dividends. Nevertheless, prior literature supports the view shareholders attribute some positive value to dividends and even attach a premium to firms paying dividends and that managers cater to this demand (e.g., Baker and Wurgler 2004) and that short-termism can arise even in rational markets (Stein 1989).

earnings and meet dividend payments and thereby document a positive association between myopic real activity manipulations and dividend payments. Collectively these results support the notion that more myopic firms are likely to pay higher dividends.

In sum, more frequent disclosure could lead to both an increase or decrease in dividend payments through three links. I test the effect of more frequent disclosure using the following hypothesis:

HPOTHESIS 1: *More frequent disclosure increases firm dividend payments by fostering managerial myopia*

HYPTHESIS 1A: *More frequent disclosure increases firm dividend payments by improving shareholder monitoring*

HYPTHESIS 1B: *More frequent disclosure decreases firm dividend payments by reducing information asymmetry*

3.3. Data and Methodology

3.3.1. Sample Data

To analyze the effect of more frequent disclosure on dividend payments I obtain data for EU-15 firms from Thomson Reuters Datastream (financial market data such as total returns and turnover) respectively Worldscope (accounting data such as total assets or dividends paid). The starting sample comprises all firms from EU-15 countries between years 2006 and 2013 (37,472 firm-year observations). I do not consider observations prior to 2006 because national GAAP differed prior to the mandatory IFRS adoption in 2005 and observations after 2013 because of amendments to the Transparency Directive, which subsequently lifted the requirement for firms to provide quarterly disclosure in the form of IMS.

For my analysis, I exclude the following observations from the final sample. First, I eliminate observations with erroneous or missing information on reporting frequency (e.g., annual reporters) or with different fiscal year lengths (e.g., fiscal year length less than 360 days or more than 370 days) (5,900 firm-year observations). Next, to avoid a self-selection bias, I exclude firms, which report quarterly on a voluntary basis, or firms, which choose to cross-list in the US and thus have to report quarterly (5,886 firm-year observations). Furthermore, I exclude firms from the regulated financial (SIC between 6000 and 6999) and utility (SIC between 4900 and 4999) industries (5,765 firm- year observations). I also exclude firm-years with missing data for my main model (7,601 firm-year observations). Finally, I require at least one observation before and after the TD to ensure that differences in sample composition do not drive my results. This leads to a further 4,355 firm-year observations being excluded from my sample.

I match each quarterly reporting to a semi-annual reporting firm using propensity score matching to control for any systematic non-linear differences in firm characteristics between quarterly reporting and semi-annually reporting firms. Firms are matched based on firm size (market value of equity) and firm performance (earnings before interest, tax, depreciation and amortization divided by lagged total assets) for each industry, using the 12-industry definition by Fama and French (2018). For this 1:1 propensity score matching, I use average values prior to the TD to avoid a potential influence of the TD on the matching variables.

My final matched sample contains 6,083 firm-year observations from 952 unique firms, i.e., 476 matched firm pairs, which constitute the basis for my analyses. Table 3-1 reports the sample distribution by country. The countries with the highest number of observations are the United Kingdom, France and Germany. Germany is the only country which exhibits within-country variation of disclosure frequency because disclosure frequency requirements

depend on the stock market segment in these countries and as a consequence both countries

feature both quarterly and semi-annual observations[35].

Table 3-1- Sample Composition

Country	Control Group	Treatment Group	Total
Austria	65	0	65
Belgium	0	178	178
Denmark	0	17	17
Finland	529	0	529
France	0	1076	1076
Germany	727	106	833
Greece	257	0	257
Ireland	0	58	58
Italy	534	0	534
Luxembourg	0	20	20
Netherlands	0	141	141
Portugal	150	0	150
Spain	189	0	189
Sweden	702	0	702
United Kingdom	0	1,334	1,334
Firm-Years	3153	2930	6083
Unique Firms	476	476	952

Notes: This Table presents the sample composition by country. Treatment group firms are semi-annual reporters that are additionally required to publish IMS for the first and third quarter after the staggered implementation of the Transparency Directive (TD). Control group firms are required to publish quarterly reports prior to and after the implementation of the TD.

3.3.2. Methodology

To investigate the effect of more frequent disclosure on dividend payments I exploit the

staggered implementation of the TD in EU-15 countries as an exogenous shock to disclosure

frequency. Because disclosure frequency varied across countries prior to the entry into force

of the TD, I am able to estimate the effect by comparing differences in dividend payments

between firms which are newly required to issue quarterly reports and firms which were

constantly required to report quarterly. To test the effect, I estimate the following baseline

regression model:

---

[35] Companies listed in the most liquid prime market segment of the Wiener Börse (Austrian Stock Exchange) or Deutsche Börse (Frankfurt Stock Exchange) were required to report quarterly financial statements.

Dividend Payments = β₀+ β₁Post + β₂(Treatment*Post)+ β₃₋₁₁ Controls

$$\textit{+ Fixed Effects for Firm and Year + e, (1)}$$

where all variables are defined in detail in the Appendix A3.

I estimate equation (1) for two distinct dependent variables to provide insights if dividend payments change because of changes in the likelihood of firms paying any dividend or because firms pay out a higher amount of dividends. Both variables are based on the Dividend per Share reported for the respective fiscal year[36]. First, I estimate the equation using *Dividend Payer* as the dependent variable to investigate any changes in the decision to payout dividends. *Dividend Payer* is an indicator variable, which equals 1 for firm-years with positive Dividend per Share and 0 otherwise. Second, I estimate the equation using *Dividend Amount* as the dependent variable. *Dividend Amount* is the natural logarithm of 1 plus Dividend per Share.

Treatment is an indicator variable, which takes a value of 1 for treatment firms, i.e., firms which report semi-annually prior to the entry into force of the TD and are required to issue quarterly IMS after the implementation of the TD. Conversely *Treatment* takes the value of 0 for control firms, i.e., firms which report quarterly prior to and after the entry into force of the TD.[37] *Post* is an indicator variable, which equals 1 for all firm-years subsequent to the entry into force year of the TD in the respective country and 0 otherwise. Thus, *Post* captures any systematic differences in dividend payments after the staggered implementation of the TD between 2007 to 2009. The interaction term *Treatment*Post* captures the marginal difference in dividend payments for treatment firms and the coefficient $β_2$ is the difference-in-differences estimator for the effect. Following H1, I expect a positive coefficient $β_2$ and

---

[36] Measuring dividends based on the Dividends per share has prior precedent in the literature (see Hail et al. 2014). However, the results are robust to using alternative measures for dividend payments (e.g., cash dividends, dividends per share including special dividends or cash dividends to common equity).

[37] *Treatment* is omitted from the regression, because it would be perfectly collinear with the firm-fixed effects, which already capture any factors that are constant across time for each firm.

interpret a positive coefficient as higher dividend amount respectively a higher probability to pay dividends following the requirement to publish quarterly IMS for treatment firms.

To control for other firm characteristics, which may drive dividend payments, I include *Controls* based on Hail et al. 2014. In detail, I include the firms' prior dividend, share buyback, profitability, size, market to book, financial leverage, stock returns, stock return variability and I control for differences in dividends due to operating losses. Prior dividends (*Dividend Payer$_{t-1}$*) are included because dividend decisions tend to be highly sticky (e.g., Brav et al. 2005)[38] and thus I expect a positive coefficient. *Share buyback* is included to control for possible share buybacks, which may substitute or complement dividends. For the EU-15 Eije and Megginson (2008) and Hail et al. (2014) document a decrease in the percentage of firms paying dividends and an increase in the percentage of firms paying share buybacks. Both studies report an increase in the amount of dividends paid and the amount paid to repurchase shares. Therefore, I expect a negative coefficient in the regression using *Dividend Payer* as the dependent variable and a positive coefficient in the regression using *Dividend Amount* as the dependent variable. *Profitability* is included because more profitable firms are more likely to pay dividends and pay higher dividends. I thus expect a positive coefficient. *Size* is included because larger firms are more likely to pay dividends and pay higher dividends. Market to book is included to control for any differences in firm's growth prospects. Stock returns and stock return variability are included to capture any changes in future prospects and firm uncertainty. *Negative Earnings* is included because loss-making firms are less likely to pay dividends and should pay lower dividends. In addition, I include firm fixed effects to control for any unobservable firm characteristics which are constant across time. I also include year fixed effects to account for the staggered implementation and time-variant cross-sectional changes in dividends. To reduce the influence of outliers, I

---

[38] This indicator variable is based on Hail et al. (2014). I obtain virtually identical results if the lagged *Dividend Amounts* is included as the respective measure.

winsorize all continuous variables at the 1st and 99th percentiles. Standard errors are clustered by firm.[39]

3.4. Results

3.4.1. Descriptive Statistics

Table 3-2 presents the descriptive statistics for my matched sample of firms. Panel A of Table 3-2 displays descriptive statistics for the final analyses sample. Firms pay dividends in 68 percent of the observed years, which is comparable to the 62 percent reported by Hail et al. (2014) for an international sample until 2009 and the 65 percent documented by Eije and Megginson (2008) for an EU-15 sample from 1989 to 2005. Panel B of Table 3-2 depicts correlations between the variables included in my main model. Pearson correlation coefficients are reported above the diagonal and Spearman correlation coefficients are reported below the diagonal. Overall, the observed correlations do not point to any multicollinearity problems.

---

[39] Including country and industry fixed effects and clustering by country instead of including firm fixed effects and clustering by firm leads to similar results.

Table 3-2 Descriptive Statistics and Correlations

Panel A: Descriptive Statistics

Variables	No. Obs.	Mean	1st Quartile	Median	3rd Quartile	Std. Dev.
Dividend Payer	6083	0.684	0.000	1.000	1.000	0.465
ln(1+dividend per share)	6083	0.323	0.000	0.134	0.476	0.452
Share Buy Back	6083	0.314	0.000	0.000	1.000	0.464
Size	6082	12.679	11.283	12.578	14.114	1.878
Profitability	6070	0.115	0.062	0.113	0.174	0.362
Market to Book	6083	1.511	0.986	1.234	1.678	0.959
Leverage	6083	0.224	0.081	0.206	0.332	0.173
Return	6083	0.099	-0.233	0.054	0.363	0.498
Return Variability	6083	0.492	0.336	0.435	0.582	0.233
Negative Earnings	6083	0.177	0.000	0.000	0.000	0.381

Panel B: Correlations

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Dividend Payer	(1)		**0.82**	**0.16**	**0.46**	**0.48**	**0.19**	**-0.11**	**0.20**	**-0.45**	**-0.53**
ln(1+dividend per share)	(2)	**0.49**		**0.11**	**0.52**	**0.46**	**0.20**	**-0.10**	**0.17**	**-0.45**	**-0.46**
Share Buy Back	(3)	**0.16**	**0.04**		**0.17**	**0.10**	0.00	0.02	**-0.04**	**-0.11**	**-0.14**
Size	(4)	**0.46**	**0.39**	**0.17**		**0.36**	**0.40**	**0.08**	**0.21**	**-0.38**	**-0.35**
Profitability	(5)	**0.18**	**0.11**	**0.06**	**0.14**		**0.49**	**-0.13**	**0.22**	**-0.36**	**-0.63**
Market to Book	(6)	**0.06**	**0.07**	-0.02	**0.25**	**0.07**		**-0.18**	**0.27**	**-0.27**	**-0.16**
Leverage	(7)	**-0.15**	**-0.12**	0.01	0.02	-0.03	**-0.17**		**-0.11**	**0.07**	**0.07**
Return	(8)	**0.16**	**0.07**	**-0.04**	**0.18**	**0.07**	**0.17**	**-0.10**		**-0.18**	**-0.19**
Return Variability	(9)	**-0.47**	**-0.29**	**-0.13**	**-0.40**	**-0.15**	**-0.08**	**0.15**	**-0.09**		**0.35**
Negative Earnings	(10)	**-0.53**	**-0.28**	**-0.14**	**-0.35**	**-0.27**	-0.04	**0.11**	**-0.17**	**0.40**	

Notes: This Table presents descriptive statistics (Panel A) as well as Pearson (below) and Spearman (above the diagonal) correlations of all variables used for estimating model (1). Bold figures in Panel B indicate statistically significant correlations that are at least at the 10 percent level. Variable definitions are presented in the Appendix A3. All continuous variables are winsorized at the 1st and 99th percentiles.

3.4.2. Main Model

To analyze the effect of more frequent disclosure on the decision to pay dividends I estimate model (1). Table 3-3 presents the results of this difference-in-differences analysis. According to my hypothesis, I expect a positive coefficient on the interaction term *DIFF-IN-DIFF*, which measures the change in the likelihood to pay dividends respectively the amount of dividends paid by the firm after the implementation of the TD for treatment group firms, i.e., firms which are newly mandated to increase their disclosure frequency from semi-annual to quarterly through IMS. Column (1) reports the results using the binary variable dividend decision as the dependent variable. The coefficient on the difference-in-differences term is positive but not statistically significant at conventional levels (coef: 0.02, p>0.1). This result indicates that firms are not significantly more likely to pay a dividend following the mandatory increase in disclosure frequency. Column (2) depicts results using the dividend

amount as a dependent variable. The coefficient on the difference-in-differences term is positive and significant at the 5 percent level (coef: 0.04, p<0.05). Therefore, firms increase the amount of dividends paid to shareholders by approximately 4 percent, which is economically meaningful. Furthermore, the effect size is slightly higher but generally in line with Eije and Megginson (2008) who study the association between voluntary disclosure frequency and dividend payments and report an increase in the dividend amount of approximately 2.7 percent for the period between 1991 and 2005 but no significant association with the likelihood to pay dividends.

In sum, the results support the notion that firms increase the dividend amount but not the likelihood to pay dividends following the mandatory increase in disclosure frequency.

Table 3-3 The Influence of More Frequent Disclosure on Dividend Payments

	Dividend Decision	Dividend Amount
	(1)	(2)
Variables of Interest		
POST	0.031	-0.002
	(1.157)	(-0.124)
DIFF-IN-DIFF	0.020	0.040**
	(1.111)	(2.130)
Control Variables		
Dividend Payer (t-1)	0.272***	0.124***
	(12.307)	(6.779)
Share Buy Back	0.021*	0.017*
	(1.871)	(1.746)
Size	0.050***	0.086***
	(2.857)	(4.533)
Profitability	0.192***	0.381***
	(2.789)	(6.242)
Market to Book	0.008	0.042***
	(1.119)	(5.157)
Leverage	-0.280***	-0.265***
	(-4.720)	(-4.736)
Return	0.042***	0.016*
	(3.965)	(1.922)
Return Variability	-0.153***	-0.088***
	(-5.605)	(-3.635)
Negative Earnings	-0.187***	-0.030*
	(-8.436)	(-1.716)
Constant	-0.019	-0.917***
	(-0.083)	(-3.669)
Observations	6,083	6,083
Adjusted R-squared	70.5%	81.5%
Year Fixed Effects	Yes	Yes
Firm Fixed Effects	Yes	Yes
Cluster	Firm	Firm

Notes: This Table presents the results of regression analyses examining the influence of higher reporting frequency on firms' dividend payout decisions and the amount of dividends paid. Column (1) refers to a difference-in-differences analysis of the dividend decision, i.e., using Dividend Payer, an indicator variable that equals one if Dividends per Share in the respective fiscal year is positive and 0 otherwise, as a dependent variable. Column (2) refers to a difference-in-differences analysis of the amount paid, i.e., using the natural logarithm of 1 plus the Dividend per Share for the respective fiscal year as the dependent variable. All variables are defined in the Appendix A3. All continuous variables are winsorized at the 1st and 99th percentiles. ***, **, and * refer to statistical significance at the 1 percent, 5 percent, and 10 percent levels respectively, using a two-tailed test. Standard errors are clustered by firm, and t-statistics are reported in parentheses.

3.4.3. Pre-Treatment Trend Analysis

The identification of the effect of a mandatory increase in disclosure frequency on dividend payments rests on the assumption of a parallel trend between the treatment and control group, i.e., the same development in dividend payments between treatment and control firms in absence of the treatment. I conduct tests for differences in pre-treatment trends to assess the robustness of my identification strategy. For this purpose, I follow prior literature (e.g., Hail et al. 2014; Bourveau et al. 2018) and include separate interactions of the treatment indicator and indicator variables for periods before and after the entry into force year of the Transparency Directive. In detail, I include four separate interactions: *Treatment*Event(t=-2+)*, assuming an implementation of the directive in year t-2 or before year t-2 of the entry into force year; *Treatment*Event(t=-1)*, assuming an implementation of the directive in the year prior to the entry into force year; *Treatment*Event(t=1)*, assuming an implementation of the directive in the year after the entry into force year. *Treatment*Event(t=1)*, assuming an implementation of the directive more than 2 years after the entry into force year. The interaction involving the entry into force year is omitted to avoid multicollinearity and serves as a reference period. Including separate interactions for the years after the entry into force year allows me to investigate the timing and persistency of the increase in dividend payments in addition to testing for differences in pre-treatment trends.

Table 3-4 presents the results of this analysis. The coefficients *Treatment*Event(t=-2+)* and *Treatment*Event(t=-1)* are insignificant. Therefore, I do not find any evidence indicating differences in pre-treatment trends. Hence, the increase in dividend payments does not precede the increase in disclosure frequency through IMS reporting mandated by the TD and the parallel trends assumption should hold. Furthermore, the coefficients *Treatment*Event(t=-2+)* and *Treatment*Event(t=-1)* are significantly positive at the 1 percent level *Treatment*Event(t=1)* respectively at the 5 percent level. (*Treatment*Event(t=2+)*). The coefficient estimates of 0.069 (*Treatment*Event(t=1)*) and

0.048(*Treatment*Event(t=2+)*) indicate that the effect is strongest in the year immediately after the entry into force year with an increase of approximately + 7 percent in dividend payments relative to the entry into force year but consistently positive and stable for the following periods with an increase of approximately 4.8 percent compared to the entry into force year and hence the effect is persistent over time.

Table 3-4 Pre-Treatment Trend Analysis

	Dividend Amount
	(1)
Variables of Interest	
POST	-0.015
	(-0.794)
Treatment*Event(t=-2+)	0.065
	(1.060)
Treatment*Event(t=-1)	0.027
	(1.389)
Treatment*Event(t=1)	0.069***
	(3.754)
Treatment*Event(t=2+)	0.048**
	(2.335)
Control Variables	
Dividend Payer (t-1)	0.125***
	(6.816)
Share Buy Back	0.017*
	(1.749)
Size	0.086***
	(4.536)
Profitability	0.382***
	(6.252)
Market to Book	0.042***
	(5.146)
Leverage	-0.266***
	(-4.748)
Return	0.016*
	(1.872)
Return Variability	-0.087***
	(-3.599)
Negative Earnings	-0.030*
	(-1.705)
Constant	-0.928***
	(-3.707)
Observations	6,083
Adjusted R-squared	81.6%
Year Fixed Effects	Yes
Firm Fixed Effects	Yes

Notes: This Table presents the results of regression analysis examining the pre- and post-treatment trend between control and treatment group firms for Dividend Amounts, measured as the natural logarithm of 1 plus the Dividend per Share for the fiscal year. Event(t=0) is an indicator variable set to one if a firm is headquartered in a country that implemented the TD in year t (entry-into-force year). Event(t=-1) is an indicator set to one if a firm is headquartered in country that implemented the TD in the following year. Event(t=1) is an indicator set to one if a firm is headquartered in country that implemented the TD in the previous year. Event(t=2+) is an indicator set to one if a firm is headquartered in country that implemented the TD two or more than two years ago. All variables are defined in the Appendix A3. All continuous variables are winsorized at the 1st and 99th percentiles. ***, **, and * refer to statistical significance at the 1 percent, 5 percent, and 10 percent levels respectively, using a two-tailed test. Standard errors are clustered by firm, and t-statistics are reported in parentheses.

3.4.4. The Influence of Managerial Myopia and Shareholder Monitoring

To this point my analyses support the notion that following the mandate to report IMS, treatment firms for which IMS represented an increase in disclosure frequency increased their dividend payments compared to control firms who consistently reported quarterly. Theoretically this increase could be explained by both managerial myopia and improved shareholder monitoring. Therefore, in this section I investigate the underlying drivers of the effect by analyzing how the increase in dividend payments varies with measures for myopic management behavior and with measures for agency costs between managers and shareholders. In detail, I use three measures of managerial myopia: a measure of investment and two measures of real earnings management based on prior literature (e.g., Roychowdhury 2006; Cohen et al. 2008; Ernstberger et al. 2017). I investigate the effect separately for firms with high and low levels of investment because prior literature documents that higher disclosure frequency can cause myopic management behavior in the form of reduced investment (Kraft et al. 2018). Similarly, I investigate the change in dividend payments separately for firms with high and low real earnings management because prior research indicates that following the mandate to report IMS, firms are more likely to myopically engage in real earnings management at the expense of deterioration in future performance (Ernstberger et al. 2017). Furthermore, I investigate how the effect varies with analyst coverage, because a higher number of financial analysts covering the firm may put pressure on management to meet short-term targets and act myopically instead of investing in long run (He and Tian 2013). If firms increase dividends following the mandate to report IMS due to managerial myopia, I expect to find stronger results for firms with lower investment, higher real earnings management and a higher number of analysts covering the firm. Next, I use two measures of agency costs based on Downar et al. (2018) to gauge if improved shareholder monitoring is driving the effect. First, I use the marginal shareholder value of cash, based on the framework by Faulkender and Wang (2006), as a measure of

109

expected agency costs and multiply the outcome by -1 such that higher values indicate higher agency costs. Second, I employ the level of selling, general and administrative expenses scaled by beginning period total assets as a measure of ex post agency costs (Downar et al. 2018). If firms increase dividend payments following the mandate to report IMS due to improved shareholder monitoring, I expect stronger results for firms with higher (expected) agency costs and thus higher levels of negative marginal shareholder value of cash and higher SG&A expenses. For the analyses I split the sample at the mean of the respective measure and analyze firms with values above/below the mean separately. Detailed definitions of all variables are provided in the Appendix A3.

Table 3-5 reports the results of the analyses separately for firms with high and low levels of myopia and agency cost measures. Columns (1) to (8) report results for measures of myopia and columns (9) to (12) exhibit results for measures of agency costs. Columns (1) and (2) display results for firms with high (column (1)) respectively low (column (2)) levels of investment. Consistent with the notion that reporting frequency induced myopia causes the increase in dividend payments I find a significant effect at the 5 percent level for firms with low investment (coef: 0.057, $p<0.05$) but not for firms with high levels of investment (coef. 0.011, $p>0.1$). Columns (3), (4), (5) and (6) depict the results for two indicators of real earnings management. Columns (3) and (4) refer to a measure of real earnings management based on the sum of (negative) abnormal cash flows, (negative) abnormal discretionary expenses and abnormal production costs (e.g., Cohen et al. 2009), columns (4) and (5) refer to the same measure excluding abnormal cash flows (e.g., Ernstberger et al. 2017). In line with the notion that an increase in dividend payments is driven by reporting frequency induced myopia, I find a significant effect for high levels of real earnings management for both measures, but not for low levels of real earnings management. Columns (7) and (8) report results for firms with a high (low) number of analysts covering the firm. Supporting the notion that more analyst coverage increases managerial focus on short-term results at the

expense of long-run performance (He and Tian 2013), I find that firms with a high analyst coverage increase their dividend payments at the 10 percent level (coef.: 0.059, p<0.1), while the increase in dividends for firms with lower analyst coverage is insignificant at least at the 10 percent level (coef: 0.023, p>0.1). The results for agency cost measures are depicted in columns (9) to (12). For both high and low levels of expected agency costs, i.e., negative marginal shareholder value of cash, I find an insignificant difference-in-differences term (columns (9) and (10)). Similarly, I find a significantly positive coefficients of almost identical magnitude (coef. for high: 0.049, coef. for low: 0.050) on the difference-in-differences term for both high and low levels of ex post agency costs, i.e., SG&A expenses. Thus, for both measures, I cannot find a difference in the effect based on the level of agency costs and hence I do not find sufficient evidence that shareholder monitoring is an important driver of the effect.

Collectively these results support the notion that the increase in dividend payments is driven by managerial myopia and not by shareholder monitoring.

.

Table 3-5 The Influence of Agency Costs and Managerial Myopia

Dependent variable = Dividend Amount	Myopia Analysis								Monitoring Analysis			
	Investment		Real Earnings Management (RAM1)		Real Earnings Management (RAM2)		Analyst Coverage		Agency Costs (Shareholder Valuation of Cash)		Agency Costs (SG&A Expenses)	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Variables of Interest												
POST	0.052	-0.017	-0.025	-0.002	-0.023	-0.018	-0.007	0.008	-0.019	-0.013	0.015	-0.023
	(1.497)	(-0.813)	(-0.932)	(-0.083)	(-0.890)	(-0.803)	(-0.216)	(0.342)	(-0.692)	(-0.652)	(0.668)	(-0.844)
DIFF-IN-DIFF	0.011	0.057**	0.083**	0.022	0.059*	0.061	0.059*	0.023	0.026	0.031	0.049*	0.050*
	(0.306)	(2.238)	(2.365)	(0.434)	(1.695)	(1.330)	(1.685)	(0.963)	(0.514)	(1.624)	(1.945)	(1.754)
Control Variables												
Dividend Payer (t-1)	0.077**	0.128***	0.076***	0.098***	0.081***	0.064***	0.151***	0.076***	0.100***	0.119***	0.062***	0.108***
	(2.153)	(5.712)	(2.758)	(3.573)	(3.001)	(2.679)	(3.819)	(4.814)	(3.844)	(3.979)	(3.119)	(4.063)
Share Buy Back	-0.001	0.024*	0.032*	0.015	0.025	0.026*	0.031*	0.014	0.034	0.013	0.008	0.024
	(-0.032)	(1.934)	(1.801)	(0.765)	(1.459)	(1.660)	(1.912)	(1.259)	(1.563)	(1.140)	(0.544)	(1.530)
Size	0.060	0.104***	0.101***	0.097***	0.118***	0.096***	0.218***	0.105***	0.047	0.118***	0.096***	0.136***
	(1.608)	(4.189)	(2.841)	(3.290)	(2.982)	(3.444)	(4.354)	(3.825)	(0.896)	(6.462)	(4.373)	(3.521)
Profitability	0.329***	0.428***	0.346***	0.616***	0.439***	0.450***	0.618***	0.434***	0.348***	0.389***	0.321***	0.487***
	(2.998)	(4.479)	(2.945)	(3.917)	(3.731)	(3.143)	(3.363)	(5.329)	(2.922)	(5.569)	(3.298)	(4.298)
Market to Book	0.029**	0.062***	0.050***	0.036**	0.073***	0.032**	0.072***	0.031***	0.100*	0.042***	0.025***	0.076***
	(2.575)	(4.871)	(2.877)	(2.257)	(3.447)	(2.447)	(3.105)	(3.741)	(1.740)	(4.791)	(2.722)	(3.860)
Leverage	-0.183	-0.261***	-0.265**	-0.264***	-0.316***	-0.177*	-0.444***	-0.261***	-0.259**	-0.308***	-0.103	-0.361***
	(-1.448)	(-4.264)	(-2.196)	(-2.762)	(-2.682)	(-1.955)	(-2.977)	(-3.265)	(-2.087)	(-3.862)	(-1.435)	(-3.396)
Return	0.006	0.023**	0.015	0.017	0.018	0.000	0.006	0.009	0.031**	-0.006	-0.007	0.014
	(0.370)	(2.070)	(1.037)	(0.875)	(1.260)	(0.039)	(0.357)	(1.016)	(2.010)	(-0.584)	(-0.646)	(1.103)

Table continued on the next page

.

Dependent variable = Dividend Amount	Myopia Analysis								Monitoring Analysis			
	Investment		Real Earnings Management (*RAM1*)		Real Earnings Management (*RAM2*)		Analyst Coverage		Agency Costs (*Shareholder Valuation of Cash*)		Agency Costs (*SG&A Expenses*)	
	High	**Low**	**High**	**Low**	**High**	**Low**	**High**	**Low**	**High**	**Low**	**High**	**Low**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Return Variability	-0.136***	-0.051*	-0.044	-0.095**	-0.043	-0.077**	-0.226***	-0.022	-0.085**	-0.101***	-0.058**	-0.063
	(-2.700)	(-1.660)	(-0.858)	(-2.221)	(-0.819)	(-2.052)	(-2.645)	(-0.889)	(-2.116)	(-3.105)	(-2.202)	(-1.300)
Negative Earnings	0.008	-0.043**	-0.052**	0.056**	-0.029	0.037*	-0.067	-0.017	-0.053*	0.008	0.007	-0.027
	(0.224)	(-1.986)	(-2.069)	(2.454)	(-1.146)	(1.681)	(-1.455)	(-0.830)	(-1.878)	(0.351)	(0.314)	(-1.176)
Constant	-0.553	-1.209***	-0.991*	-1.691***	-1.234**	-1.389***	-2.938***	-1.153***	-0.436	-1.325***	-1.063***	-1.684***
	(-1.175)	(-3.617)	(-1.943)	(-4.260)	(-2.182)	(-3.147)	(-4.025)	(-3.324)	(-0.591)	(-5.745)	(-3.800)	(-3.223)
Observations	1,678	4,379	1,919	1,480	1,980	1,419	1,830	3,109	2,398	3,679	1,566	2,511
Adjusted R-squared	82.6%	81.5%	78.3%	87.8%	78.8%	89.8%	81.9%	84.5%	75.1%	87.1%	87.4%	78.9%
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm

Notes: This Table presents the results of regression analyses examining the effect of higher reporting frequency on dividend payments depending on observed indicators of managerial myopia (columns (1) to (8)) and firm agency costs (columns (9) to (12)). Columns (1) and (2) display regression results separately for firms with high investment and low investment measured by Capital Expenditures divided by beginning period Net Property Plan and Equipment. Columns (3) to (6) display regression results for indicators of real earnings management based on prior literature. Columns (3) and (4) display regression results for firms with high and low real earnings management (RAM1) defined as the sum of negative abnormal cash flows, negative abnormal discretionary expenses and abnormal production (e.g., Cohen et al. 2008). Columns (7) and (8) display regression results for firms with high and low real earnings management defined as the sum of negative abnormal discretionary expenses and abnormal production (e.g., Roychowdhury 2006; Ernstberger et al. 2017). Columns (7) and (8) display results for firms with a high and a low number of analysts covering the firm, as an increased analyst following may put pressure on management to act myopically (e.g., Yu 2008). I thus expect more myopic firms to feature lower investment, higher real activity manipulation to manage earnings upward and a higher analyst following. Columns (9) and (10) provide regression results for firms with high agency costs measured by the shareholder valuation of cash (Faulkender and Wang 2006; Downar et al. 2018) multiplied by minus 1, such that higher values indicate higher agency costs. Columns (11) and (12) exhibit regression results for firms with high and low levels of SGA expenses. Firms with higher agency costs, for which monitoring benefits from more frequent disclosure should be highest, are expected to feature higher (negative) shareholder valuation of cash (CASH_AC) and higher SG&A expenses (SGA), e.g., due to empire building. For all variables the sample is split at the mean. All variables are defined in the Appendix A3. All continuous variables are winsorized at the 1st and 99th percentiles. ***, **, and * refer to statistical significance at the 1 percent, 5 percent, and 10 percent levels respectively, using a two-tailed test. Standard errors are clustered by firm, and t-statistics are reported in parentheses.

3.5. Robustness Tests

In this section I conduct a battery of robustness checks to verify that the observed increase in dividend payments is the result of the mandated increase in disclosure frequency through IMS reporting. The robustness checks are summarized in four parts. First, I test the robustness of the results to alternative sample compositions to ensure that they are not driven by sample characteristics. Second, I examine the influence of measuring dividend payments. Third, I verify that additional control variables are not driving my results. Last, I conduct and report several additional sensitivity analyses, which remain unablated for the sake of brevity and conciseness.

3.5.1. Alternative Sample Compositions

My main analyses rely on a matched sample of firms from EU-15 countries, where each treatment firm is matched to a control firm based on firm size and profitability. While this approach allows me to control for any non-linearities in size and profitability, it may come with the drawback of reduced generalizability (e.g., Cram et al. 2009). To ensure that the matching procedure does not have an influence on my results, I estimate the model in equation (1) using all 7,965 observations after the sample selection but prior to the matching procedure. Column (1) of Table 3-6 reports the results. The coefficient on the difference-in-differences term is still significant at the 5 percent level and comparable in size (coef.: 0.049, $p<0.05$) to the coefficient obtained from the main analysis reported in Table 3-3 (coef.: 0.04, $p<0.05$).[40] Hence the results appear robust towards the matching procedure.

Because the implementation period of the TD from 2007 to 2009 coincides with the global financial crisis in 2008 and 2009, one concern is that my results may be influenced by the financial crisis. Although the year and firm fixed effects included in all models should

---

[40] I obtain virtually unchanged results when matching on firm size, profitability and growth opportunities proxied by the market to book ratio as in Downar et al. (2018) or when matching on size defined as the market value of equity only as in Koo et al. (2017).

capture a significant part of the variation in dividend payments caused by the financial crisis or firms in distress, the results might be influenced by variation from the financial crisis or distressed firms, which is not constant across time for each firm or not constant across firms for the financial crisis years. For example, because firms in distress or firms during the financial crisis should ceteris paribus exhibit lower dividend payments. To address this concern, I drop the years of the global financial crisis 2008 and 2009 and I also exclude distressed firms, defined as firms with a market to book ratio less than 1 or firms which feature negative book value of common equity. Column (2) of Table 3-6 reports the results. The coefficient on the difference-in-differences term is still significantly positive (coef.: 0.045, p<0.05) and comparable in size and significance to the coefficient obtained from the main analysis reported in Table 3-3 (coef.: 0.04, p<0.05). Thus, the results do not seem to be driven by the financial crisis or by distressed firms.

Because I investigate a multi-country European setting, another concern is that my results may be influenced by differences in country characteristics. For example, my results could be influenced by differences in the institutions, by contemporaneous reforms or by firms facing financial markets with different characteristics and thus a different importance of equity market financing and investor satisfaction (e.g., La Porta et al. 2000; Aivazian et al. 2003). To address these concerns, I first exclude all observations form countries with high stock-market importance, defined as above average total equity market capitalization to gross domestic product (GDP) ratios.[41] Column (3) of Table 3-6 displays the results. The coefficient on the difference-in-differences term is still significantly positive at the 10 percent level (coef.:0.05, p<0.1) and comparable in size to the coefficient obtained from the main analysis reported in Table 3-3 (coef.: 0.04, p<0.05). Thus, differences in the importance and size of equity capital markets do not drive my results. Second, I exclude all observations

---

[41] This leads to 3194 observations being excluded from the sample. The vast majority of these observations are from the United Kingdom (1334), Sweden (702), France (559), Finland (268) and Spain (167).

from countries with contemporaneous reforms to reduce the influence of confounding events. In detail I exclude observations from Sweden and Ireland because these countries implemented new enforcement concurrent with the TD. Column (4) of Table 3-6 presents the results. The coefficient on the difference-in-differences term is still significantly positive (coef: 0.032, $p<0.1$). Hence the increase in dividends is robust to excluding countries with contemporaneous enforcement reforms. Third, I exclude all observations from countries Greece, Ireland, Italy, Portugal and Spain because these countries featured high country debt to GDP ratios and were most affected by the Euro crisis from 2010 to 2012, which may have had an adverse influence on the willingness of investors to invest in these countries and thus could have put pressure on firms from these countries to increase total return to shareholders by increasing dividend payments. Column (5) of Table 3-6 depicts the results. The coefficient on the difference-in-differences term is still significantly positive (coef: 0.045, $p<0.05$) and comparable in size to the coefficient obtained from the main analysis reported in Table 3-3 (coef.: 0.04, $p<0.05$). Thus, I do not obtain an indication that the results are influenced by countries with high debt to GDP ratios.

Ultimately, I restrict my sample to contain only German firms. The focus on German firms allows me to exploit within country variation in mandatory disclosure frequency because the mandatory reporting frequency in Germany depends on the stock market segment of the firm. Investigating the effect of higher disclosure frequency on dividend payments by exploiting within country variation in mandatory disclosure frequency has the distinct advantages that it enables me to limit any cross-country influence on my results and that it improves the likelihood that the year fixed effects capture the full extent of any other external shocks to dividend payments at the expense of reduced generalizability. Column (6) of Table 3-5 presents the results. The coefficient of the difference-in-differences term is still highly positively significant (coef: 0.198, $p<0.01$), consistent with the increase in dividends paid as a result of the increased disclosure frequency documented in my main multi-country

analyses. Therefore, the increase in dividends is robust to cross-country differences and

matching across countries should not drive my results.

Table 3-6 The Influence of Alternative Sample Compositions

Dependent variable = *Dividend Amount*	**Unmatched Analysis**	**Analysis excluding financial crisis and distressed firms**	**Analysis excluding countries with high stock market importance**	**Analysis excluding Ireland and Sweden**	**Analysis excluding countries with high debt**	**Within Country Analysis for Germany**
	(1)	(2)	(3)	(4)	(5)	(6)
Variables of Interest						
POST	-0.027	0.038**	0.065	0.007	-0.002	0.038
	(-1.479)	(2.057)	(1.059)	(0.409)	(-0.059)	(0.891)
DIFF-IN-DIFF	0.049**	0.045**	0.050*	0.032*	0.045**	0.198***
	(2.206)	(2.238)	(1.886)	(1.649)	(2.069)	(2.637)
Control Variables						
Dividend Payer (t-1)	0.153***	0.124***	0.128***	0.120***	0.150***	0.113***
	(6.569)	(5.095)	(4.570)	(6.070)	(6.383)	(3.221)
Share Buy Back	0.014	0.011	0.011	0.009	0.018*	0.034
	(1.324)	(0.929)	(0.774)	(0.959)	(1.649)	(1.077)
Size	0.098***	0.125***	0.087***	0.085***	0.106***	0.171***
	(4.643)	(6.215)	(4.617)	(4.144)	(4.705)	(3.302)
Profitability	0.040	0.388***	0.256***	0.406***	0.353***	0.466**
	(1.386)	(4.932)	(3.585)	(5.910)	(5.258)	(2.065)
Market to Book	0.013**	0.051***	0.029***	0.045***	0.040***	0.106***
	(2.449)	(5.010)	(3.890)	(4.691)	(4.902)	(2.742)
Leverage	-0.035	-0.331***	-0.212***	-0.276***	-0.282***	-0.390**
	(-1.416)	(-4.184)	(-3.304)	(-4.605)	(-4.313)	(-2.515)
Return	0.017**	-0.011	0.020*	0.016*	0.027***	-0.003
	(2.187)	(-0.929)	(1.691)	(1.834)	(2.641)	(-0.132)
Return Variability	-0.013	-0.052*	-0.080**	-0.084***	-0.101***	-0.203**
	(-0.981)	(-1.761)	(-2.407)	(-3.307)	(-3.398)	(-2.188)
Negative Earnings	-0.111***	0.013	-0.037	-0.027	-0.041**	-0.053
	(-5.311)	(0.521)	(-1.593)	(-1.490)	(-1.965)	(-0.972)
Constant	-1.030***	-1.463***	-0.943***	-0.898***	-1.148***	-1.969***
	(-3.796)	(-5.548)	(-3.863)	(-3.321)	(-3.875)	(-2.820)
Observations	7,965	3,332	3,194	5,323	4,895	833
Adjusted R-squared	79.3%	87.5%	82.1%	82.4%	82.3%	83.3%
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm

Notes: This Table presents the results of regression analyses examining the effect of higher reporting frequency on firms' amount of dividend paid using alternative sample compositions. Column (1) displays regression results using all available observations prior to propensity score matching. Column (2) – (6) presents regression results using the sample matched on pre-treatment size and profitability. Column (2) presents results excluding the years of the global financial crisis 2008 and 2009 and distressed firms with a market-to-book ratio less than 1 or negative common equity. Column (3) presents results for regression analysis excluding observations from countries who feature above sample average values for stock market capitalization in the respective year (e.g., UK, France, Sweden). Column (4) presents results for regression analysis excluding observations from Ireland and Sweden because these countries experienced contemporaneous enforcement reforms. Column (5) depicts results excluding observations from countries with high government debt (Spain, Greece, Portugal, Italy, Ireland). Column (6) displays results using observations from Germany only because Germany exhibits within country variation in disclosure frequency. All variables are defined in the Appendix A3. All continuous variables are winsorized at the 1st and 99th percentiles. ***, **, and * refer to statistical significance at the 1 percent, 5 percent, and 10 percent levels respectively, using a two-tailed test. Standard errors are clustered at the firm level. T-statistics are reported in parentheses.Alternative dependent variables

3.5.2. Alternative Dependent Variables

To this point, my results indicate that an increase in disclosure frequency is associated with higher dividend payments and that this increase in dividend payments is robust to alternative sample selections. However, the results may also be influenced by the measurement of the dependent variable and, for example, not apply to cash dividends or alternative measures of dividends. I therefore estimate model (1) using alternative definitions for the amount of the dividends paid. All variables are defined in detail in the Appendix A3. First, I replace dividends per share used to measure the dividend amount with the natural logarithm of 1 plus dividends per share including special dividends. Column (1) of Table 3-7 displays the results. The coefficient on the difference-in-differences term is significantly positive at the 5 percent level (coef: 0.055, $p<0.05$), indicating that firms increase their dividends per share by approximately 5.5 percent, which is higher than the approximately 4 percent increase in dividends per share excluding special dividends reported in Table 3-3. Therefore, also special dividends paid and declared to shareholders appear to increase after the mandate to publish IMS. Second, I replace the measure with the logarithm of 1 plus the amount of cash dividends paid to common and preferred equity. Column (2) of Table 3-7 reports the results. The coefficient on the difference-in-differences term is significantly positive at the 10 percent level (coef.: 0.291, $p<0.1$) and the increase in the dividend amount is thus robust to using the amount of cash dividends as the dependent variable. Last, I follow Hail et al. (2014) and replace the continuous logarithmic definition of the dividend amount by binary indicator variables, which indicate an increase or decrease in dividends per share (Hail et al. 2014). Column (3) of Table 3-7 reports the results when using an indicator variable, equal to 1 if dividends per share increased year on year and 0 otherwise, as dependent variable. The coefficient on the difference-in-differences variable is significantly positive at the 10 percent level (coef.: 0.046, $p<0.1$). This indicates that treatment firms are approximately 4.6 percent more likely to increase dividends following the mandate to publish IMS than control group

firms. Column (4) of Table 3-7 reports the results when using an indicator variable equal to 1 if dividends per share decreased year on year and 0 otherwise as dependent variable. The coefficient on the difference-in-differences variable is significantly negative at the 5 percent level (coef.:-0.045, $p<0.05$). This indicates that treatment firms are approximately 4.5 percent less likely to decrease dividends following the mandate to publish IMS than control group firms. In sum, these results support the notion that firms increase their dividend amounts after the mandate to publish quarterly IMS instead of semi-annual reporting and that these results are robust to alternative definitions of the dependent variable.

Table 3-7 The Influence of Alternative Dependent Variables

	Dividend Amount (incl. Special)	Dividend Amount (Cash Dividends)	Dividend Increase	Dividend Decrease
	(1)	(2)	(3)	(4)
Variables of Interest				
POST	-0.012	-0.041	-0.029	0.040
	(-0.594)	(-0.182)	(-0.824)	(1.191)
DIFF-IN-DIFF	0.055**	0.291*	0.046*	-0.045**
	(2.053)	(1.843)	(1.782)	(-2.001)
Control Variables				
Dividend Payer (t-1)	0.140***	2.812***	0.063***	0.534***
	(5.070)	(13.288)	(2.716)	(28.531)
Share Buy Back	0.015	0.266**	0.007	0.006
	(1.189)	(2.409)	(0.440)	(0.385)
Size	0.103***	1.003***	0.090***	-0.045***
	(3.920)	(5.636)	(4.243)	(-2.611)
Profitability	0.382***	0.554	0.763***	-0.703***
	(5.858)	(0.930)	(7.526)	(-7.899)
Market to Book	0.043***	0.405***	0.055***	-0.057***
	(4.829)	(6.048)	(4.648)	(-5.130)
Leverage	-0.239***	-3.108***	-0.353***	0.165***
	(-3.227)	(-5.600)	(-4.645)	(2.593)
Return	0.016	-0.376***	0.085***	-0.068***
	(1.619)	(-3.643)	(5.501)	(-4.912)
Return Variability	-0.109***	-1.457***	-0.287***	0.219***
	(-3.234)	(-5.177)	(-7.419)	(6.153)
Negative Earnings	-0.042*	-0.595***	-0.086***	0.009
	(-1.711)	(-3.310)	(-3.562)	(0.418)
Constant	-1.129***	-7.627***	-0.547*	0.355
	(-3.270)	(-3.304)	(-1.955)	(1.563)
Observations	6,083	6,048	6,083	6,083
Adjusted R-squared	77.7%	76.1%	42.9%	33.3%
Year Fixed Effects	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm

Notes: This Table presents the results of regression analyses examining the influence of higher reporting frequency on the amount of dividends paid for alternative definitions of the dependent variable. Column (1) depicts results of difference-in-differences analysis using the natural logarithm of 1 plus Dividends per Share including special dividends as the dependent variable. Column (2) presents results of difference-in-differences analysis using the natural logarithm of 1 plus Cash Dividends paid as the dependent variable. Columns (3) and (4) display results of difference-in-differences analysis using binary variables indicating increases (column (3)) or decreases (column (4) in Dividends per Share changes as the dependent variable (Hail et al. 2014). All variables are defined in the Appendix A3. All continuous variables are winsorized at the 1st and 99th percentiles. ***, **, and * refer to statistical significance at the 1 percent, 5 percent, and 10 percent levels respectively, using a two-tailed test. Standard errors are clustered by firm, and t-statistics are reported in parentheses.

3.5.3. Alternative Control Variables

Next, I examine the robustness of my results to including alternative control variables. In detail, I include three additional control variables. All variables are defined in detail in the Appendix A3. First, I include operating cash flow scaled by beginning period total assets to capture any differences in firms' cash generation ability because firms with higher cashflows are more likely to pay dividends, for example because they may face more severe agency conflicts (e.g., Fenn and Liang 2001). The results are presented in Column (1) of Table 3-8. The coefficient on the difference-in-differences term is still significant at the 5 percent level (coef.: 0.041, $p<0.05$). Second, I include reporting quality as defined by Koo et al. (2017) as an additional control because reporting quality has been shown to be positively associated with dividend payments to ensure that the results are not driven by differences in reporting quality. Column (2) of Table 3-8 depicts the results. The coefficient on the difference-in-differences term is still significant at the 10 percent level (coef.: 0.048, $p<0.1$). Third, I follow prior literature (e.g., DeAngelo et al. 2006; Hail et al. 2014; Koo et al. 2017) and include retained earnings scaled by common equity as a control to account for differences in firm maturity and life cycle. Column (3) of Table 3-8- presents the results. The coefficient on the difference-in-differences term is still significant at the 5 percent level (coef.: 0.040, $p<0.05$). Last, I include all three controls at the same time and still find significantly higher dividend payments by firms after the mandate to issue IMS. Moreover, the explanatory power of the models is almost unchanged at approximately 82 percent. I conclude that alternative controls do not significantly influence my results but come at the expense of additional constraints on the number of observations without significantly increasing explanatory power of the model or providing strong evidence of statically significant relationships between all additional controls and dividend payments.

Table 3-8 The Influence of Alternative Control Variables

	Dividend Amount	Dividend Amount	Dividend Amount	Dividend Amount
	(1)	(2)	(3)	(4)
Variables of Interest				
POST	-0.004	-0.010	-0.003	-0.013
	(-0.230)	(-0.512)	(-0.201)	(-0.699)
DIFF-IN-DIFF	0.041**	0.048*	0.040**	0.048*
	(2.172)	(1.951)	(2.104)	(1.930)
Additional Control Variables				
Cash Flow from Operations	0.147**			0.198***
	(2.539)			(3.016)
Reporting Quality		-0.143		-0.125
		(-0.661)		(-0.571)
Retained Earnings			-0.001	-0.001
			(-0.589)	(-0.467)
Control Variables				
Dividend Payer (t-1)	0.125***	0.104***	0.122***	0.104***
	(6.807)	(5.826)	(6.656)	(5.737)
Share Buy Back	0.017*	0.020**	0.016*	0.019*
	(1.751)	(2.036)	(1.680)	(1.914)
Size	0.087***	0.091***	0.087***	0.092***
	(4.590)	(3.568)	(4.517)	(3.566)
Profitability	0.327***	0.399***	0.378***	0.325***
	(5.036)	(5.437)	(6.111)	(4.308)
Market to Book	0.041***	0.043***	0.041***	0.042***
	(5.109)	(4.537)	(5.108)	(4.374)
Leverage	-0.256***	-0.299***	-0.269***	-0.291***
	(-4.538)	(-4.389)	(-4.779)	(-4.254)
Return	0.015*	0.021**	0.015*	0.018**
	(1.778)	(2.353)	(1.815)	(2.061)
Return Variability	-0.086***	-0.086***	-0.093***	-0.089***
	(-3.557)	(-3.039)	(-3.818)	(-3.097)
Negative Earnings	-0.032*	-0.031	-0.031*	-0.034*
	(-1.810)	(-1.577)	(-1.772)	(-1.704)
Constant	-0.934***	-0.909***	-0.922***	-0.927***
	(-3.744)	(-2.682)	(-3.653)	(-2.707)
Observations	6,083	5,041	6,024	4,983
Adjusted R-squared	81.6%	82.9%	81.2%	82.6%
Year Fixed Effects	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm

Notes: This Table presents the results of regression analyses examining the influence of higher reporting frequency on the amount of Dividends paid for an extended set of control variables. Column (1) depicts results if Cash Flow from Operations is added as a control. Column (2) presents results when accounting quality is introduced as an additional control variable (Koo et al. 2017). Column (3) displays results using retained earnings as control variable. Column (4) adds all three additional controls simultaneously. All variables are defined in the Appendix A3. All continuous variables are winsorized at the 1st and 99th percentiles. ***, **, and * refer to statistical significance at the 1 percent, 5 percent, and 10 percent levels respectively, using a two-tailed test. Standard errors are clustered by firm, and t-statistics are reported in parentheses.

3.5.4. Other Sensitivity Analyses

To further validate my findings, I conduct a number of additional sensitivity analysis, which remain unreported due to space constraints. First, I exclude all observations from small countries with less than 100 observations in my final matched sample, i.e., I exclude observations from Austria, Belgium, Denmark and Luxembourg. I obtain virtually unchanged results and no indication that small country bias influences my results. Second, I exclude all observations from Germany to ensure that within country variation in Germany does not influence my results. I obtain virtually unchanged results. Third, I exclude observations from Spain and Italy because both countries effectively implemented lower reporting requirements by adopting the TD, which required IMS instead of full quarterly financial statements required in pre-TD years. However, the regulators Commissione Nazionale per le Societa e la Borsa (CONSAB) and Comision Nacional del Mercado de Valores (CNMV) strongly encourage continuation of quarterly reporting (Link 2012). I obtain virtually unchanged results. Fourth, I replace the dependent variable with total payouts to shareholders defined as the natural logarithm of 1 plus dividend payments and share buybacks (excluding and including changes in preferred equity) based on total or cash only measures. I obtain consistent results, i.e., an increase in total payouts to shareholders for all measures[42] at the 5 to 10 percent level. Fifth, I investigate if the amount paid out to shareholders through share buybacks changes after the implementation of the TD. The results do not support an increase in the amount of share buybacks. Taken together these two results suggest that the increase in dividend payments is not the result of substitution from share buybacks and increases total payouts to shareholders. Sixth, I investigate the amount of dividend payments and exclude all years, except for observations 1 year respectively 2 years before and after the entry into force year of the TD, to control for the divergent time

---

[42] The three measures are: total payouts to all shareholders, total cash payouts to all shareholders, total cash payouts to common shareholders.

period before and after the implementation of the regulation in my full sample. I still obtain virtually unchanged results for both sub-samples (1 year before/after the entry into force year, 2 years before/after the entry into force year).

3.6. Conclusion

I examine the effect of more frequent disclosure on dividend payments. Prior studies emphasize two possible links between disclosure and dividend payments: first the signaling explanation, according to which more frequent disclosure may improve transparency and thereby decrease dividends, and second the agency cost explanation, according to which more frequent disclosure may improve shareholder monitoring and thereby increase dividends. I contend that in addition to these two links, more frequent may foster managerial myopia and thereby increase dividends. To test this alternative explanation, I exploit a natural experiment in the European Union, the implementation of the Transparency Directive (TD), which represents an exogenous increase in reporting frequency for firms from countries which required only semi-annual reporting prior to the implementation of the TD. I employ a difference-in-differences estimator on a matched sample of EU-15 firms and find that firms newly required to disclose quarterly increase the amount of dividends paid compared to firms which had to disclose quarterly prior to the TD. This effect is robust to alternative sample compositions, the matching procedure and various sensitivity analysis. Furthermore, the increase in dividends is only present for firms with higher values of indicators for managerial myopia such as lower investment and higher real earnings management. However, I do not find significant variation in the effect between firms with high and low values of indicators for expected and ex post agency costs. Overall, these results support the notion that firms increase dividends to shareholders due to managerial myopia and not due to shareholder monitoring.

My study is subject to limitations. First, I investigate individual outcomes of more frequent disclosure and am therefore not able to draw an overall conclusion on the costs and benefits of more frequent disclosure. Second, the theoretical constructs of agency costs and managerial myopia are unobservable by nature and hence I have to rely on measures of agency costs and managerial myopia established by prior literature. Although the results hold for alternative measures of managerial myopia and agency costs, I cannot completely rule-out that measurement error in the indicators or omitted variables may influence the results.

3.7. References

Aivazian, Varouj; Booth, Laurence; Cleary, Sean (2003): Dividend Policy and the Organization of Capital Markets. In *Journal of Multinational Financial Management* 13 (2), pp. 101–121. DOI: 10.1016/S1042-444X(02)00038-5.

Alsin, Arne (2017): The Ugly Truth Behind Stock Buybacks. Edited by Forbes. Available online at https://www.forbes.com/sites/aalsin/2017/02/28/shareholders-should-be-required-to-vote-on-stock-buybacks/#36d55dd16b1e, last accessed on 05.12.2019.

Atkins, Ralph (2015): Will Share Buyback Craze Spread to Europe? Edited by Financial Times. Available online at https://www.ft.com/content/c469c1f4-047b-11e5-95ad-00144feabdc0, last accessed on 05.12.2019.

Baker, H. Kent; Weigand, Rob (2015): Corporate dividend policy revisited. In *Managerial Finance* 41 (2), pp. 126–144. DOI: 10.1108/MF-03-2014-0077.

Baker, Malcolm; Wurgler, Jeffrey (2004): Appearing and disappearing dividends: The link to catering incentives. In *Journal of Financial Economics* 73 (2), pp. 271–288. DOI: 10.1016/j.jfineco.2003.08.001.

Bourveau, Thomas; Lou, Yun; Wang, Rencheng (2018): Shareholder Litigation and Corporate Disclosure: Evidence from Derivative Lawsuits. In *Journal of Accounting Research* 56 (3), pp. 797–842. DOI: 10.1111/1475-679X.12191.

Brav, Alon; Graham, John R.; Harvey, Campbell R.; Michaely, Roni (2005): Payout Policy in the 21st Century. In *Journal of Financial Economics* 77 (3), pp. 483–527. DOI: 10.1016/j.jfineco.2004.07.004.

Bushman, Robert M.; Smith, Abbie J. (2001): Financial accounting information and corporate governance. In *Journal of Accounting and Economics* 32 (1-3), pp. 237–333. DOI: 10.1016/S0165-4101(01)00027-1.

Christensen, Hans B.; Hail, Luzi; Leuz, Christian (2016): Capital-Market Effects of Securities Regulation: Prior Conditions, Implementation, and Enforcement. In *Review of Financial Studies.* 29 (11), pp. 2885–2924. DOI: 10.1093/rfs/hhw055.

Cohen, Daniel A.; Dey, Aiyesha; Lys, Thomas Z. (2008): Real and Accrual-Based Earnings Management in the Pre- and Post-Sarbanes-Oxley Periods. In *The Accounting Review* 83 (3), pp. 757–787. DOI: 10.2308/accr.2008.83.3.757.

Cram, Donald P.; Karan, Vijay; Stuart, Iris (2009): Three Threats to Validity of Choice-based and Matched-Sample Studies in Accounting Research. In *Contemporary Accounting Research* 26 (2), pp. 477–516. DOI: 10.1506/car.26.2.7.

Daniel, Naveen D.; Denis, David J.; Naveen, Lalitha (2008): Do Firms Manage Earnings to Meet Dividend Thresholds? In *Journal of Accounting and Economics* 45 (1), pp. 2–26. DOI: 10.1016/j.jacceco.2007.11.002.

DeAngelo, H.; DeAngelo, L.; Stulz, R. (2006): Dividend Policy and the Earned/Contributed Capital Mix: A Test of the Life-Cycle Theory. In *Journal of Financial Economics* 81 (2), pp. 227–254. DOI: 10.1016/j.jfineco.2005.07.005.

Dechow, Patricia M.; Dichev, Ilia D. (2002): The Quality of Accruals and Earnings: The Role of Accrual Estimation Errors. In *The Accounting Review* 77 (s-1), pp. 35–59. DOI: 10.2308/accr.2002.77.s-1.35.

Downar, Benedikt; Ernstberger, Jürgen; Link, Benedikt (2018): The Monitoring Effect of More Frequent Disclosure. In *Contemporary Accounting Research* 35 (4), pp. 2058–2081. DOI: 10.1111/1911-3846.12386.

Easterbrook, Frank H. (1984): Two Agency-Cost Explanations of Dividends. In *The American Economic Review* 74 (4), pp. 650–659.

Eije, Henk von; Megginson, William L. (2008): Dividends and share repurchases in the European Union. In *Journal of Financial Economics* 89 (2), pp. 347–374. DOI: 10.1016/j.jfineco.2007.11.002.

Ernstberger, Jürgen; Link, Benedikt; Stich, Michael; Vogler, Oliver (2017): The Real Effects of Mandatory Quarterly Reporting. In *The Accounting Review* 92 (5), pp. 33–60. DOI: 10.2308/accr-51705.

European Commission (12/31/2004): Directive 2004/109/EC of the European Parliament and of the council. In *Official Journal of the European Union* (L 390/38), pp. 13–27. Available online at https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:390:0038:0057:EN:PDF, last accessed on 04.11.2019.

European Commission (11/6/2013): Directive 2013/50/EU of the parliament and of the council. In *Official Journal of the European Union* (L294), pp. 13–27. Available online at https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013L0050&from=EN, last accessed on 04.11.2019.

Faulkender, Michael; Wang, Rong (2006): Corporate Financial Policy and the Value of Cash. In *The Journal of Finance* 61 (4), pp. 1957–1990. DOI: 10.1111/j.1540-6261.2006.00894.x.

Fenn, George W.; Liang, Nellie (2001): Corporate payout policy and managerial stock incentives. In *Journal of Financial Economics* 60 (1), pp. 45–72. DOI: 10.1016/S0304-405X(01)00039-3.

Fu, Renhui; Kraft, Arthur; Zhang, Huai (2012): Financial Reporting Frequency, Information Asymmetry, and the Cost of Equity. In *Journal of Accounting and Economics* 54 (2-3), pp. 132–149. DOI: 10.1016/j.jacceco.2012.07.003.

Gigler, Frank; Kanodia, Chandra; Sapra, Haresh; Venugopalan, Raghu (2014): How Frequent Financial Reporting Can Cause Managerial Short-Termism: An Analysis of the Costs and Benefits of Increasing Reporting Frequency. In *Journal of Accounting Research* 52 (2), pp. 357–387. DOI: 10.1111/1475-679X.12043.

Hail, Luzi; Tahoun, Ahmed; Wang, Clare (2014): Dividend Payouts and Information Shocks. In *Journal of Accounting Research* 52 (2), pp. 403–456. DOI: 10.1111/1475-679X.12040.

He, Jie; Tian, Xuan (2013): The dark side of analyst coverage: The case of innovation. In *Journal of Financial Economics* 109 (3), pp. 856–878. DOI: 10.1016/j.jfineco.2013.04.001.

Jensen, Michael M. (1986): Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. In *The American Economic Review* 76 (2), pp. 323–329. Available online at https://www.jstor.org/stable/1818789?seq=1, last accessed on 05.12.2019.

Kanodia, Chandra; Lee, Deokheon (1998): Investment and Disclosure: The Disciplinary Role of Periodic Performance Reports. In *Journal of Accounting Research* 36 (1), pp. 33–55. DOI: 10.2307/2491319.

Kasanen, Eero; Kinnunen, Juha; Niskanen, Jyrki (1996): Dividend-Based Earnings Management: Empirical Evidence from Finland. In *Journal of Accounting and Economics* 22 (1-3), pp. 283–312. DOI: 10.1016/S0165-4101(96)00435-1.

Koo, David S.; Ramalingegowda, Santhosh; Yu, Yong (2017): The Effect of Financial Reporting Quality on Corporate Dividend Policy. In *Review of Accounting Studies* 22 (2), pp. 753–790. DOI: 10.1007/s11142-017-9393-3.

Kraft, Arthur G.; Vashishtha, Rahul; Venkatachalam, Mohan (2018): Frequent Financial Reporting and Managerial Myopia. In *The Accounting Review* 93 (2), pp. 249–275. DOI: 10.2308/accr-51838.

Krauskopf, Lewis (2018): Kill Quarterly Reporting? Some Investors Ring Alarm Bells. Edited by Reuters. Available online at https://www.reuters.com/article/us-usa-sec-trump-investors-analysis/kill-quarterly-reporting-some-investors-ring-alarm-bells-idUSKBN1L2227?feedType=RSS&feedName=businessNews, last accessed on 04.11.2019.

La Porta, Rafael; Lopez-de-Silanes, Florencio; Shleifer, Andrei; Vishny, Robert W. (2000): Agency Problems and Dividend Policies around the World. In *The Journal of Finance* 55 (1), pp. 1–33. DOI: 10.1111/0022-1082.00199.

Lazonick, William (2014): Profits Without Prosperity. In *Harvard Business Review* 92 (9), pp. 46–55.

Leuz, Christian; Verrecchia, Robert E. (2005): Firms' Capital Allocation Choices, Information Quality, and the Cost of Capital. In *SSRN Journal*. DOI: 10.2139/ssrn.495363.

Link, Benedikt (2012): The Struggle for a Common Interim Reporting Frequency Regime in Europe. In *Accounting in Europe* 9 (2), pp. 191–226. DOI: 10.1080/17449480.2012.720874.

Liu, Nan; Espahbodi, Reza (2014): Does Dividend Policy Drive Earnings Smoothing? In *Accounting Horizons* 28 (3), pp. 501–528. DOI: 10.2308/acch-50764.

McNichols, Maureen F. (2002): Discussion of the Quality of Accruals and Earnings: The Role of Accrual Estimation Errors. In *The Accounting Review* 77 (s-1), pp. 61–69. DOI: 10.2308/accr.2002.77.s-1.61.

Murphy, Maxwell (2015): Wachtell Lipton Sees Merits of Ditching Quarterly Reports. Edited by Wall Street Journal. Available online at https://blogs.wsj.com/cfo/2015/08/18/wachtell-lipton-sees-merits-of-ditching-quarterly-reports/, last accessed on 05.12.2019.

Myers, Stewart C. (2000): Outside Equity. In *The Journal of Finance* 55 (3), pp. 1005–1037. DOI: 10.1111/0022-1082.00239.

Nickell, Stephen; Wadhwani, Sushil B. (1987): Myopia, the 'Dividend Puzzle', and Share Prices. Edited by CEPR (CEPR Discussion Papers 155). Available online at https://ideas.repec.org/p/cpr/ceprdp/155.html, last accessed on 05.12.2019.

Roychowdhury, Sugata (2006): Earnings Management through Real Activities Manipulation. In *Journal of Accounting and Economics* 42 (3), pp. 335–370. DOI: 10.1016/j.jacceco.2006.01.002.

Smith, Alison; Mathurin, Patrick (2015): European payouts rise by more than 10%. Banks lead the way as dividends from Eurofirst 300 companies hit €187bn. Edited by Financial Times. Available online at https://www.ft.com/content/d2c1aa4a-d605-11e4-b3e7-00144feab7de, last accessed on 05.12.2019.

Stein, Jeremy C. (1989): Efficient Capital Markets, Inefficient Firms: A Model of Myopic Corporate Behavior. In *The Quarterly Journal of Economics* 104 (4), pp. 655-669. DOI: 10.2307/2937861.

Stoumbos, Robert (2017): How Does More Frequent Reporting Reduce Information Asymmetry? In *Working Paper*. Available online at

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3008708, last accessed on 20.11.2019.

Udland, Myles (2016): HILLARY: Corporate America Is Obsessed with 'Quarterly Capitalism' — Here's How I'd Change that. Edited by Business Insider. Available online at https://www.businessinsider.de/hillary-clinton-quarterly-capitalism-2016-4?r=US&IR=T, last accessed on 05.12.2019.

van Buskirk, Andrew (2012): Disclosure frequency and information asymmetry. In *Review of Quantitative Finance and Accounting* 38 (4), pp. 411–440. DOI: 10.1007/s11156-011-0237-0.

Weston, Fred J.; Siu, Juan A. (2003): Changing Motives for Share Repurchases. Edited by UCLA Finance. Available online at https://escholarship.org/uc/item/9146588t, last accessed on 05.12.2019.

Appendix A3 – Definition of Variables

Variable	Definition
Main Dependent Variables	
Dividend Decision	Indicator Variable: 1 for all firms with positive Dividends per Share (WC05110) in year t, and 0 otherwise.
Dividend Amount	The natural logarithm of 1 plus Dividends per Share (WC05110) paid in year t.
Difference-in-differences Variables	
TREATMENT	Indicator variable: 1 for all firms not required to publish quarterly disclosure for the first and third quarter prior to the TD, and 0 otherwise.
POST	Indicator variable: 1 for all fiscal-years after the respective national entry-into-force year of the Transparency Directive in each country and 0 otherwise
Control Variables	
Dividend Payer (t-1)	Indicator variable: 1 for all firms paying Dividends in year t-1, and 0 otherwise.
Share Buy Back	Indicator variable: 1 for all firms who conduct a share repurchase in year t, i.e., for all firms for which the funds used to decrease common or preferred Equity (WC04751) net of the change in preferred equity (WC03451) are positive in year t, and 0 otherwise.
Size	The natural logarithm of total assets (WC02999) at the end of year t.
Profitability	Earnings before interest and taxes (WC18191) in year t divided by total assets (WC02999) at the end of year t-1.
Market to Book	Total assets (WC02999) at the end of year t less common equity (WC03501) at the end of year t plus market value of equity at fiscal year-end (WC08002) divided by total assets (WC02999) at the end of year t.
Leverage	Total debt (WC03255) at the end of year t divided by total assets (WC02999) at the end of year t.
Return	Annual stock return during the fiscal year t calculated based on a total return Index (RI).
Return Variability	Annualized standard deviation of the firm's daily absolute returns calculated based on a total return index (RI) over the fiscal year t multiplied by 100.
Negative Earnings	Indicator Variable: 1 for firms with negative earnings before interest and taxes (WC18191) in year t, and 0 otherwise.

Pre-Treatment Trend Analysis

Event(t=-1)	Indicator variable which equals 1 for the year of implementation of the Transparency Directive in the respective country and 0 otherwise.
Event(t=0)	Indicator variable which equals 1 for the year t+1 after the year of implementation of the Transparency Directive in the respective country and 0 otherwise.
Event(t=1)	Indicator variable which equals 1 for the year t+2 after the year of implementation of the Transparency Directive in the respective country and 0 otherwise.
Event(t=2+)	Indicator variable which equals 1 for the years t+3 and following after the year of implementation of the Transparency Directive in the respective country and 0 otherwise.

Alternative Dividend Amount Measures

Dividend Amount (incl. Special)	The natural logarithm of 1 plus Dividends per Share including extra dividends (WC05101) paid by the firm in year t.
Dividend Amount (Cash Dividends)	The natural logarithm of 1 plus Cash Dividends paid by the firm (WC05376).
Dividend Increase	Indicator Variable: 1 if Dividends per Share (WC05110) increased from year t-1 to year t, and 0 otherwise. (Hail et al.2014)
Dividend Decrease	Indicator Variable: 1 if Dividends per Share (WC05110) decreased from year t-1 to year t, and 0 otherwise. (Hail et al.2014)

Additional Control Variables

Cash Flow from Operations	Operating Cash Flow (WC04860) in year t divided by Total Assets (WC02999) at the end of year t-1.
Reporting Quality	Reporting Quality based on the framework by Dechow and Dichev (2002) modified by McNichols (2002). As a first step the following equation is estimated for each industry-year with at least 15 observations using the Fama French 12 Industry classification: $\Delta WC_{it} = \beta_0 + \beta_1 CFO_{it-1} + \beta_2 CFO_{it+1} + \beta_2 \Delta REV_{it} + \beta_4 PPE_{it} + \varepsilon_{it}$ Where: ΔWC_{it} is the change in working capital at the end of year t, i.e., the change in net receivables (WC02051) plus the change in inventories (WC02101) less the change in accounts payable (WC03040) and the change in accrued taxes (WC03060) from year t-1 to year t. CFO is cash flow from operations (WC04860). ΔREV is the change in revenues (WC01001) and PPE is net property, plant and equipment (WC02501). All variables are divided by average total assets (WC02999) from year t-1 to year t+1. Reporting quality is estimated by taking the estimated residual from this regression $\widehat{\varepsilon_{it}}$, calculating the standard deviation of the residuals over the last 5 years and taking the negative value such that higher values indicate higher reporting quality (Koo et al. 2017).
Retained Earnings	Retained Earnings (WC03495) at the end of year t divided by Common Equity (WC03501) at the end of year t.

Channel Analysis

Investment	Capital expenditure (WC0461) in year t divided by net property plant and equipment (WC02501) at the end of year t-1.
Real Earnings Management (RAM1 and RAM2)	Real earnings management based on the model by Roychowdhury (2006) as used by Cohen et al. (2008) and Ernstberger et al. (2017). As a first step the following regressions are estimated for each industry-year with more than 15 observations using the Fama-French 12 Industry classification: $$\frac{PROD_{it}}{Assets_{it-1}} = \propto_0 + \propto_1 \frac{1}{Assets_{it-1}} + \propto_2 \frac{Rev_{it}}{Assets_{it-1}} + \propto_3 \frac{\Delta Rev_{it}}{Assets_{it-1}} + \propto_4 \frac{\Delta Rev_{it-1}}{Assets_{it-1}} + \varepsilon_{it} \qquad (1)$$ Where: $PROD$ are production costs, respectively cost of goods sold (WC01051), Rev are revenues (WC01001), ΔRev is the change in revenues and $Assets$ are total assets (WC02999). Abnormal production costs $APROD_{it}$ are then defined as the estimated residuals ($\widehat{\varepsilon_{it}}.$) of regression (1). $$\frac{DISX_{it}}{Assets_{it-1}} = \propto_0 + \propto_1 \frac{1}{Assets_{it-1}} + \propto_2 \frac{Rev_{it-1}}{Assets_{it-1}} + \varepsilon_{it} \quad (2)$$ Where: $DISX_{it}$ are discretionary expenses respectively the sum of research and development expenses (WC01201) and sales, general and administrative expenses (WC01101)in year t, Rev_{it} are revenues (WC01001) in year t, ΔRev is the change in revenues and $Assets$ are total assets (WC02999). Following prior literature (Roychowdhury 2006; Ernstberger et al. 2017), missing research and development expenses are set to 0 if sales, general and administrative expenses are available. Abnormal discretionary expenses $ADISX_{it}$ are then defined as the estimated residuals ($\widehat{\varepsilon_{it}}.$) of regression (2) and multiplied by -1. $$\frac{CFO_{it}}{Assets_{it-1}} = \propto_0 + \propto_1 \frac{1}{Assets_{it-1}} + \propto_2 \frac{Rev_{it}}{Assets_{it-1}} + \propto_3 \frac{\Delta Rev_{it}}{Assets_{it-1}} + \varepsilon_{it} \qquad (3)$$ Where: CFO_{it} are cash flow from operations. Rev_{it} are revenues (WC01001) in year t, ΔRev is the change in revenues and $Assets$ are total assets (WC02999). Abnormal cash flows $ACFO_{it}$ are then defined as the estimated residuals ($\widehat{\varepsilon_{it}}.$) of regression (3) and multiplied by -1. The measures of real earnings management are then defined as $RAM1_{it}$, the sum of $APROD_{it}$ and $ADISX_{it}$ and $ACFO_{it}$; and $RAM2_{it}$ the sum of $APROD_{it}$ and $ADISX_{it}$.

Table continued on next page

Analyst Coverage	Number of analyst estimates for 1 year ahead EPS (EPS1NE)
Shareholder Valuation of Cash	The mean value of the Market Value of Cash (*CASH_AC*). As a first step, I estimate the following regression: $ABNORMAL_{it} = \beta_0 + \beta_1 DELTACASH_{it} + \beta_2 DELTACASH_{it} \times LEV_{it} + \beta_2 DELTACASH_{it} \times CASH_{it-1} + \beta_{3-10} Controls_{it} + \varepsilon_{it}$, Where all variables are as defined by Downar et al. (2018). The market value of cash (CASH_AC) is estimated as the fitted value for each firm-year: $$\widehat{CASH_{AC}}_{it} = \hat{\beta}_1 DELTACASH_{it} + \hat{\beta}_2 DELTACASH_{it} \times LEV_{it} + \hat{\beta}_3 DELTACASH_{it} \times CASH_{it-1}$$ Where $\hat{\beta}_1$, $\hat{\beta}_2$ and $\hat{\beta}_3$ are estimated coefficients from the first equation.
SG&A Expenses	Sales, general and administrative (SG&A) expenses in year t (WC01001) divided by total assets (WC02999) at the end of year t.

Notes: This Appendix includes all variables used in this Chapter. If one of the measures required to calculate the variables used in the analysis, the variables are set to missing. All continuous variables are converted to USD to facilitate interpretation using end-of-fiscal year exchange rates.

4. Praxis der Quartalsberichterstattung in Österreich – erste empirische Evidenz zur Abschaffung der verpflichtenden Quartalsberichterstattung

Abstract

Als Folge der Richtlinie 2013/50/EU ist die gesetzlich normierte Quartalsberichterstattung in Europa nahezu abgeschafft worden und auch zahlreiche Börsenbetreiber haben ihre Berichtsanforderungen reduziert. Die Wiener Börse ist dem Trend zunächst nicht gefolgt und hat erst am 20.02.2019 die verpflichtende Quartalsberichterstattung für Unternehmen im Marktsegment prime market aufgehoben. Der vorliegende Beitrag analysiert, welche kurzfristigen Konsequenzen aus der Deregulierung, zum einen für die Anzahl der Unternehmen die weiterhin Quartalsberichte veröffentlichen und zum anderen für die Form und den Inhalt der nun freiwillig veröffentlichten Quartalsberichte, resultieren. Die Ergebnisse zeigen, dass bereits im ersten Quartal nach Abschaffung der Quartalsberichterstattungspflicht einige Unternehmen keine dedizierten Quartalsberichte veröffentlichen und sich auf alternative Berichtsformen, wie Pressemitteilungen oder Präsentationen für Investoren, beschränken. Für jene Unternehmen, die weiterhin dedizierte Quartalsberichte veröffentlichen, sind deutliche Kürzungen in Berichtsumfang und Inhalt festzustellen. Die inhaltlichen Kürzungen betreffen vor allem qualitative Angaben und nur im geringem Maße quantitative Angaben.

4.1. Einleitung

Die optimale Frequenz der unterjährigen Berichterstattung von Unternehmen ist weltweit weiterhin ein kontrovers diskutiertes Thema in Forschung und Praxis.[43] Während auf europäischer Ebene, mit der Richtlinie 2004/109/EG und der Richtlinie 2013/50/EU, die verpflichtende Quartalsberichterstattung[44] für börsennotierte Unternehmen zunächst vorgeschrieben und danach wieder abgeschafft wurde[45], wird in den USA eine Abschaffung der verpflichtenden Quartalsberichterstattung aktuell intensiv diskutiert.[46] Bis Anfang 2019 bestand in Europa eine Quartalsberichterstattungspflicht nur noch für bestimmte Unternehmen in vier Ländern: Deutschland, Schweden, Spanien und Österreich.[47] Seit dem 20.02.2019 besteht diese Pflicht nur noch in drei Ländern, da die Wiener Börse die Pflicht zur Veröffentlichung von Quartalsberichten für Unternehmen des Marktsegments prime market abgeschafft hat.[48]

Diese Deregulierung ist aus mehreren Gründen von besonderer Relevanz. Zum einen mussten Unternehmen im prime market, bis zuletzt, umfangreiche Quartalsberichte in Anlehnung an IAS 34 veröffentlichen.[49] In den übrigen Ländern mit verpflichtender Quartalsberichterstattung sind lediglich verkürzte Quartalsberichte, vergleichbar zu den Interim Management Statements gem. Richtlinie 2004/109/EG vorgeschrieben.[50] Weiterhin

---

[43] Beispielhaft seien hier die Beiträge von Ernstberger et al. (2017), Tausch-Nebel et al. (2017), Downar et al. (2018), Gluch et al. (2019) und Kajüter et al. (2019) genannt.

[44] Im Rahmen dieses Beitrages wird der Begriff Quartalsbericht als Oberbegriff für verschiedene Formen der quartalsweisen Berichterstattung, wie z.B. Quartalsfinanzberichte gem. IAS 34 oder Zwischenmitteilungen der Geschäftsführung, genutzt.

[45] Zur Umsetzung der Richtlinie 2004/109/EG in Europa verweisen wir auf Link (2012) und zur Umsetzung der Richtlinie 2013/50/EU verweisen wir auf Erkilet and Kasperzak (2019).

[46] Vgl. United States Securities and Exchange Commission (2018).

[47] Mit Ausnahme von Spanien erfolgt dabei die Regulierung auf Ebene der jeweiligen Börsenbetreiber, vgl. Erkilet and Kasperzak (2019, S. 143).

[48] Vgl. Wiener Börse (2019a). Das Marktsegment prime market umfasst die 39 größten und liquidesten österreichischen Unternehmen. Der prime market ist das Marktsegment der Wiener Börse mit den höchsten Transparenzanforderungen. Für Unternehmen in anderen Marktsegmenten besteht bereits seit Umsetzung der Richtlinie 2013/50/EU keine Pflicht zur Quartalsberichterstattung mehr, vgl. Spatz (2016, S. 39).

[49] Gegenüber IAS 34 war lediglich die Veröffentlichung von Anhangangaben nicht verpflichtend vorgeschrieben. Vgl. Gstatter (2016, S. 30).

[50] Vgl. Erkilet and Kasperzak (2019, S. 143).

ist die Deregulierung losgelöst von den Anpassungen in anderen EU-Mitgliedsstaaten und keine direkte Folge der Richtlinie 2013/50/EU. Diese Re: geländerung ist zudem überraschend, da die Quartalsberichterstattung für Unternehmen des prime market eine lange Tradition hat und bis zur Einführung des Marktsegments im Jahr 2002 zurückreicht.

Die Veröffentlichung von Quartalsberichten ist seit dem ersten Quartal 2019 für alle Unternehmen in Österreich freiwillig. Die Wiener Börse strebt mit dieser Regeländerung die Senkung von Kosten für kleine Unternehmen, die Möglichkeit für Unternehmen zur individuellen, investorenorientierten Berichterstattung sowie eine Angleichung der Anforderungen an andere europäische Marktplätze an.[51]

Der vorliegende Beitrag analysiert daher, im Rahmen einer deskriptiv empirischen Studie, die kurzfristigen Konsequenzen dieser Deregulierung. Grundlage hierfür bilden die erstmalig freiwillig veröffentlichten Quartalsberichte österreichischer prime market Unternehmen für das erste Quartal 2019 sowie, als Vergleichsgruppe, die verpflichtend erstellten Quartalsberichte für das erste Quartal 2018. Die Analyse erfolgt dabei zweistufig. Zunächst erfolgt eine formale und darauf aufbauend eine inhaltliche Analyse der Quartalsberichte. In Bezug auf die Form der Berichterstattung wird aufgezeigt, dass nicht nur einige Unternehmen keine Quartalsberichte mehr veröffentlichen, sondern auch, dass zahlreiche Unternehmen Anpassungen des Veröffentlichungskanals, der Bezeichnung und der Berichtsumfänge vorgenommen haben. In Bezug auf den Inhalt der Berichte sind, insb., Kürzungen qualitativer Angaben zu beobachten. Bilanz, GuV, Gesamtergebnisrechnung, Eigenkapitalveränderungsrechnung sowie Kapitalflussrechnung werden weiterhin veröffentlicht.

---

[51] Vgl. Stern (2019a).

Die Ergebnisse dieses Beitrags liefern somit neue Erkenntnisse gegenüber bisherigen Studien zu den Konsequenzen der Deregulierung der Quartalsberichterstattung für Deutschland.[52] Dies liegt darin begründet, dass zwar, historisch betrachtet, in beiden Ländern eine vergleichbare Regulierung der Quartalsberichterstattung, durch gesetzliche und börsenrechtliche Vorschriften, bestand, allerdings deutsche Unternehmen im Marktsegment Prime Standard, gem. § 53 Börsenordnung der Frankfurter Wertpapierbörse in der Fassung (idF) vom 01.07.2019, weiterhin zur Veröffentlichung von Quartalsmitteilungen verpflichtet sind und somit (noch) keine vollständige Deregulierung stattgefunden hat.

Nachfolgend wird in Abschn. 4.2. der rechtliche Rahmen zur Quartalsberichterstattung in Österreich vorgestellt, bevor in Abschn. 4.3.. die empirische Analyse der Praxis der Quartalsberichterstattung erfolgt. Der Beitrag schließt mit einem einer Diskussion (Abschn. 4.4.) und Zusammenfassung der Ergebnisse (Abschn. 4.5.).

4.2. Entwicklung der Quartalsberichterstattung in Österreich

4.2.1. Gesetzliche Regulierung bis 2019

Die Regulierung der Quartalsberichterstattung in Österreich[53] weist, historisch betrachtet, Parallelen zur Regulierung der Quartalsberichterstattung in Deutschland auf.[54] Dies liegt mit darin begründet, dass in beiden Ländern die Pflicht zur Quartalsberichterstattung sowohl in nationaler Gesetzgebung, insb. durch Umsetzung der Richtlinien 2004/109/EG und 2013/50/EU, als auch börsenrechtlichen Vorschriften determiniert wurde bzw. wird.

---

[52] Für Deutschland verweisen wir exemplarisch auf Loy and Balzer (2017, S. 63); Pellens et al. (2017, S. 3–4); Tausch-Nebel et al. (2017, S. 164); Zülch and Hecht (2017, S. 98) und Gluch et al. (2019, S. 193).

[53] Im Rahmen des Beitrages wird die Quartalsberichterstattung gem. § 81 AktG nicht behandelt. Hierbei handelt es sich um einen internen Quartalsbericht, der sich nicht an den Kapitalmarkt richtet. Vgl. hierzu Kalss et al. (2005, S. 361).

[54] Für einen ausführlichen Überblick zur Regulierung der Quartalsberichterstattung in Deutschland verweisen wir auf Berninger and Schiereck (2016).

Korrespondierend zum deutschen § 115 WpHG (vor 2018: § 37w WpHG idF Bundesgesetzblatt[55] I Nr.48/2015[56]) ist die gesetzliche Zwischenberichterstattung, in Form von Halbjahres- und Quartalsberichten, für Unternehmen in Österreich in § 125 Börse Gesetz (BörseG) und § 126 BörseG (vor 2018: § 87 BörseG idF BGBl I Nr. 150/2015[57]) festgeschrieben.[58] Historisch betrachtet, wurde eine gesetzlich normierte Form der Quartalsberichterstattung für börsennotierte Unternehmen erstmalig mit Umsetzung des 11. Bundesgesetz: Börsefondsüberleitungsgesetz im Jahr 1998 vorgeschrieben.[59] Eine umfassende Quartalsberichterstattung gab es allerdings erst mit der Umsetzung der Richtlinie 2004/109/EG in Form des 19. Bundesgesetz: Änderung des Börsegesetzes und des Bankwesengesetzes.[60] Im Zuge dessen wurde, im Jahr 2007, § 87 BörseG idF BGBl I Nr. 78/2005[61] neu verfasst. § 87 Abs.1 BörseG idF BGBl. I Nr. 19/2007 regelte die Mindestinhalte für den Halbjahresbericht und § 87 Abs. 6 BörseG idF BGBl. I Nr. 19/2007 die Mindestinhalte für den Quartalsbericht.

Nach § 87 Abs. 6 BörseG idF BGBl. I Nr. 19/2007 waren Emittenten von Aktien, soweit sie keinen Quartalsbericht gem. IAS 34 erstellten, zur Veröffentlichung von Zwischenmitteilungen des Vorstands für das erste und dritte Quartal des Geschäftsjahres verpflichtet. Die Mindestinhalte gem. § 87 Abs. 6 Nr. 1 und Nr. 2 BörseG idF BGBl. I Nr. 19/2007 entsprachen dabei den Anforderungen gem. Art. 6 Nr. 1 der Richtlinie 2004/109/EG. § 87 Abs. 6 Nr. 1 BörseG idF BGBl. I Nr. 19/2007 konkretisierte dabei die Anforderungen noch in Bezug auf Angaben zu Auftragslage, Entwicklung der Kosten und

---

[55] Die Abkürzung BGBl. Bezieht sich in diesem Beitrag auf das österreichische Bundesgesetzblatt.
[56] Deutscher Bundestag (2015)
[57] Österreichischer Nationalrat (2015a).
[58] Wir weisen darauf hin, dass § 87 BörseG idF BGBl. I Nr. 150/2015 im Rahmen der Neufassung des BörseG in 2018 (siehe BGBl. I Nr 107/2017) aufgehoben und durch die inhaltsgleichen § 125 BörseG idF BGBl. I Nr. 107/2017 und § 126 BörseG idF BGBl. I Nr 107/2017 ersetzt wurde. Vgl. Österreichischer Nationalrat (2017).
[59] Vgl. Österreichischer Nationalrat (1998).
[60] Vgl. Österreichischer Nationalrat (2007).
[61] Vgl. Österreichischer Nationalrat (2005).

Preise, Zahl der Arbeitnehmer sowie Investitionen. Diese weiteren Angaben waren nur notwendig, soweit es für das Unternehmen wesentlich war. Eine Veröffentlichung von bspw. Bilanz, GuV, Lagebericht oder Bilanzeid war nicht vorgeschrieben. Es bestand ebenso keine Pflicht zur Prüfung oder prüferischen Durchsicht.[62] Nach § 87 Abs. 6 BörseG idF BGBl I Nr. 19/2007 hatte die Veröffentlichung spätestens sechs Wochen nach Ende des Berichtszeitraums zu erfolgen.

Mit der BörseG-Novelle 2015, zur Umsetzung der Richtlinie 2013/50/EU, wurde § 87 Abs. 6 BörseG idF BGBl. I Nr. 68/2015[63] neu verfasst und die gesetzliche Verpflichtung zur Veröffentlichung von Zwischenmitteilungen des Vorstands wurde aufgehoben.[64] Stattdessen wurde in § 87 Abs. 6 BörseG idF BGBl I Nr. 98/2015[65] nun darauf verwiesen, dass das Regelwerk der Wiener Börse für bestimmte Unternehmen eine Pflicht zur Quartalsberichterstattung vorschreiben durfte, soweit die Anforderungen nicht über die Mindestinhalte gem. IAS 34 hinausgingen. Diese Ausnahme erlaubte weiterhin eine verpflichtende Quartalsberichterstattung, allerdings nur für das Marktsegment prime market der Wiener Börse.[66] Bis heute ist diese Vorschrift materiell unverändert und wurde, im Zuge des BörseG 2018 idF BGBl. I Nr. 107/2017, inhaltsgleich in § 125 BörseG (zuvor § 87 Abs.1-5 BörseG idF BGBl I Nr. 150/2015) bzw. in § 126 BörseG (zuvor § 87 Abs. 6 BörseG idF BGBl I Nr. 150/2015) übernommen.

4.2.2. Börsenrechtliche Regulierung bis 2019

Korrespondierend zur Börsenordnung der Frankfurter Wertpapierbörse regelt das Regelwerk prime market der Wiener Börse zusätzliche Publizitätspflichten für bestimmte

---

[62] Vgl. Bitzyk and Oelkers (2009, S. 514).
[63] Vgl. Österreichischer Nationalrat (2015b).
[64] Vgl. Spatz (2016, S. 39); KPMG (2015).
[65] Vgl. Österreichischer Nationalrat (2015c).
[66] Die Wiener Börse differenziert seit 2002 vier verschiedene Marktsegmente (direct market, direct market plus, standard market und prime market). Das Marktsegment prime market stellt dabei die höchsten Anforderungen in Bezug auf die Aufnahme und Folgepflichten; vgl. Wiener Börse (2019c).

börsennotierte Unternehmen in Österreich.[67] Seit Einführung des Marktsegments prime market im Jahr 2002 waren Unternehmen dieses Marktsegments zur Veröffentlichung von Quartalsberichten verpflichtet.[68] Auch nach der Umsetzung der Richtlinie 2004/109/EG behielt die Wiener Börse, ebenso wie die Frankfurter Wertpapierbörse, strengere Transparenzvorschriften für das höchste Marktsegment bei.[69] Im Detail schrieb die Wiener Börse in den Teilnahmebestimmungen am prime market („Regelwerk prime market") Quartalsberichte nach IAS 34[70] vor oder, für Unternehmen die bei der SEC registriert sind, die Veröffentlichung von Berichten gem. 10Q-Form.[71] Als Mindestinhalte vorgeschrieben waren eine verkürzte Bilanz, eine verkürzte GuV sowie Gesamtergebnisrechnung, eine verkürzte Kapitalflussrechnung, eine verkürzte Eigenkapitalveränderungsrechnung und wesentliche Anhangangaben. Ebenso waren korrespondierende Vorjahreswerte zu veröffentlichen. Eine Prüfung oder prüferische Durchsicht war nicht notwendig. Wurde eine Prüfung oder prüferische Durchsicht durchgeführt, so war dies im Quartalsbericht anzugeben.[72]

Neben den Mindestinhalten machte die Wiener Börse zudem noch Vorgaben bzgl. des Veröffentlichungszeitpunkts und des Veröffentlichungskanals. Ein Quartalsbericht war danach innerhalb von zwei Monaten zu veröffentlichen. Der Bericht musste bei der Wiener

---

[67] Daneben empfiehlt auch der österreichische Corporate Governance Kodex Nr. 63 i.V.m. Nr. 66 die Veröffentlichung von Quartalsberichten nach IAS 34. Hierbei handelt es sich allerdings nicht um eine Pflicht, sondern es gilt der Grundsatz „Comply or Explain"; vgl. Österreichischer Arbeitskreis für Corporate Governance (2006).

[68] Vgl. FMA Finanzmarktaufsicht (2002, S. 81).

[69] Vgl. Erkilet and Kasperzak (2019, S. 143).

[70] Zur Entsprechung der Mindestinhalte von Quartalsberichten zu IAS 34 sei angemerkt, dass die Wiener Börse diese bei Einführung des prime market in 2002 bis 2007 empfahl (vgl. Wiener Börse 2002, S. 23), zwischen 2007 und 2015 vorschrieb (vgl. Wiener Börse 2007, S. 10), und ab 2015 Mindestinhalte „in Anlehnung an IAS 34" definierte (vgl. Wiener Börse 2015, S. 10).

[71] Die Berichtsinhalte gem. SEC Form-10Q werden im Rahmen des Beitrages nicht weiter behandelt, da keiner der untersuchten Berichte gem.10-Q Form erstellt wurde.

[72] Vgl. Wiener Börse (2010, S. 10).

Börse hinterlegt werden[73] und zusätzlich auf der Unternehmenshomepage öffentlich zugänglich gemacht werden.[74]

Im Zuge der europaweiten Deregulierung[75], als Folge der Richtlinie 2013/50/EU, wurde die Berichterstattung für Unternehmen im prime market im Jahr 2015 angepasst. In einer Konkretisierung des Regelwerks prime market wurden weiterhin Quartalsberichte nach IAS 34 oder SEC 10Q-Form vorgeschrieben. Gegenüber den bisherigen Mindestinhalten entfielen die ergänzenden Anhangangaben und Erläuterungen.[76] Im Vergleich zu der parallelen Entwicklung in Deutschland, in dessen Zuge die Frankfurter Wertpapierbörse die Anforderung für Unternehmen im Prime Standard substantiell reduzierte und nur noch Quartalsmitteilungen vorschrieb, handelte es sich um relativ geringe Anpassungen.[77]

Die Wiener Börse begründete die Beibehaltung der Anforderungen mit den Voraussetzungen zur Teilnahme am prime market, welche vertraglich eine Veröffentlichung von Quartalsberichten festschreiben.[78] Diese Position war in Übereinstimmung mit § 87 Abs.6 BörseG idF BGBl I Nr. 98/2015 (seit 2018: § 126 BörseG), welcher die Wiener Börse ermächtigt eine verpflichtende Quartalsberichterstattung für bestimmte Unternehmen in den Geschäftsbedingungen vorzuschreiben.

Eine Analyse von Gstatter (2016) zeigt, dass von 38 prime market Unternehmen, nach der Anpassung des Regelwerk prime market, insgesamt sieben Unternehmen keine Anhangangaben mehr veröffentlichen und zwei Unternehmen nur noch verkürzte Anhangangaben. Bei 29 von 38 betrachteten Unternehmen kam es zu keiner Änderung.[79]

---

[73] Alle Quartalsberichte sind auf der Homepage der Wiener Börse in den jeweiligen Unternehmensprofilen öffentlich verfügbar.
[74] Vgl. Wiener Börse (2010, S. 10).
[75] Vgl. Erkilet and Kasperzak (2019).
[76] Vgl. Gstatter (2016, S. 30).
[77] Vgl. Berninger and Schiereck (2016).
[78] Vgl. Wiener Börse (2018a, S. 1).
[79] Vgl. Gstatter (2016).

4.2.3. Status quo

Zum 20.02.2019 wurde das Regelwerk prime market der Wiener Börse geändert und die Pflicht zur Veröffentlichung von Quartalsberichten, für Unternehmen im Marktsegment prime market, aufgehoben.[80] Seitdem ist die Veröffentlichung von Quartalsberichten für alle Unternehmen in Österreich freiwillig.

Dieser Entscheidung vorausgegangen war eine Befragung der Unternehmen an der Wiener Börse, die nach Angabe von Christoph Boschan, Chef der Wiener Börse, einstimmig für eine Abschaffung der Pflicht zur Quartalsberichterstattung votiert hatten. Zielsetzung der Deregulierung ist die Senkung von Kosten für kleine Unternehmen, die Möglichkeit für Unternehmen zur individuellen, investorenorientierten Berichterstattung sowie eine Angleichung der Anforderungen an andere europäische Marktplätze.[81]

Die Wiener Börse betonte, dass es sich hierbei nicht um einen Schritt zur Senkung des Transparenzniveaus handelt, da weiterhin umfangreiche unterjährige Berichtspflichten bestehen, wie z.B. die Veröffentlichung von Halbjahresberichten oder Ad-hoc Meldungen. Zudem wird, bezugnehmend auf Studien zur Deregulierung der Quartalsberichterstattung in Deutschland, vermutet, dass auch weiterhin umfangreiche Quartalsberichte zur Verfügung gestellt werden. Diese Erwartung wurde insb. mit den Informationsbedürfnissen von Investoren bei großen Unternehmen begründet, die weiterhin eine regelmäßige Berichterstattung einfordern werden.[82]

Mit der Entscheidung trug die Wiener Börse auch zu einer Deregulierungsdebatte in Österreich bei, die am 28.05.2019 in der Verabschiedung des Anti-Gold-Plating Gesetz 2019 mündete.[83] Mit diesem Gesetz wird das Ziel verfolgt, bestehende Überregulierungen

---

[80] Vgl. Wiener Börse (2019a).
[81] Vgl. Stern (2019a).
[82] Vgl. Stern (2019a); Stern (2019b).
[83] Vgl. Österreichischer Nationalrat (2019).

gegenüber dem EU Recht abzubauen.[84] Es ist anzumerken, dass in diesem Kontext auch eine Aufhebung von § 126 BörseG denkbar gewesen wäre. Dies wurde allerdings nur in einer Kommentierung[85] zum Gesetzesentwurf vorgeschlagen, jedoch im Gesetzgebungsverfahren nicht weiter thematisiert.

Insgesamt erwartete die Wiener Börse nur geringe kurzfristige Änderungen, da die Regeländerung nur wenige Wochen vor Ende des ersten Quartals bekanntgegeben wurde. Kurz nach Bekanntgabe der Regeländerung kündigten aber bereits einige Unternehmen Überprüfungen und mögliche Anpassungen an.[86]

4.3. Empirische Untersuchung

4.3.1. Datengrundlage

Zielsetzung der empirischen Untersuchung ist eine Analyse der kurzfristigen Folgen der Abschaffung der verpflichtenden Quartalsberichterstattung für Unternehmen im Marktsegment prime market der Wiener Börse. Ausgangspunkt für die Analyse bilden die 39 Unternehmen (Stand: 25.09.2019) dieses Marktsegments. Für die Analyse werden 35 Unternehmen berücksichtigt. Drei Unternehmen werden ausgeschlossen, da der Börsengang erst in 2019 stattfand (Addiko Bank AG , Frequentis AG; Marinomed Biotech AG) und somit keine Vergleichsdaten aus 2018 vorliegen.[87] Ein Unternehmen (Valneva SE) wurde ausgeschlossen, da bereits ein Delisting für das laufende Kalenderjahr angekündigt wurde.[88]

Datengrundlage für die Analyse bilden die erstmalig freiwillig veröffentlichten Quartalsberichte für das erste Quartal 2019. Zur Analyse etwaiger Veränderungen werden

---

[84] Vgl. Bundesministerium für Verfassung, Reformen, Deregulierung und Justiz (2019).
[85] Vgl. Norman-Audenhove (2018).
[86] Vgl. Stern (2019b).
[87] Vgl. Wiener Börse (2019d).
[88] Vgl. Wiener Börse (2019e).

zusätzlich die verpflichtend veröffentlichten Quartalsberichte für das erste Quartal 2018 herangezogen.

Im Rahmen der Auswertung wird zwischen *Austrian Traded Index* (ATX) und den weiteren prime market Unternehmen differenziert. Der ATX ist ein Index innerhalb des Marktsegments prime market und umfasst die 20 größten und liquidesten börsennotierten Unternehmen.[89] Die untersuchte Stichprobe umfasst 20 von 20 ATX und 15 von 19 Unternehmen aus dem weiteren prime market.

4.3.2. Methodik

Im Rahmen der deskriptiven Auswertung werden der Status quo der Quartalsberichterstattung sowie Veränderungen gegenüber dem Vorjahr in Bezug auf Form und Inhalt der Quartalsberichte analysiert. Die methodische Vorgehensweise orientiert sich an bisherigen Studien zur Quartalsberichterstattung in Deutschland.[90]

Zur Analyse der Berichterstattungsform wird wie folgt vorgegangen. Zunächst wird ermittelt, welche Unternehmen für das erste Quartal 2019 die Quartalsberichterstattung ersatzlos gestrichen haben. Von einer Streichung wird ausgegangen, wenn der bisherige Quartalsbericht nicht veröffentlicht und kein neuer, dedizierter Bericht bereitgestellt wird. Andere quartalsweise Informationen, wie z.B. Pressemeldungen oder Investoren-Präsentationen, welche bereits in den Vorjahren, zusätzlich zu den Quartalsberichten, bereitgestellt wurden, werden hierbei nicht berücksichtigt. Für Unternehmen, die für das erste Quartal 2019 einen Quartalsbericht veröffentlichen, wird darauf aufbauend analysiert, über welche Kanäle die Quartalsberichte veröffentlicht werden, zu welchem Zeitpunkt die Quartalsberichte veröffentlicht werden, welche formale Bezeichnung die Quartalsberichte

---

[89] Vgl. Wiener Börse (2019b).
[90] Vgl. Tausch-Nebel et al. (2017); Gluch et al. (2019).

tragen und wie umfangreich die Quartalsberichte sind. Diese Auswertung gibt Aufschluss über grundlegende Veränderungen in der Form der Quartalsberichterstattung.

Da Veränderungen in der Form keine direkten Rückschlüsse auf den Inhalt erlauben, wird zusätzlich noch eine Inhaltsanalyse durchgeführt. Die inhaltliche Auswertung erfolgt in zwei Schritten. In einem ersten Schritt wird analysiert, inwieweit bisherige Pflichtangaben, gem. Regelwerk prime market der Wiener Börse, weiterhin veröffentlicht werden.[91] Diese Auswertung gibt Aufschluss darüber, inwieweit insb. quantitative Angaben weiterhin bereitgestellt werden. In einem zweiten Schritt werden weitere Inhalte der Quartalsberichte analysiert, die entweder für Halbjahresfinanzberichte verpflichtend sind oder bisher schon häufig freiwillig in Quartalsberichten veröffentlicht werden. Dies ermöglicht eine weitergehende Analyse von überwiegend qualitativen Angaben.[92]

4.3.3. Form der Berichterstattung

Zur Analyse, inwieweit weiterhin Quartalsberichte veröffentlicht werden, wurden zunächst alle verfügbaren Quartalsberichte von der jeweiligen Unternehmenshomepage bzw. der Homepage der Wiener Börse heruntergeladen. Diese beiden Bezugsquellen ergeben sich aus der bisherigen Pflicht zur Veröffentlichung von Quartalsberichten.[93] Die Ergebnisse der Auswertung sind in Tab. 4-1 dargestellt.

Von den 35 Unternehmen haben fünf Unternehmen keinen Quartalsbericht für das erste Quartal 2019 veröffentlicht. Dies entspricht einem Rückgang von 14,3%. Differenziert nach ATX und weiteren prime market Unternehmen zeigt sich, dass zwei ATX Unternehmen und

---

[91] Vgl. Wiener Börse (2010, S. 2–4).
[92] Vgl. hierzu Tausch-Nebel et al. (2017, S. 166–169) bzw. Gluch et al. (2019, S. 193). Wir weisen darauf hin, dass diese beiden Studien für Deutschland durchgeführt wurden. Da keine vergleichbare Studie für Österreich existiert, dienten diese Studien als Grundlage zur Ableitung der weiteren Berichtselemente.
[93] Vgl. Wiener Börse (2018b, S. 10).

drei Unternehmen aus dem weiteren prime market keinen Quartalsbericht mehr veröffentlichen.

Es ist anzumerken, dass diese fünf Unternehmen zwar weiterhin quartalsweise Informationen, wie z.B. Pressemeldungen oder Investoren-Präsentationen veröffentlichen, diese Informationen wurden allerdings auch bereits in den Vorjahren, zusätzlich zu den Quartalsberichten, veröffentlicht. Ein dedizierter Ersatz für den Quartalsbericht wird nicht veröffentlicht. Für die nachfolgenden Analysen werden daher nur 30 von 35 Unternehmen

Tab. 4-1- Veröffentlichung von Quartalsberichten [Anzahl Berichte]

	Q1 2018 veröffentlicht	Q1 2019 veröffentlicht	Q1 2019 entfallen
ATX Unternehmen (n=20)	20	18	2 (10,0%)
Weitere prime market Unternehmen (n=15)	15	12	3 (20,0%)
Gesamt (n=35)	**35**	**30**	**5 (14,3%)**

Aufbauend auf den beiden Veröffentlichungskanälen, Unternehmenshomepage und Homepage der Wiener Börse, wird ausgewertet, wie bzw. wo Quartalsberichte Investoren zugänglich gemacht werden. Ebenso wie die grundsätzliche Veröffentlichung, ist auch die Wahl des Veröffentlichungskanals, seit der Deregulierung, im Ermessen der Unternehmen. Die Ergebnisse der Auswertung sind in Tab. 4- 2 dargestellt.

Während der Quartalsbericht für das erste Quartal 2018 bei 29 von 30 Unternehmen sowohl auf der Homepage der Wiener Börse als auch auf der Unternehmenshomepage verfügbar waren, ist der Quartalsbericht für das erste Quartal 2019 nur noch in 26 von 30 Fällen über beide Kanäle und in den übrigen vier Fällen nur noch auf der Unternehmenshomepage

verfügbar.[94] Differenziert nach ATX und weiteren prime market Unternehmen zeigen sich Änderungen im Veröffentlichungskanal vor allem bei ATX Unternehmen. Drei von 20 ATX Unternehmen und eines von zwölf der weiteren prime market Unternehmen veröffentlichen ihren Quartalsbericht nur noch auf der Unternehmenshomepage.

Tab. 4-2–Veröffentlichungskanal von Quartalsberichten [Anzahl Berichte]

	Veröffentlichungskanal	Q1 2018	Q1 2019
ATX Unternehmen (n=18)	Nur Unternehmenshomepage	0	3
	Börse & Unternehmenshomepage	18	15
Weitere prime market Unternehmen (n=12)	Nur Unternehmenshomepage	1	1
	Börse & Unternehmenshomepage	11	11
Gesamt (n=30)	Nur Unternehmenshomepage	**1**	**4**
	Börse & Unternehmenshomepage	**29**	**26**

Die Analyse des Veröffentlichungszeitpunkts erfolgt auf Basis der Kalendertage seit Quartalsende. Die Ergebnisse der Auswertung sind in Tab. 4-3 dargestellt.

In Bezug auf den Veröffentlichungszeitpunkt sind nur unwesentliche Veränderungen zu beobachten. Im ersten Quartal 2018 wurden die Berichte nach durchschnittlich 44,7 Tagen und im ersten Quartal 2019 nach durchschnittlich 45,2 Tagen veröffentlicht. Differenziert nach ATX und weiteren prime market Unternehmen zeigt sich, dass ATX Unternehmen die Berichte durchschnittlich 1,5 Tage später und die weiteren prime market Unternehmen durchschnittlich 0,9 Tage früher als im Vorjahr veröffentlichen. ATX Unternehmen veröffentlichen die Berichte im Durchschnitt sieben Tage früher als die weiteren prime market Unternehmen. Insgesamt erfolgt die Veröffentlichung innerhalb der zuvor vorgeschrieben Frist von zwei Monaten.

---

[94] Der Quartalsbericht der Agrana Beteiligungs AG für das erste Quartal 2018 war auf der Homepage der Wiener Börse AG nicht ausgewiesen. Quartalsberichte der Vor- bzw. Folgejahre waren verfügbar.

Tab. 4-3–Veröffentlichungsdauer der Quartalsberichte [Durchschnittliche Anzahl der Tage ab Quartalsende]

	Q1 2018	Q1 2019	Relative Veränderung
ATX Unternehmen (n=18)	40,9	42,4	3,7%
Weitere prime market Unternehmen (n=12)	50,3	49,4	-1,8%
Gesamt (n=30)	**44,7**	**45,2**	**1,1%**

Die Auswertung der formalen Bezeichnung der Quartalsberichte zielt darauf ab, inwieweit freiwillig veröffentlichte Quartalsberichte noch als solche kenntlich gemacht werden. Diese Auswertung gibt einen ersten Eindruck über etwaige inhaltliche Veränderungen, da mit einer abweichenden Bezeichnung oft auch inhaltliche Anpassungen einhergehen.[95] Die Ergebnisse der Auswertung sind in Tab. 4-4 dargestellt.

Es zeigt sich, dass Quartalsberichte unter verschiedenen Bezeichnungen veröffentlicht werden. Die häufigsten Bezeichnungen sind „Bericht über das 1. Quartal", „(konsolidierter) Zwischenbericht" und „Quartalsfinanzbericht". Für das erste Quartal 2018 wurden insgesamt 24 von 30 Quartalsberichten (80,0%) explizit als „Bericht" bezeichnet. Für das erste Quartal 2019 wählten insgesamt zehn Unternehmen (33,3%), davon sieben Unternehmen aus dem ATX und drei Unternehmen aus dem weiteren prime market, eine neue Bezeichnung. Es wird nun in vier Fällen die Bezeichnung „Mitteilung" und in zwei Fällen die Bezeichnung „Highlights" gewählt. Insgesamt bezeichnen aber immer noch 22 von 30 Unternehmen (73,3%) den Quartalsbericht explizit als „Bericht".

---

[95] Die Vorgehensweise orientiert sich konzeptionell an Pellens et al. (2017, S. 3–4). Heindl et al. (2016, S. 821) zeigen in ihrer Analyse der Prüfung und prüferischen Durchsicht von Halbjahresfinanzberichten in Österreich, dass Zwischenberichte nicht einheitlich bezeichnet werden. Bspw. werden Halbjahresfinanzberichte auch regelmäßig als Aktionärsbrief bezeichnet. Aus diesem Grund erfolgt eine weniger strenge Kategorisierung als bei Pellens et al. (2017, S. 3).

Tab. 4-4–Bezeichnung der Quartalsberichte [Anzahl Berichte]

	Bezeichnung	Q1 2018	Q1 2019
Bezeichnung als "Bericht"	Bericht zum/über das 1. Quartal	9	8
	(konsolidierter) Zwischenbericht	8	10
	Quartals(finanz)bericht	7	4
Andere Bezeichnung	Aktionärsbrief	3	1
	Ergebnisse für das erste Quartal	1	1
	(Konzern) Zwischenmitteilung	1	4
	Keine Bezeichnung	1	0
	(Quarterly) Highlights (Q1)	0	2
Gesamt „Bericht"		24	22
Gesamt „Andere"		6	8

Die Auswertung des Umfangs der Quartalsberichte erfolgt anhand von Seitenzahlen, Wörtern und Zeichen (inkl. Leerzeichen).[96] Tab. 4-5 zeigt die Ergebnisse der Auswertung (Durchschnittswerte je Kategorie).

Die Berichte für das erste Quartal 2018 sind durchschnittlich 34,7 Seiten und für das erste Quartal 2019 26,3 Seiten lang. Im Mittel sind die Berichte um 8,4 Seiten (24,2%) kürzer. Differenziert nach ATX und weiteren prime market Unternehmen zeigt sich, dass ATX Unternehmen durchschnittlich 11,1 Seiten (26,4%) und die weiteren prime market Unternehmen lediglich 4,5 Seiten (19,1%) gekürzt haben. Berichte von ATX Unternehmen sind durchschnittlich 12,1 Seiten länger als Berichte der weiteren prime market Unternehmen.

Die Auswertung der Wörter und Zeichen (inkl. Leerzeichen) liefert zusätzliche Indikationen, ob die Verkürzung der Berichte eher auf Layoutanpassungen, z.B. weniger Bilder, oder auf die Kürzung narrativer Inhalte zurückzuführen ist. Ein durchschnittlicher Bericht für das erste Quartal 2018 war 10.364 Wörter bzw. 80.857 Zeichen (inkl. Leerzeichen) lang und ein durchschnittlicher Bericht für das erste Quartal 2019 7.456 Wörter bzw. 57.720 Zeichen

---

[96] Vgl. hierzu für Deutschland Pellens et al. (2017, S. 4) sowie Hierl and Wander (2017, S. 704).

(inkl. Zeichen). Die narrativen Berichtsinhalte sind damit um knapp 29% gekürzt worden.

Die Kürzung sind bei ATX Unternehmen umfangreicher als bei den weiteren prime market

Unternehmen. Dieses Ergebnis deutet darauf hin, dass der Rückgang im Seitenumfang auch

auf Kürzungen narrativer Angaben zurückzuführen ist.[97]

Tab.   4-5–Berichtsumfang   der   Quartalsberichte   [Durchschnittliche Seiten/Wörter/Zeichen (inkl. Leerzeichen)]

	Umfangsmaß	Q1 2018	Q1 2019	Relative Veränderung
ATX Unternehmen (n=18)	Seiten	42,1	31,2	-25,9%
	Wörter	12.835,3	8.574,1	-33,2%
	Zeichen (inkl. Leerzeichen)	101.290,8	6.7761,2	-33,1%
Weitere prime market Unternehmen (n=12)	Seiten	23,6	19,1	-19,1%
	Wörter	6.656,5	5.520,3	-17,1%
	Zeichen (inkl. Leerzeichen)	50.206,7	40.979,3	-18,4%
Gesamt (n=30)	**Seiten**	**34,7**	**26,3**	**-24,2%**
	Wörter	**10.363,8**	**7.352,6**	**-29,1%**
	Zeichen (inkl. Leerzeichen)	**80.857,2**	**57.048,4**	**-29,4%**

4.3.4. Inhalt der Berichterstattung

Im Rahmen der inhaltlichen Auswertung werden zunächst die bisher verpflichtenden

Mindestinhalte für Quartalsberichte gem. Regelwerk prime market analysiert. Diese

umfassen eine verkürzte Bilanz, verkürzte GuV, verkürzte Gesamtergebnisrechnung,

verkürzte Eigenkapitalveränderungsrechnung, verkürzte Kapitalflussrechnung, Angabe von

Vorjahreswerten sowie die Angabe der Prüfung oder prüferischen Durchsicht. Beim letzten

Punkt handelt es sich nur um eine Pflichtangabe, wenn eine Prüfung bzw. prüferische

Durchsicht durchgeführt wurde.[98] Tab. 4-6 zeigt die Ergebnisse der Auswertung.

Nahezu alle Unternehmen veröffentlichen weiterhin eine Bilanz, GuV, Gesamtergebnis-,

Eigenkapitalveränderungs- sowie Kapitalflussrechnung. Von den 30 betrachteten

---

[97] Zülch and Hecht (2017, S. 99) dokumentieren für deutsche Unternehmen einen Rückgang der Seitenzahl von 27% als Folge der Umsetzung der Richtlinie 2013/50/EU.
[98] Vgl. Wiener Börse (2018b, S. 11).

Unternehmen hat nur ein Unternehmen (Kapsch Trafficcom AG) keine Bilanz, GuV und Kapitalflussrechnung mehr veröffentlicht. Lediglich die Gesamtergebnisrechnung (-20,0%) und die Eigenkapitalveränderungsrechnung (-23,3%) wird von mehreren Unternehmen nicht mehr veröffentlicht.[99] Für die Angabe von Vorjahreswerten und die Angabe einer Prüfung bzw. prüferischen Durchsicht ergeben sich keine Veränderungen. Soweit quantitative Angaben verfügbar sind, werden auch immer Vorjahreswerte veröffentlicht. Eine Prüfung oder prüferische Durchsicht fand bei keinem Unternehmen statt. Entsprechend ist auch keine Angabe erforderlich.

Differenziert nach ATX und weiteren prime market Unternehmen zeigen sich vergleichbare Entwicklungen. Neben Kapsch Trafficcom AG, welche zur Gruppe der weiteren prime market Unternehmen zählt, veröffentlichen jeweils drei Unternehmen aus beiden Gruppen keine Eigenkapitalveränderungsrechnung und zwei ATX bzw. drei weitere prime market Unternehmen keine Gesamtergebnisrechnung mehr.

---

[99] Die Gesamtergebnisrechnung und Eigenkapitalveränderungsrechnung stellen auch in Deutschland die beiden Angaben dar, die am häufigsten entfallen sind, vgl. Gluch et al. (2019, S. 190); Pellens et al. (2017, S. 6).

Tab. 4-6–Analyse verpflichtender Berichtselemente [Anzahl Berichte mit veröffentlichtem Element]

	Berichtselement	Q1 2018	Q1 2019	Relative Veränderung
ATX Unternehmen (n=18)	Bilanz	18	18	0.0%
	GuV	18	18	0.0%
	Gesamtergebnisrechnung	18	16	-11.1%
	Eigenkapitalveränderungsrechnung	18	15	-16.7%
	Kapitalflussrechnung	18	18	0.0%
	Angabe Vorjahreswerte	18	18	0.0%
	Prüfung/prüferische Durchsicht	0	0	k.A.
Weitere prime market Unternehmen (n=12)	Bilanz	12	11	-8.3%
	GuV	12	11	-8.3%
	Gesamtergebnisrechnung	12	8	-33.3%
	Eigenkapitalveränderungsrechnung	12	8	-33.3%
	Kapitalflussrechnung	12	11	-8.3%
	Angabe Vorjahreswerte	12	11	-8.3%
	Prüfung/prüferische Durchsicht	0	0	k.A.
Gesamt (n=30)	Bilanz	30	29	-3.3%
	GuV	30	29	-3.3%
	Gesamtergebnisrechnung	30	24	-20.0%
	Eigenkapitalveränderungsrechnung	30	23	-23.3%
	Kapitalflussrechnung	30	29	-3.3%
	Angabe Vorjahreswerte	30	29	-3.3%
	Prüfung/prüferische Durchsicht	0	0	k.A.

Der erste Teil der inhaltlichen Auswertung zeigt, dass wesentliche quantitativen Angaben weiterhin veröffentlicht werden. Im zweiten Teil der inhaltlichen Analyse liegt daher der Fokus auf insb. qualitativen Angaben, um den zuvor ermittelten Rückgang der Anzahl der Wörter von durchschnittlich 29,1% näher zu beleuchten. Hierzu wurden sowohl Aspekte betrachtet, die gem. § 125 BörseG für Halbjahresfinanzberichte verpflichtend sind, wie: ausgewählte erläuternde Anhangangaben, Lagebericht, Risikobericht, Beziehungen zu nahe stehenden Personen und Unternehmen, Erklärung der gesetzlichen Vertreter („Bilanzeid")

gem. § 125 Abs.1 Z 3 BörseG (vor 2018: § 87 Abs. 1 Z 3 BörseG idF BGBl. I Nr. 150/2015); als auch sonstige Aspekte, die häufig freiwillig in Quartalsberichten veröffentlicht wurden, wie: Segmentinformationen, wesentliche Kennzahlen, Ereignisse nach dem Stichtag, Vorwort des Vorstands, Informationen zur Aktie, Investor Relations (IR) Kalender. Ein Aspekt wird als verfügbar gewertet, wenn zu diesem Aspekt in einem eigenen Berichtselement Angaben veröffentlicht werden. Bspw. wird ein Risikobericht als solcher gewertet, wenn das Unternehmen im Lagebericht oder im erläuternden Anhang, einen dedizierten Abschnitt inkludiert, der die wesentlichen Risiken beschreibt.[100] Wir weisen darauf hin, dass es sich bei allen Angaben, in beiden betrachteten Quartalen, um freiwillige Angaben handelt.[101] Die Ergebnisse der Auswertung sind in Tab. 4-7 dargestellt.

In Bezug auf diese freiwilligen Angaben zeigen sich deutliche Unterschiede im Zeitablauf und zwischen den Unternehmensgruppen. Im ersten Quartal 2018 veröffentlichten (nahezu) alle Unternehmen einen Lagebericht (30 von 30 Unternehmen), wesentliche Kennzahlen (30 von 30 Unternehmen), Segmentinformationen (29 von 30 Unternehmen) und einen Ausblick (29 von 30 Unternehmen). Lediglich eine Erklärung des Vorstands (Bilanzeid) gem. § 125 Abs.1 Z 3 BörseG 2018 wurde von weniger als der Hälfte der Unternehmen (13 von 30 Unternehmen) veröffentlicht. Differenziert nach ATX und weiteren prime market Unternehmen zeigt sich, dass innerhalb der Gruppe der ATX Unternehmen nur eine Angabe ('Vorwort des Vorstands') von weniger als der Hälfte der Unternehmen veröffentlicht wird (acht von 18 Unternehmen). Im Gegensatz dazu veröffentlichen weniger als die Hälfte der weiteren prime market Unternehmen (drei von zwölf Unternehmen) keinen Bilanzeid und genau die Hälfte der Unternehmen (sechs von zwölf Unternehmen) Informationen über Geschäfte mit nahe stehenden Personen und Unternehmen, Anhangangaben und

---

[100] Dieser Ansatz erwies sich zudem als gut geeignet, da die analysierten Berichte eine praktisch idente Strukturierung narrativer Elemente im Zeitablauf aufwiesen.
[101] Für eine vergleichbare Auswertung für deutsche Unternehmen, vgl. Tausch-Nebel et al. (2017) und Gluch et al. (2019).

Informationen zur Aktie. Im Schnitt veröffentlichen ATX Unternehmen also mehr freiwillige Informationen.

Betrachtet man die Veröffentlichung der freiwilligen Angaben für das erste Quartal 2019, so veröffentlichen weiterhin (nahezu) alle Unternehmen einen Lagebericht (30 von 30 Unternehmen), wesentliche Kennzahlen (30 von 30 Unternehmen), Segmentinformationen (29 von 30 Unternehmen) und einen Ausblick (29 von 30 Unternehmen). Für die übrigen Informationen sind hingegen Rückgänge in der Veröffentlichungspraxis zu erkennen. Besonders deutlich sind die Rückgänge für Geschäfte mit nahe stehenden Personen und Unternehmen (Rückgang von 18 auf neun Unternehmen), den Bilanzeid (Rückgang von 13 auf sieben Unternehmen) und Ereignisse nach dem Stichtag (Rückgang von 21 auf 14 Unternehmen). Die beiden größten relativen Rückgänge betreffen Angaben, die im Rahmen des Halbjahresfinanzberichts verpflichtend sind (Bilanzeid bzw. Geschäfte mit nahe stehenden Personen und Unternehmen). Insgesamt werden nun in den fünf Kategorien (Risikobericht, Geschäfte mit nahe stehenden Personen und Unternehmen, Bilanzeid, Ereignisse nach dem Stichtag und Vorwort des Vorstands) von weniger als der Hälfte der Unternehmen Informationen veröffentlicht. Differenziert man nach ATX und weiteren prime market Unternehmen zeigen sich vergleichbare Entwicklungen. Tendenziell sind die Rückgänge für ATX Unternehmen höher. Dies könnte darin begründet sein, dass die weiteren prime market Unternehmen bereits im ersten Quartal 2018 weniger Informationen veröffentlicht haben und somit weniger Potenzial für weitere Kürzungen bestand. Eine Analyse der Quartalsberichte des dritten Quartals 2018 ergab zudem keine Veränderungen bzgl. Form und Berichtselementen und nur sehr geringfügige Abweichung bzgl. des Umfangs gegenüber dem ersten Quartal 2018. Dies deutet darauf hin, dass es sich bei der festgestellten Reduzierung in den freiwilligen Angaben um keine temporäre Reduzierung handelt.

Insgesamt kann festgehalten werden, dass prime market Unternehmen bisher schon freiwillige, qualitative Angaben und weniger quantitative Angaben gekürzt haben. Ein gänzlicher Wegfall bestimmter Informationen kann nicht dokumentiert werden.[102] Insb. ein Lagebericht, Segmentinformationen, ein Ausblick und wesentliche Kennzahlen werden weiterhin von (nahezu) allen Unternehmen veröffentlicht.

---

[102] Der Fokus der Auswertung liegt auf dem Vorhandensein bestimmter Aspekte. Auf Grund der umfangreichen Kürzungen, gemessen anhand der Wörter, können Veränderung im Detailgrad der Berichterstattung nicht ausgeschlossen werden.

Tab. 4-7–Analyse vor und nach Deregulierung freiwilliger Berichtselemente [Anzahl Berichte mit veröffentlichtem Element]

	Berichtselement	Q1 2018	Q1 2019	Relative Veränderung
ATX Unternehmen (n=18)	Lagebericht	18	18	0.0%
	Risikobericht	12	9	-25.0%
	Geschäfte mit nahe stehenden	12	6	-50.0%
	Bilanzeid	10	4	-60.0%
	Anhangangaben	15	11	-26.7%
	Ausblick	17	17	0.0%
	Segmentberichterstattung	17	17	0.0%
	Wesentliche Kennzahlen	18	18	0.0%
	Ereignisse nach dem Stichtag	14	8	-42.9%
	Vorwort des Vorstandes	8	6	-25.0%
	Informationen zur Aktie	14	11	-21.4%
	IR Kalender	13	11	-15.4%
Weitere prime market Unternehmen (n=12)	Lagebericht	12	12	0.0%
	Risikobericht	7	5	-28.6%
	Geschäfte mit nahe stehenden	6	3	-50.0%
	Bilanzeid	3	3	0.0%
	Anhangangaben	6	5	-16.7%
	Ausblick	12	12	0.0%
	Segmentberichterstattung	12	12	0.0%
	Wesentliche Kennzahlen	12	12	0.0%
	Ereignisse nach dem Stichtag	7	6	-14.3%
	Vorwort des Vorstandes	7	7	0.0%
	Informationen zur Aktie	6	5	-16.7%
	IR Kalender	10	10	0.0%
Gesamt (n=30)	Lagebericht	30	30	0.0%
	Risikobericht	19	14	-26.3%
	Geschäfte mit nahe stehenden	18	9	-50.0%
	Bilanzeid	13	7	-46.2%
	Anhangangaben	21	16	-23.8%
	Ausblick	29	29	0.0%
	Segmentberichterstattung	29	29	0.0%
	Wesentliche Kennzahlen	30	30	0.0%
	Ereignisse nach dem Stichtag	21	14	-33.3%
	Vorwort des Vorstandes	15	13	-13.3%
	Informationen zur Aktie	20	16	-20.0%
	IR Kalender	23	21	-8.7%

4.4. Diskussion

Die Ergebnisse deuten insgesamt auf einen Rückgang in der Quartalsberichterstattung hin. Allerdings ist die geringere Berichterstattung nicht notwendigerweise negativ zu beurteilen ist. Da Unternehmen, neben den Quartalsberichten, auch noch andere, freiwillige, Informationen veröffentlichen, wie z.B. Präsentationen für Investoren oder Pressemeldungen, ist eine Verlagerung bestimmter Angaben nicht auszuschließen und ein vollständiger Wegfall von quartalweisen Informationen zu verneinen. Darüber hinaus kann eine Reduzierung des Berichtsumfangs auch positiv einzustufen sein, da ein möglicher *information overload* vermieden und eine effizientere Informationsversorgung der Investoren erzielt werden kann.[103] Die im Rahmen des Beitrages beobachtete Veränderung der Berichtsinhalte kann somit auch positiv sein, wenn es sich um aus Investorensicht weniger relevante Angaben handelt. Dies wäre somit in Übereinstimmung mit der Zielsetzung der Wiener Börse. Diese Thematik kann aber, ohne eine systematische Analyse der individuellen Informationsbedürfnisse der Investoren nicht abschließend beurteilt werden. Darüber hinaus sind auch die unternehmensindividuellen Ziele im Kontext einer freiwilligen Berichterstattung nicht zu vernachlässigen.[104] Beachtenswert ist, dass die Unternehmen die neu gewonnene Flexibilität in der Berichterstattung vor allem dazu nutzen, die Quartalsberichte inhaltlich zu fokussieren. Dies wird an der deutlichen Kürzung im Berichtsumfang, verbunden mit einer weiterhin umfangreichen qualitativen und quantitativen Berichterstattung, deutlich. Interessant ist, dass die größten relativen Kürzungen Angaben betreffen, die im Rahmen des Halbjahresfinanzberichts verpflichtend veröffentlicht werden müssen (Angaben zu Geschäften mit nahe stehenden Personen und Bilanzeid). Dies deutet darauf hin, dass Unternehmen die Gelegenheit der Deregulierung genutzt haben, ihre Berichte, nicht nur unter Beachtung anderer quartalsweiser

---

[103] Vgl. Berninger and Schiereck (2016, S. 561–562).
[104] Vgl. Gluch et al. (2019, S. 193).

Informationen, zu überarbeiten. Zudem finden sich auch substantielle Kürzungen in Bezug auf Anhangangaben, die bereits seit der Umsetzung der Richtlinie 2013/50/EU nicht mehr verpflichtend waren und in diesem Zuge von einigen Unternehmen bereits gekürzt wurden.[105] Dies zeigt, dass die Fokussierung der Berichte ein mehrstufiger Prozess sein kann. Umgelegt auf die Frankfurter Wertpapierbörse könnte dies bedeuten, dass bei einer weiteren Deregulierung der Berichterstattung auch Berichtselemente reduziert werden könnten, die bereits zuvor dereguliert wurden wie z.B. die Angabe von Bilanz, GuV, Kapitalflussrechnung oder eines erläuternden Anhangs. Darüber hinaus deutet der Wegfall einzelner Quartalsberichte auch auf mögliche Redundanzen in der bisherigen Kapitalmarktkommunikation hin. Dies zeigt sich bei jenen fünf Unternehmen die auf die Veröffentlichung eines dedizierten Quartalsberichts verzichtet haben. In diesen Fällen wird auf andere, bestehende Publikationen (Präsentationen für Investoren, Transkripte von Telefonkonferenzen, Pressemitteilungen) verwiesen. In einem Einzelfall deutet sich an, dass Quartalsberichte unter Umständen von geringerer Relevanz für Investoren sein könnten bzw. durch das Management nicht als geeignete Berichterstattungsfrequenz zur Beurteilung der wirtschaftlichen Lage gesehen werden. Der CEO der Kapsch Trafficcom AG begründete die umfangreichen Kürzungen zum einen mit dem Hinweis, dass die Kürzungen in Absprache mit den Investoren erfolgte und, zudem, dass Kapsch Trafficcom AG Quartalsdaten nicht als aussagekräftig erachtet.[106]

4.5. Zusammenfassung

Die Wiener Börse hat zum 20.02.2019 die Pflicht zur Veröffentlichung von Quartalsberichten für Unternehmen des Marktsegments prime market aufgehoben. Die Deregulierung war historisch betrachtet überraschend und signifikant, da die Pflicht zur

---

[105] Vgl. Gstatter (2016, S. 30).
[106] Vgl. Kapsch Tafficcom AG (2019).

Quartalsberichterstattung im Marktsegment prime market eine lange Tradition aufweist und Unternehmen des prime market bis zuletzt umfangreiche Quartalsberichte in Anlehnung an IAS 34 veröffentlichen mussten. Die Wiener Börse begründete die Deregulierung mit zu hohen Kosten für kleine Unternehmen, der Möglichkeit für Unternehmen zur Veröffentlichung von individualisierten und investorenorientierten Berichten sowie einer Angleichung an andere europäische Marktplätze.

Im Rahmen dieses Beitrags wurde daher eine Analyse der kurzfristigen Folgen dieser Deregulierung durchgeführt. Die Ergebnisse zeigen, dass es bereits zu Anpassungen in der Quartalsberichterstattung gekommen ist. Von den 35 untersuchten prime market Unternehmen haben fünf Unternehmen keine dedizierten Quartalsberichte veröffentlicht und die übrigen Unternehmen haben überwiegend sowohl Anpassungen in Bezug auf Form und Inhalt der Berichte vorgenommen. In Bezug auf die Berichtsform lässt sich feststellen, dass die veröffentlichten Quartalsberichte nun seltener Investoren über mehrere Kanäle zugänglich gemacht werden, weiterhin zu einem vergleichbaren Zeitpunkt veröffentlicht werden, seltener dediziert als „Bericht" gekennzeichnet werden und vom Umfang deutlich gekürzt wurden. In Bezug auf den Inhalt sind insb. Veränderungen im Bereich der qualitativen Angaben zu erkennen. Die zentralen quantitativen Angaben gem. IAS 34 sind nahezu durchweg weiterhin verfügbar. Veränderungen der qualitativen Angaben sind insb. für Angaben zu Geschäften mit nahe stehenden Personen und Unternehmen, einem Bilanzeid, Anhangangaben und einem Risikobericht zu beobachten. Dabei ist allerdings anzumerken, dass es sich hierbei um Angaben handelt, die bisher bereits freiwillig veröffentlicht wurden. Beim Vergleich von ATX und weiteren prime market Unternehmen ist erkennbar, dass ATX Unternehmen weiterhin mehr Informationen als die weiteren prime market Unternehmen veröffentlichen.

Ein vollständiger Wegfall von Informationen für Investoren konnte somit nicht festgestellt werden, da auch jene Unternehmen, die keine Quartalsberichte mehr bereitstellen, andere bereits zuvor vorhandene Publikationen weiter nutzen (z.B. Pressemitteilungen). Die Kürzung von bereits zuvor freiwilliger Angaben deutet zudem darauf hin, dass die Unternehmen die Deregulierung zum Anlass genommen haben, alle Berichtselemente systematisch zu überprüfen, um die Quartalsberichte zu fokussieren. Die dokumentierte Reduzierung der Quartalsberichterstattung muss somit nicht notwendigerweise negativ sein, da bspw. ein *information overload* vermieden wird. Eine abschließende Bewertung setzt jedoch eine weitergehende Analyse des Nutzens der Informationen für die Investoren, sowie der Kosten der Nichtbereitstellung für die Unternehmen voraus.

Zusammenfassend liefern diese Ergebnisse erste Indikation über die Folgen einer vollständigen Deregulierung der Quartalsberichterstattung. Diese Ergebnisse sind somit auch von Relevanz für Deutschland, da Unternehmen im Marktsegment Prime Standard der Frankfurter Wertpapierbörse weiterhin zur Veröffentlichung von Quartalsmitteilungen verpflichtet sind. Da die Änderung des Regelwerks prime market nur wenige Wochen vor Quartalsende erfolgte, geben die Ergebnisse allerdings nur Aufschluss über die kurzfristigen Umstellungseffekte. In Zukunft gilt es, zu beobachten, inwieweit Unternehmen die neu gewonnene Flexibilität nutzen und neu entwickelte, individualisierte Berichtsformate wählen, weiter auf die tradierte Berichterstattungsform zurückgreifen, oder sogar die Quartalsberichterstattung zu Gunsten anderer Informationsquellen einstellen. Insgesamt bleibt also abzuwarten, inwieweit die angestrebten Ziele der Wiener Börse langfristig erreicht werden.

4.6. Literaturverzeichnis

Berninger, Marc; Schiereck, Dirk (2016): Die Transparenzrichtlinie-Änderungsrichtlinie und ihre Konsequenzen auf die quartalsweise Berichterstattung in Deutschland. In: *Zeitschrift für internationale und kapitalmarktorientierte Rechnungslegung* (12), S. 554–562.

Bitzyk, Peter; Oelkers, Janine (2009): Die neue Regelpublizität nach BörseG 2007 und URÄG 2008. In: *ÖBA - Österreichisches Bankarchiv* (7), S. 508–515.

Bundesministerium für Verfassung, Reformen, Deregulierung und Justiz (2019): 508 der Beilagen XXVI. GP - Regierungsvorlage - Vorblatt und WFA. Online verfügbar unter https://www.parlament.gv.at/PAKT/VHG/XXVI/I/I_00508/fname_738703.pdf, zuletzt geprüft am 06.12.2019.

Deutscher Bundestag (2015): Gesetz zur Umsetzung der Transparenzrichtlinie-Änderungsrichtlinie, vom 20.11.2015. Fundstelle: Bundesgesetzblatt Nr. 46/2015. In: *Bundesgesetzblatt* (46). Online verfügbar unter https://www.bgbl.de/xaver/bgbl/start.xav#__bgbl__%2F%2F*%5B%40attr_id%3D%27bgbl115s2029.pdf%27%5D__1572350273769, zuletzt geprüft am 06.12.2019.

Downar, Benedikt; Ernstberger, Jürgen; Link, Benedikt (2018): The Monitoring Effect of More Frequent Disclosure. In: *Contemporary Accounting Research* 35 (4), S. 2058–2081. DOI: 10.1111/1911-3846.12386.

Erkilet, Gülcan; Kasperzak, Rainer (2019): Quartalsberichterstattung in 15 EU-Mitgliedstaaten nach Umsetzung der Transparenzrichtlinie-Änderungsrichtlinie. In: *Die Wirtschaftsprüfung* (3), S. 137–143.

Ernstberger, Jürgen; Link, Benedikt; Stich, Michael; Vogler, Oliver (2017): The Real Effects of Mandatory Quarterly Reporting. In: *The Accounting Review* 92 (5), S. 33–60. DOI: 10.2308/accr-51705.

FMA Finanzmarktaufsicht (2002): Jahresbericht 2002 gem. § 16 Abs. 3 FMBAG. Online verfügbar unter https://www.fma.gv.at/publikationen/fma-jahresberichte/, zuletzt geprüft am 21.10.2019.

Gluch, Niklas; Muschallik, Marco; Schmidt, André (2019): Entwicklung der quartalsweisen Berichterstattungspraxis. Empirische Analyse der Prime Standard-Unternehmen. In: *Zeitschrift für internationale und kapitalmarktorientierte Rechnungslegung* (4), S. 183–193.

Gstatter, Doris (2016): Der neue Quartalsbericht. Praxis der Berichterstattung in Österreich. In: *GoingPublic* (11), S. 30–31.

Heindl, Gisela; Szücs, Christian; Szücs, Stefan (2016): Prüfung und prüferische Durchsicht von Halbjahresfinanzberichten - ein aktualisierter empirischer Befund. In: *ÖBA - Österreichisches Bankarchiv* (11), S. 820–826.

Hierl, Ludwig; Wander, Michael (2017): Auswirkungen der Neuregelungen zur Quartalsberichterstattung. In: *StuB - Unternehmenssteuern und Bilanzen* (18), S. 704–707.

Kajüter, Peter; Klassmann, Florian; Nienhaus, Martin (2019): The Effect of Mandatory Quarterly Reporting on Firm Value. In: *The Accounting Review* 94 (3), S. 251–277. DOI: 10.2308/accr-52212.

Kalss, Susanne; Oppitz, Martin; Zollner, Johannes (2005): Kapitalmarktrecht. System (I). 1. Auflage. Wien: Linde, S. 361.

Kapsch Tafficcom AG (2019): Kapsch TrafficCom Highlights Q1 2019/20. Online verfügbar unter https://www.kapsch.net/ktc/ir/Download-Center/download/Quarterly-reports/2019-20/KTC_IR_Highlights_FY20-Q1.pdf?lang=de-AT, zuletzt geprüft am 06.12.2019.

KPMG (2015): Neuregelung der Pflicht zur Quartalsberichterstattung. [KPMG Express Accounting News Nr. 28 vom 26.11.2015]. Online verfügbar unter https://www.kpmg.at/uploads/media/EAN_2015_29.pdf, zuletzt geprüft am 06.12.2019.

Link, Benedikt (2012): The Struggle for a Common Interim Reporting Frequency Regime in Europe. In: *Accounting in Europe* 9 (2), S. 191–226. DOI: 10.1080/17449480.2012.720874.

Loy, Thomas; Balzer, Veronica (2017): Die Umsetzung der Transparenzrichtlinie-Änderungsrichtlinie in Deutschland. Erleichterungen bei der Bekanntgabe quartalsweiser Finanzinformationen. In: *Zeitschrift für Corporate Governance*(2), S. 63–67.

Norman-Audenhove, Louis (2018): 6/SN-100/ME XXVI. GP - Stellungnahme zu Entwurf. Online verfügbar unter https://www.parlament.gv.at/PAKT/VHG/XXVI/SNME/SNME_03492/imfname_7259 14.pdf, zuletzt geprüft am 06.12.2019.

Österreichischer Arbeitskreis für Corporate Governance (2006): Österreichischer Corporate Governance Kodex. Austrian Code of Corporate Governance. Online verfügbar unter https://www.corporate-governance.at/uploads/u/corpgov/files/kodex/corporate-governance-kodex-012006.pdf, zuletzt geprüft am 06.12.2019.

Österreichischer Nationalrat (1998): 11. Bundesgesetz: Börsefondsüberleitungsgesetz, vom 09.01.1998. Fundstelle: BGBl. 11/1998. In: *Bundesgesetzblatt für die Republik*

Österreich (11). Online verfügbar unter https://www.ris.bka.gv.at/Dokumente/BgblPdf/1998_11_1/1998_11_1.pdf, zuletzt geprüft am 06.12.2019.

Österreichischer Nationalrat (2005): 78. Bundesgesetz: Änderung des Kapitalmarktgesetzes, des Börsegesetzes, des Investmentfondsgesetzes, des Wertpapieraufsichtsgesetzes und des Finanzmarktaufsichtsbehördengesetzes, vom 28.07.2005. Fundstelle: BGBl. 78/2005. In: *Bundesgesetzblatt für die Republik Österreich* (78). Online verfügbar unter https://www.ris.bka.gv.at/Dokumente/BgblAuth/BGBLA_2005_I_78/BGBLA_2005_I _78.html, zuletzt geprüft am 06.12.2019.

Österreichischer Nationalrat (2007): 19. Bundesgesetz: Änderung des Börsegesetzes und des Bankwesengesetzes, vom 25.04.2007. Fundstelle: BGBl. 19/2007. In: *Bundesgesetzblatt für die Republik Österreich* (19). Online verfügbar unter https://www.ris.bka.gv.at/Dokumente/BgblAuth/BGBLA_2007_I_19/BGBLA_2007_I _19.html, zuletzt geprüft am 06.12.2019.

Österreichischer Nationalrat (2015a): 150. Bundesgesetz: Änderung des Börsegesetzes 1989, des Rechnungslegungs-Kontrollgesetzes, des Alternativen Investmentfonds Manager-Gesetzes und des Kapitalmarktgesetzes, vom 28.12.2015. Fundstelle: BGBl. 150/2015. In: *Bundesgesetzblatt für die Republik Österreich* (150). Online verfügbar unter https://www.ris.bka.gv.at/Dokumente/BgblAuth/BGBLA_2015_I_150/BGBLA_2015_ I_150.html, zuletzt geprüft am 06.12.2019.

Österreichischer Nationalrat (2015b): 68. Bundesgesetz: Rechnungslegungsänderungs-Begleitgesetz 2015 – RÄ-BG 2015. RÄ-BG 2015, vom 18.07.2015. Fundstelle: BGBl. 68/2015. In: *Bundesgesetzblatt für die Republik Österreich* (68). Online verfügbar unter

https://www.ris.bka.gv.at/Dokumente/BgblAuth/BGBLA_2015_I_68/BGBLA_2015_I_68.html, zuletzt geprüft am 06.12.2019.

Österreichischer Nationalrat (2015c): 98. Bundesgesetz: Änderung des Börsegesetzes 1989, des Kapitalmarktgesetzes und des Rechnungslegungs-Kontrollgesetzes, vom 03.08.2015. Fundstelle: BGBl. 98/2015. In: *Bundesgesetzblatt für die Republik Österreich* (98). Online verfügbar unter https://www.ris.bka.gv.at/Dokumente/BgblAuth/BGBLA_2015_I_98/BGBLA_2015_I_98.html, zuletzt geprüft am 06.12.2019.

Österreichischer Nationalrat (2017): 107. Bundesgesetz: Börsegesetz 2018 und Wertpapieraufsichtsgesetz 2018 sowie Änderung des Abschlussprüfer-Aufsichtsgesetzes, des Aktiengesetzes, des Alternative Investmentfonds Manager-Gesetzes, des Alternativfinanzierungsgesetzes, des Bankwesengesetzes, des Bausparkassengesetzes, des Betrieblichen Mitarbeiter- und Selbständigenvorsorgegesetzes, des Bilanzbuchhaltungsgesetzes 2014, des Bundesfinanzierungsgesetzes, des Bundesgesetzes zur Schaffung einer Abbaueinheit, des E-Geldgesetzes 2010, des Einlagensicherungs- und Anlegerentschädigungsgesetzes, des Energie-Control-Gesetzes, des EU-Verschmelzungsgesetzes, des Finanzkonglomerategesetzes, des Finanzmarktaufsichtsbehördengesetzes, des Finanzmarkt-Geldwäschegesetzes, der Gewerbeordnung 1994, des Glücksspielgesetzes, des Hypothekenbankgesetzes, des Immobilien-Investmentfondsgesetzes, der Insolvenzordnung, des Investmentfondsgesetzes 2011, des Kapitalmarktgesetzes, des Kontenregister- und Konteneinschaugesetzes, des Körperschaftsteuergesetzes, des Maklergesetzes, des Pensionskassengesetzes, des Pfandbriefgesetzes, des Ratingagenturenvollzugsgesetzes, des Rechnungslegungs-Kontrollgesetzes, des Sanierungs- und Abwicklungsgesetzes, des SE-Gesetzes, des SFT-Vollzugsgesetzes, des

Spaltungsgesetzes, des Sparkassengesetzes, des Übernahmegesetzes, des Unternehmensgesetzbuches, des Versicherungsaufsichtsgesetzes 2016, des Zahlungsdienstegesetzes, des Zentrale Gegenparteien-Vollzugsgesetzes und des Zentralverwahrer-Vollzugsgesetzes. BörseG 2018, vom 26.07.2017. Fundstelle: BGBl. 107/2017. In: *Bundesgesetzblatt für die Republik Österreich* (107). Online verfügbar unter

https://www.ris.bka.gv.at/Dokumente/BgblAuth/BGBLA_2017_I_107/BGBLA_2017_I_107.html, zuletzt geprüft am 06.12.2019.

Österreichischer Nationalrat (2019): 46. Bundesgesetz: Anti-Gold-Plating-Gesetz 2019, vom 28.05.2019. Fundstelle: BGBl. 49/2019. In: *Bundesgesetzblatt für die Republik Österreich*. Online verfügbar unter https://www.ris.bka.gv.at/Dokumente/BgblAuth/BGBLA_2019_I_46/BGBLA_2019_I_46.html, zuletzt geprüft am 06.12.2019.

Pellens, Bernhard; Knappstein, Janina; Muschallik, Marco; Schmidt, André (2017): Quartalsbericht oder Quartalsmitteilung? Empirische Analyse der quartalsweisen Berichterstattungspraxis der DAX30- und MDAX-Unternehmen. In: *Der Betrieb* (1-2), S. 1–7.

Spatz, Philipp (2016): Umsetzung der Revision der Transparenzrichtlinie. In: *Der Gesellschafter* (1), S. 38–44.

Stern, Nicole (2019a): Börse schafft Quartalsberichte ab. In: *Die Presse*, 22.02.2019, S. 11.

Stern, Nicole (2019b): Vierteljährliche Stille an der Börse? In: *Die Presse*, 23.02.2019, S. 20.

Tausch-Nebel, Lasse; Weber, Stefan C.; Vaagt, Stephan (2017): Praxis und Determinanten der novellierten Quartalsberichterstattung im DAX, MDAX, SDAX und TecDAX. In:

Zeitschrift für internationale und kapitalmarktorientierte Rechnungslegung (4), S. 164–172.

United States Securities and Exchange Commission (2018): Request for Comment on Earnings Releases and Quarterly Reports. [Release No. 33-10588; 34-84842; File No. S7-26-18]. Online verfügbar unter https://www.sec.gov/rules/other/2018/33-10588.pdf, zuletzt geprüft am 11.11.2019.

Wiener Börse (2002): Regelwerk prime market, vom 01.02.2002.

Wiener Börse (2007): Regelwerk prime market, vom 01.02.2007.

Wiener Börse (2010): Regelwerk prime market, vom 01.11.2010.

Wiener Börse (2015): Regelwerk prime market, vom 26.11.2015.

Wiener Börse (2018a): Bedingungen betreffend Quartalsberichterstattung im prime market, vom 03.01.2018.

Wiener Börse (2018b): Regelwerk prime market, vom 03.01.2018.

Wiener Börse (2019a): APA News vom 22.02.2019 – Wiener Börse: Quartalsberichte für prime-market-Firmen nun freiwillig. Online verfügbar unter https://www.wienerborse.at/news/apa-news-detail/?id=806134691, zuletzt geprüft am 21.10.2019.

Wiener Börse (2019b): Börsenlexikon Wiener Börse, Stichwort: ATX. Online verfügbar unter https://www.wienerborse.at/wissen/boersenlexikon/buchstabe-a/atx/, zuletzt geprüft am 06.12.2019.

Wiener Börse (2019c): Marktsegment: prime market für österreichische Blue Chips. Online verfügbar unter https://www.wienerborse.at/handel/marktsegmentierung/equity-market-at/prime-market/, zuletzt geprüft am 06.12.2019.

Wiener Börse (2019d): Neunotierungen bzw. Einbeziehungen 2019. Online verfügbar unter https://www.wienerborse.at/emittenten/aktien/neunotierungen/neunotierungen-2019/, zuletzt geprüft am 06.12.2019.

Wiener Börse (2019e): Notierungslöschungen 2019. Online verfügbar unter https://www.wienerborse.at/emittenten/aktien/notierungsloeschungen/, zuletzt geprüft am 06.12.2019.

Zülch, Henning; Hecht, Jens (2017): Quo vadis Quartalsmitteilungen? Eine Analyse der aktuellen Informationsqualität. In: *Zeitschrift für internationale und kapitalmarktorientierte Rechnungslegung* (2), S. 98–99.

5. Conclusion

This dissertation investigates the effects of a mandatory increase from semi-annual to quarterly disclosure on two corporate finance policies: capital structure and dividend payments. In addition, it explores the consequences of deregulating quarterly disclosure for the availability, timing, form and content of quarterly disclosure to investors. The findings add to our understanding of the effects of disclosure frequency requirements and seek to inform a debate on the costs and benefits of mandating quarterly disclosure.

This dissertation's findings are based on empirical analyses of research settings with desirable features for either the identification of a causal effect of more frequent disclosure or for the relevance of the results for an ongoing deregulation debate. In essay 1 and essay 2 this dissertation exploits the introduction of the TD as a quasi-experiment in the EU to investigate the effect of a mandatory increase in disclosure frequency through the introduction of mandatory IMS. The TD was implemented on a staggered basis in the investigated EU-15 countries between 2007 and 2009. As a result of the staggered TD implementation, quarterly disclosure became mandatory for treatment group countries, which had required only semi-annual disclosure prior to the implementation of the TD, while control group countries had required quarterly disclosure prior to and after the implementation of the TD. This dissertation exploits the setting by matching treatment and control group firms and employing the difference-in-differences estimator to estimate the effect of more frequent disclosure on capital structure and dividend payments. This research design allows to address or overcome several short-comings, which could bias results from other settings, such as selection effects, time-trends and limited comparability between treatment and control group countries (for detailed discussions see e.g., Hail et al. 2014; Christensen et al. 2016; Leuz and Wysocki 2016). Therefore, this dissertation can contribute to prior literature on the effects of disclosure regulation by providing evidence on the costs

and benefits of a mandate to disclose more frequently, which are obtained from the investigation of a setting outside the US with beneficial properties for the identification of a causal relationship, as called for by Leuz and Wysocki (2016)[107]. In essay 3, this dissertation exploits a deregulation in a regime with a long tradition of requiring quarterly disclosure and with previously rigorous quarterly disclosure requirements. In addition, the deregulation was implemented recently and independently from EU-wide deregulation, which followed the amendment to the TD. Thus, the findings may be particularly relevant for regulators in capital markets with strict quarterly disclosure requirements, which are currently reviewing these requirements (e.g., the US or Singapore), or for European regulators which still require quarterly disclosure and did not completely deregulate quarterly disclosure following the amendment to the TD (e.g., Germany, Italy, Spain and Sweden).

The results indicate that disclosure frequency regulation can have economically relevant effects and that firms make short-term adjustments to their quarterly disclosure practice following a deregulation of quarterly disclosure requirements. The findings contribute to several strands of prior research.

In detail, in essay 1 we investigate capital structure and financing decisions following a mandate to disclose more frequently. We find an economically relevant reduction in financial leverage of 2.7 percentage points in book leverage and of 4.2 percentage points in market leverage, which for the average firm in our sample equals a reduction of 12.6 percent (book leverage) respectively 15.2 percent (market leverage). In addition, we find that the reduction in leverage can be attributed to firms taking different financing decisions. In particular, firms issue more equity, while debt issuance is not significantly affected. Firms

---

[107] A central assumption underlying an identification strategy based on the difference-in-differences is the assumption of parallel trends assumption for treatment and control group countries in absence of the treatment (see Hail et al. 2014). This dissertation assesses the validity of this assumption by investigating differences in pre-treatment trends and does not find evidence that the parallel trends assumption is violated. In addition, this dissertation also examines the robustness of the effects to other research design choices (e.g., employed control variables and matching technique) and finds that the results are robust to these choices.

are able to reduce their leverage more if they face a weaker information environment or higher financing needs. This finding supports the notion that firms are able to benefit from more frequent disclosure through exploiting better equity financing opportunities. Investigating the channel of the effect of more frequent disclosure on capital structure, we find a stronger reduction in leverage for firms with higher agency costs and we do not find a significant change in the effect of more frequent disclosure, which is attributable to changes in information asymmetry or to changes in firm management trying to better time equity offerings. In sum, these results support the notion that firms adjust their capital structure and rely on more equity financing because debt investors are not affected by more frequent disclosure, while equity investors' willingness to invest improves as shareholders value the monitoring opportunities of more frequent disclosure.

The findings of essay 1 contribute to three strands of prior literature. First, we contribute to the literature on the effect of disclosure on capital structure. We focus on disclosure frequency and find a significant negative relationship with financial leverage, while prior studies have focused on disclosure quality (Blaylock et al. 2017; Naranjo et al. 2018) or selective disclosure (Petacchi 2015; Albring et al. 2016). Second, we contribute to the literature on the costs and benefits of more frequent disclosure. Prior studies have identified both costs (Ernstberger et al. 2017; Kraft et al. 2018) and benefits (Fu et al. 2012; Downar et al. 2018). We add to this strand of studies by identifying a benefit of more frequent disclosure, i.e., firms are able to obtain and rely on more equity financing after disclosing quarterly, in particular if they face a weak information environment or a higher need for external financing. Third, we contribute to the literature on the role of accounting information for capital market outcomes and capital structure. In contrast to prior studies, which found that disclosure has an effect on capital structure by reducing information asymmetry (Petacchi 2015), i.e., the valuation role of accounting information, we find that

disclosure frequency has an effect on capital structure by reducing agency costs, i.e., the stewardship role of accounting information.

In essay 2, I investigate dividend payments following a mandate to disclose more frequently. I find an increase in dividend payments of 4 percent for prior semi-annual reporters after the mandate to disclose quarterly compared to constant quarterly disclosers. In detail, I find an increase in the dividend amount, but no significant effect on the decision to pay a dividend or not. The increase is robust to alternative measures of dividend payments and therefore is not only granted as a special dividend, represents a real cash outflow for the firm and is the result of a higher likelihood to increase dividend payments and a lower likelihood to decrease dividend payments. My findings support the notion that the increase in dividend payments is not driven by improved shareholder monitoring but by an increase in managerial myopia.

The findings of essay 2 contribute to three strands of literature. First, I contribute to the literature on the effect of disclosure on dividend payments. Prior literature documented a decrease in dividends due to lower information asymmetry (Hail et al. 2014) and an increase in dividends due to better shareholder monitoring following an increase in disclosure quality (Koo et al. 2017). In contrast, my findings support the notion that disclosure may affect dividends through an alternative channel, i.e., the increase in dividend payments following a mandate to disclosure more frequently is driven by managerial myopia. Second, I add to the literature on dividend determinants. Prior studies have found a positive relationship between voluntary disclosure frequency and dividend payments (Eije and Megginson 2008) and an increase in dividends following mandated quarterly reporting in the US (Koo et al. 2017). I add to this literature by investigating an exogenous shock to disclosure frequency, by controlling for share buy backs as an alternative relevant payout method to shareholders, by investigating a recent European sample and by documenting a robust positive effect of disclosure frequency on dividend payments. Third, I add to the literature on costs and

benefits of a mandate to disclose quarterly instead of semiannually. Prior literature has identified both costs (Ernstberger et al. 2017; Kraft et al. 2018) and benefits (Fu et al. 2012; Downar et al. 2018) of a mandate to disclose more frequently. I contribute to this strand of literature by identifying a possible cost of quarterly disclosure, i.e., higher dividend payments, which are positively associated with lower investment and higher real earnings management and therefore myopic management decisions which are likely to decrease future operating performance (see Ernstberger et al. 2017; Kraft et al. 2018).

In essay 3, we investigate quarterly disclosure practice following a deregulation of quarterly disclosure requirements for firms listed in the prime market segment of the Vienna Stock Exchange. Prior to the deregulation, firms had to file quarterly reports similar to IAS 34. After the deregulation, firms did not face any requirement for quarterly disclosure. We find that firms adjust their quarterly disclosure practice in the short-term, i.e., in the first quarter after the deregulation. First, we find that 14.3 percent of firms stop publishing quarterly reports. However, these firms continue to inform investors and the public voluntarily through quarterly disclosure tools, which existed prior to the deregulation (e.g., press statements, investor presentations, conference calls). Therefore, we do not find a complete discontinuation of quarterly disclosure following the deregulation. Second, we find that firms, who continue to disclose quarterly reports, significantly change the form and the content of these reports, while the timing of the publication remains unchanged. On the form of quarterly disclosure, we document changes to the label of the report (i.e., fewer firms use the word "report" in the title) and changes to the disclosure channel (i.e., fewer firms make their report available to investors on both the company website and the website of the Vienna Stock exchange). On the content of quarterly disclosure, we find significant reductions in qualitative disclosure elements (i.e., fewer firms disclosing notes, transactions with related parties, a balance sheet oath and a risk report), A detailed analysis of the individual

disclosure elements of the reports supports the notion that firms systematically reviewed and focused their quarterly reports. The most significant reductions by firms concerned disclosure elements for which disclosure was voluntary prior to and after the deregulation, or for which disclosure is still mandatory in semi-annual reports. Furthermore, we find evidence supporting the notion that complete deregulation may have incremental effects over a deregulation of certain elements because we find that firms significantly reduced disclosure of notes to quarterly reports. The disclosure of notes was already deregulated in 2016 and therefore voluntary prior to the investigated deregulation in 2019.

The findings of essay 3 contribute to the literature on disclosure frequency deregulation. In contrast to prior literature (e.g., Gstatter 2016; Pellens et al. 2017; Hitz and Moritz 2019), we are able to exploit a unique setting, which allows us to investigate an extensive deregulation from previously rigorous disclosure requirements, which was implemented surprisingly and independently of the amendment to the TD. We document empirical evidence on short-term consequences for the form and content of quarterly disclosure from this setting. The findings may be particularly informative for regulators facing similar settings, for example because existing quarterly disclosure requirements are rigorous (e.g., in the US or Singapore) or because they share similar institutional and regional characteristics but still mandate quarterly reporting (e.g., Germany, Italy, Spain or Sweden).

In sum, this dissertation documents that mandating quarterly disclosure enables firms to rely on more equity financing in their capital structure (i.e., reduces financial leverage) and increases dividend payments to shareholders. Furthermore, firms respond to a deregulation of quarterly disclosure by reducing the extent of quarterly disclosure. Therefore, this dissertation documents relevant effects of a mandate to disclose more frequently on corporate finance policies (firm capital structure and dividend payments to shareholders) and finds short-term consequences of a deregulation of quarterly disclosure requirements for the

disclosure available to investors. Nevertheless, the results of this dissertation do not support a conclusion on the overall desirability of quarterly reporting regulation. One reason is that this dissertation studies individual outcomes of the regulation (e.g., the effects on capital structure and dividend payments). Another reason is that the essays in this dissertation identify both a cost and a benefit of a mandate to disclose more frequently. On the one hand, the results support the notion that more frequent disclosure is beneficial because it mitigates agency costs for shareholders and thereby improves equity financing opportunities for firms, which correspondingly rely on more equity financing and reduce financial leverage. On the other hand, the results also support the notion that more frequent disclosure is costly because the increase in dividend payments to investors is not associated with better shareholder monitoring, but rather with measures of increased managerial myopia, which increases the likelihood of decrease in future operating performance (see Ernstberger et al. 2017; Kraft et al. 2018). In sum, the dominant channel through which more frequent disclosure influences the investigated capital market outcomes varies.

The finding that more frequent disclosure may be both costly and beneficial is consistent with prior studies for both the US and the EU. For the US, Fu et al. (2012) study mandatory increases in disclosure frequency from annual to semi-annual in 1955 and from semi-annual to quarterly in 1970 and find a benefit of more frequent disclosure, i.e., a lower cost of equity capital due to lower information asymmetry (Fu et al. 2012). In contrast, Kraft et al. (2018) study the same increases in disclosure frequency and find a cost of more frequent disclosure, i.e., lower investment due to higher managerial myopia (Kraft et al. 2018). For the EU, Downar et al. (2018) study the introduction of mandatory quarterly disclosure through IMS and find a benefit of more frequent disclosure, i.e., better shareholder monitoring opportunities and lower agency costs for firms (Downar et al. 2018). In contrast, Ernstberger et al. (2017) study the same increase in mandatory disclosure frequency and find a cost of

more frequent disclosure, i.e., higher managerial myopia as evidenced by an increase in real earnings management and a subsequent decline in operating performance (Ernstberger et al. 2017). Collectively these findings illustrate, that the effects of mandatory quarterly disclosure depend on the investigated outcome.

However, the mixed evidence on the costs and benefits of quarterly disclosure regulation may also indicate that (non-linear) interactions with firm, industry or market characteristics influence the effect. For example, firms may respond differently to quarterly disclosure requirements based on their information environment. For example, in essay 1, firms below the 30 percent decile of the analyst coverage distribution are found to decrease their leverage, while firms above the 70 percent decile of the analyst coverage distribution are found to not significantly change their leverage. Conversely, in essay 2, firms with above median analyst coverage are found to increase their dividend payments, while firms below median analyst coverage do not exhibit significant changes to dividend payments. These findings may indicate that for firms with a weak information environment quarterly disclosure may act as a substitute to beneficial effects of financial analysts such as better monitoring (see e.g., Jung et al. 2012), while for firms in a rich information environment quarterly disclosure may act as an amplifier of costly effects of financial analysts such as an increase in perceived pressure from capital markets as more analysts cover and scrutinize the firm and thereby increase managerial myopia (see e.g., He and Tian 2013). Thus, the level of analyst coverage may influence the effect of more frequent disclosure by being a substitute or complement to more frequent disclosure. Further, this influence may vary non-linearly or around a threshold. Future research could build upon these notions and focus on the interaction between analyst coverage and the effect of quarterly disclosure. Similar arguments are conceivable for other firm characteristics (e.g., firm size, profitability, governance quality) as well as for industry characteristics (e.g., industrial organization along the value chain) and for market

characteristics (e.g., importance of capital markets, litigation risk, enforcement). Therefore, future research could build upon the results in this dissertation and other studies to derive more precise conditions, under which an introduction of a mandate to disclose more frequently has beneficial or costly effects.

Furthermore, this dissertation focuses on effects of quarterly disclosure on investors and firms' management. However, quarterly disclosure may also affect other stakeholders such as employees/labor unions, suppliers or consumers (see e.g., Waterhouse et al. 1993; Baiman and Rajan 2002; Chung et al. 2015). Therefore, another opportunity for future research could be to investigate the effect of quarterly disclosure on other stakeholders (e.g., use of quarterly disclosure in wage negotiations, effect of quarterly disclosure on imitation or behavior by competitors, effect of quarterly disclosure on litigation risk).

Regarding the effects of the quarterly disclosure deregulation, this dissertation finds short-term reductions in quarterly disclosure following a deregulation. However, a reduction in disclosure does not need to be negative, for example if investors suffer from disclosure overload, a reduction may also have positive effects (Eppler and Mengis 2004). Future research could build upon these results, to verify if investors or other stakeholders perceive the reduction as positive or negative, and to investigate if firms are able to obtain relevant cost savings from a reduction in quarterly disclosure.

6. References

For Introduction and Conclusion only

Akerlof, George A. (1970): The Market for "Lemons": Quality Uncertainty and the Market Mechanism. In *The Quarterly Journal of Economics* 84 (3), pp. 488-500. DOI: 10.2307/1879431.

Albring, Susan; Banyi, Monica; Dhaliwal, Dan; Pereira, Raynolde (2016): Does the Firm Information Environment Influence Financing Decisions? A Test Using Disclosure Regulation. In *Management Science* 62 (2), pp. 456–478. DOI: 10.1287/mnsc.2014.2123.

Alsin, Arne (2017): The Ugly Truth Behind Stock Buybacks. Edited by Forbes. Available online at https://www.forbes.com/sites/aalsin/2017/02/28/shareholders-should-be-required-to-vote-on-stock-buybacks/#36d55dd16b1e, last accessed on 05.12.2019.

American Institute of Certified Public Accountants (2019): International Financial Reporting Standards. Questions and Answers. Available online at https://www.ifrs.com/ifrs_faqs.html, last accessed on 05.12.2019.

Arif, Salman; De George, Emmanuel T. (2018): Financial Reporting Frequency and Earnings Information Spillovers around the World. In *SSRN Journal*. DOI: 10.2139/ssrn.2900988.

Baker, H. Kent; Weigand, Rob (2015): Corporate Dividend Policy Revisited. In *Managerial Finance* 41 (2), pp. 126–144. DOI: 10.1108/MF-03-2014-0077.

Baker, Malcolm; Wurgler, Jeffrey (2002): Market Timing and Capital Structure. In *The Journal of Finance* 57 (1), pp. 1–32. DOI: 10.1111/1540-6261.00414.

Balakrishnan, Karthik; Ertan, Aytekin (2018): Banks' Financial Reporting Frequency and Asset Quality. In *The Accounting Review* 93 (3), pp. 1–24. DOI: 10.2308/accr-51936.

Beatty, Anne; Liao, Scott; Weber, Joseph (2012): Evidence on the Determinants and Economic Consequences of Delegated Monitoring. In *Journal of Accounting and Economics* 53 (3), pp. 555–576. DOI: 10.1016/j.jacceco.2011.12.002.

Berger, Philip G.; Ofek, E. L.I.; Yermack, David L. (1997): Managerial Entrenchment and Capital Structure Decisions. In *The Journal of Finance* 52 (4), pp. 1411–1438. DOI: 10.1111/j.1540-6261.1997.tb01115.x.

Beyer, Anne; Cohen, Daniel A.; Lys, Thomas Z.; Walther, Beverly R. (2010): The Financial Reporting Environment: Review of the Recent Literature. In *Journal of Accounting and Economics* 50 (2-3), pp. 296–343. DOI: 10.1016/j.jacceco.2010.10.003.

Bhattacharyya, N. (2007): Dividend Policy: A Review. In *Managerial Finance* 33 (1), pp. 4–13. DOI: 10.1108/03074350710715773.

Blaylock, Bradley; Gaertner, Fabio B.; Shevlin, Terry (2017): Book-Tax Conformity and Capital Structure. In *Review of Accounting Studies* 22 (2), pp. 903–932. DOI: 10.1007/s11142-017-9386-2.

Bradley, Michael; Jarrell, Gregg A.; Kim, E. Han; Bradley, Michael; Jarrell, Gregg A.; Kim, E. Han (1984): On the Existence of an Optimal Capital Structure: Theory and Evidence. In *The Journal of Finance* 39 (3), pp. 857–878. DOI: 10.1111/j.1540-6261.1984.tb03680.x.

Brown, Stephen; Hillegeist, Stephen A. (2007): How Disclosure Quality Affects the level of Information Asymmetry. In *Review of Accounting Studies* 12 (2-3), pp. 443–477. DOI: 10.1007/s11142-007-9032-5.

Bushee, Brian J.; Leuz, Christian (2005): Economic Consequences of SEC Disclosure Regulation: Evidence from the OTC Bulletin Board. In *Journal of Accounting and Economics* 39 (2), pp. 233–264. DOI: 10.1016/j.jacceco.2004.04.002.

Bushman, Robert M.; Smith, Abbie J. (2001): Financial Accounting Information and Corporate Governance. In *Journal of Accounting and Economics* 32 (1-3), pp. 237–333. DOI: 10.1016/S0165-4101(01)00027-1.

Butler, Marty; Kraft, Arthur; Weiss, Ira S. (2007): The Effect of Reporting Frequency on the Timeliness of Earnings: The Cases of Voluntary and Mandatory Interim Reports. In *Journal of Accounting and Economics* 43 (2-3), pp. 181–217. DOI: 10.1016/j.jacceco.2007.02.001.

Canadian Securities Administrators (2017): CSA Consultation Paper 51-404 Considerations for Reducing Regulatory Burden for Non-Investment Fund Reporting Issuers. Available online at https://www.osc.gov.on.ca/en/SecuritiesLaw_csa_20170405_51-404_considerations-for-reducing-regulatory-burden.htm, last accessed on 04.11.2019.

Canadian Securities Administrators (2018): CSA Staff Notice 51-353 Update on CSA Consultation Paper 51-404 Considerations for Reducing Regulatory Burden for Non-Investment Fund Reporting Issuers. Available online at https://www.bcsc.bc.ca/Securities_Law/Policies/Policy5/PDF/51-353__CSA_Staff_Notice___March_27__2018/, last accessed on 12.11.2019.

Christensen, Hans B.; Floyd, Eric; Liu, Lisa Yao; Maffett, Mark (2017): The Real Effects of Mandated Information on Social Responsibility in Financial Reports: Evidence from Mine-Safety Records. In *Journal of Accounting and Economics* 64 (2-3), pp. 284–304. DOI: 10.1016/j.jacceco.2017.08.001.

Christensen, Hans B.; Hail, Luzi; Leuz, Christian (2016): Capital-Market Effects of Securities Regulation: Prior Conditions, Implementation, and Enforcement. In *Review of Financial Studies* 29 (11), pp. 2885–2924. DOI: 10.1093/rfs/hhw055.

Coates, John C.; Srinivasan, Suraj (2014): SOX after Ten Years: A Multidisciplinary Review. In *Accounting Horizons* 28 (3), pp. 627–671. DOI: 10.2308/acch-50759.

Cox, Jeff (2018): Trump pushes for an end to Quarterly Earnings Reports as a Way to Help Business Do 'Even Better'. Edited by CNBC. Available online at https://www.cnbc.com/2018/08/17/trump-pushes-for-an-end-to-quarterly-earnings-reports.html, last accessed on 11.11.2019.

Daske, Holger; Hail, Luzi; Leuz, Christian; Verdi, Rodrigo (2008): Mandatory IFRS Reporting around the World: Early Evidence on the Economic Consequences. In *Journal of Accounting Research* 46 (5), pp. 1085–1142. DOI: 10.1111/j.1475-679X.2008.00306.x.

Degeorge, François; Ding, Yuan; Jeanjean, Thomas; Stolowy, Hervé (2013): Analyst Coverage, Earnings Management and Financial Development: An International Study. In *Journal of Accounting and Public Policy* 32 (1), pp. 1–25. DOI: 10.1016/j.jaccpubpol.2012.10.003.

Diamond, Douglas W. (1991): Monitoring and Reputation: The Choice between Bank Loans and Directly Placed Debt. In *Journal of Political Economy* 99 (4), pp. 689–721. DOI: 10.1086/261775.

Diamond, Douglas W.; Verrecchia, Robert E. (1991): Disclosure, Liquidity, and the Cost of Capital. In *The Journal of Finance* 46 (4), pp. 1325–1359. DOI: 10.1111/j.1540-6261.1991.tb04620.x.

Downar, Benedikt; Ernstberger, Jürgen; Link, Benedikt (2018): The Monitoring Effect of More Frequent Disclosure. In *Contemporary Accounting Research* 35 (4), pp. 2058–2081. DOI: 10.1111/1911-3846.12386.

Easterbrook, Frank H. (1984): Two Agency-Cost Explanations of Dividends. In *The American Economic Review* 74 (4), pp. 650–659.

Eije, Henk von; Megginson, William L. (2008): Dividends and Share Repurchases in the European Union. In *Journal of Financial Economics* 89 (2), pp. 347–374. DOI: 10.1016/j.jfineco.2007.11.002.

Engel, Ellen; Hayes, Rachel M.; Wang, Xue (2007): The Sarbanes–Oxley Act and Firms' Going-Private Decisions. In *Journal of Accounting and Economics* 44 (1-2), pp. 116–145. DOI: 10.1016/j.jacceco.2006.07.002.

Eppler, Martin J.; Mengis, Jeanne (2004): The Concept of Information Overload: A Review of Literature from Organization Science, Accounting, Marketing, MIS, and Related Disciplines. In *The Information Society* 20 (5), pp. 325–344. DOI: 10.1080/01972240490507974.

Erkilet, Gülcan; Kasperzak, Rainer (2019): Quartalsberichterstattung in 15 EU-Mitgliedstaaten nach Umsetzung der Transparenzrichtlinie-Änderungsrichtlinie. In *Die Wirtschaftsprüfung* (3), pp. 137–143.

Ernstberger, Jürgen; Link, Benedikt; Stich, Michael; Vogler, Oliver (2017): The Real Effects of Mandatory Quarterly Reporting. In *The Accounting Review* 92 (5), pp. 33–60. DOI: 10.2308/accr-51705.

European Commission (12/31/2004): Directive 2004/109/EC of the European Parliament and of the council. In *Official Journal of the European Union* (L 390/38), pp. 13–27. Available online at https://eur-

lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:390:0038:0057:EN:PDF, last accessed on 04.11.2019.

European Commission (11/6/2013): Directive 2013/50/EU of the Parliament and of the Council. In *Official Journal of the European Union* (L294), pp. 13–27. Available online at https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013L0050&from=EN, last accessed on 04.11.2019.

Faulkender, Michael; Petersen, Mitchell A. (2006): Does the Source of Capital Affect Capital Structure? In *Review of Financial Studies* 19 (1), pp. 45–79. DOI: 10.1093/rfs/hhj003.

Feng Lu, Susan (2012): Multitasking, Information Disclosure, and Product Quality: Evidence from Nursing Homes. In *Journal of Economics & Management Strategy* 21 (3), pp. 673–705. DOI: 10.1111/j.1530-9134.2012.00341.x.

Fischer, Edwin O.; Heinkel, Robert; Zechner, Josef (1989): Dynamic Capital Structure Choice: Theory and Tests. In *The Journal of Finance* 44 (1), pp. 19–40. DOI: 10.1111/j.1540-6261.1989.tb02402.x.

FMA Finanzmarktaufsicht (2002): Jahresbericht 2002 gem. § 16 Abs. 3 FMBAG. Available online at https://www.fma.gv.at/publikationen/fma-jahresberichte/, last accessed on 21.10.2019.

Frank, Murray Z.; Goyal, Vidhan K. (2009): Trade-off and Pecking Order Theories of Debt. In: Handbook of Empirical Corporate Finance, vol. 2, 2 volumes: Elsevier, pp. 136–202.

Fu, Renhui; Kraft, Arthur; Zhang, Huai (2012): Financial Reporting Frequency, Information Asymmetry, and the Cost of Equity. In *Journal of Accounting and Economics* 54 (2-3), pp. 132–149. DOI: 10.1016/j.jacceco.2012.07.003.

Garvey, Gerald T.; Hanka, Gordon (1999): Capital Structure and Corporate Control: The Effect of Antitakeover Statutes on Firm Leverage. In *The Journal of Finance* 54 (2), pp. 519–546. DOI: 10.1111/0022-1082.00116.

Gigler, Frank; Kanodia, Chandra; Sapra, Haresh; Venugopalan, Raghu (2014): How Frequent Financial Reporting Can Cause Managerial Short-Termism: An Analysis of the Costs and Benefits of Increasing Reporting Frequency. In *Journal of Accounting Research* 52 (2), pp. 357–387. DOI: 10.1111/1475-679X.12043.

Gluch, Niklas; Muschallik, Marco; Schmidt, André (2019): Entwicklung der quartalsweisen Berichterstattungspraxis. Empirische Analyse der Prime Standard-Unternehmen. In *Zeitschrift für internationale und kapitalmarktorientierte Rechnungslegung* (4), pp. 183–193.

Graham, John R.; Leary, Mark T. (2011): A Review of Empirical Capital Structure Research and Directions for the Future. In *Annual Review of Financial Economics* 3 (1), pp. 309–345. DOI: 10.1146/annurev-financial-102710-144821.

Grossman, S. J.; Hart, O. D. (1980): Disclosure Laws and Takeover Bids. In *The Journal of Finance* 35 (2), pp. 323–334. DOI: 10.1111/j.1540-6261.1980.tb02161.x.

Grossman, Sanford J. (1981): The Informational Role of Warranties and Private Disclosure about Product Quality. In *The Journal of Law and Economics* 24 (3), pp. 461–483. DOI: 10.1086/466995.

Gstatter, Doris (2016): Der neue Quartalsbericht. Praxis der Berichterstattung in Österreich. In *GoingPublic* (11), pp. 30–31.

Hail, Luzi; Tahoun, Ahmed; Wang, Clare (2014): Dividend Payouts and Information Shocks. In *Journal of Accounting Research* 52 (2), pp. 403–456. DOI: 10.1111/1475-679X.12040.

Harris, Milton; Raviv, Artur (1979): Optimal Incentive Contracts with Imperfect Information. In *Journal of Economic Theory* 20 (2), pp. 231–259. DOI: 10.1016/0022-0531(79)90073-5.

He, Jie; Tian, Xuan (2013): The Dark Side of Analyst Coverage: The Case of Innovation. In *Journal of Financial Economics* 109 (3), pp. 856–878. DOI: 10.1016/j.jfineco.2013.04.001.

Healy, Paul M.; Palepu, Krishna G. (2001): Information Asymmetry, Corporate Disclosure, and the Capital Markets: A Review of the Empirical Disclosure Literature. In *Journal of Accounting and Economics* 31 (1-3), pp. 405–440. DOI: 10.1016/S0165-4101(01)00018-0.

Heckman, James J. (1979): Sample Selection Bias as a Specification Error. In *Econometrica* 47 (1), pp. 153-161. DOI: 10.2307/1912352.

Hennessy, Christopher A.; Livdan, Dmitry (2009): Debt, Bargaining, and Credibility in Firm–Supplier Relationships. In *Journal of Financial Economics* 93 (3), pp. 382–399. DOI: 10.1016/j.jfineco.2008.05.006.

Hitz, Joerg-Markus; Moritz, Florian (2019): Turning Back the Clock on Disclosure Regulation? – Evidence from the Termination of the Quarterly Reporting Mandate in Europe. In *SSRN Journal*. DOI: 10.2139/ssrn.3451938.

IASB (2018): Conceptual Framework for Financial Reporting 2018. Available online at https://www.iasplus.com/en/standards/other/framework, last accessed on 04.11.2019.

Jensen, Michael C.; Meckling, William H. (1976): Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. In *Journal of Financial Economics* 3 (4), pp. 305–360. DOI: 10.1016/0304-405X(76)90026-X.

Jin, Ginger Z.; Leslie, Phillip (2003): The Effect of Information on Product Quality: Evidence from Restaurant Hygiene Grade Cards. In *The Quarterly Journal of Economics* 118 (2), pp. 409–451. DOI: 10.1162/003355303321675428.

Johnson, Katanga (2019): Factbox: How the SEC Is Making Life Easier for Corporate America. Edited by Reuters. Available online at https://www.reuters.com/article/us-usa-sec-publiccompanies/how-the-sec-is-making-life-easier-for-corporate-america-idUSKBN1XG0TU, last accessed on 11.11.2019.

Johnson, Todd L. (1992): Research on Disclosure. In *Accounting Horizons* 6 (1), pp. 101–103.

Jung, Boochun; Sun, Kevin Jialin; Yang, Yanhua Sunny (2012): Do Financial Analysts Add Value by Facilitating More Effective Monitoring of Firms' Activities? In *Journal of Accounting, Auditing & Finance* 27 (1), pp. 61–99. DOI: 10.1177/0148558X11409144.

Kajüter, Peter; Klassmann, Florian; Nienhaus, Martin (2019): The Effect of Mandatory Quarterly Reporting on Firm Value. In *The Accounting Review* 94 (3), pp. 251–277. DOI: 10.2308/accr-52212.

Kanodia, Chandra; Lee, Deokheon (1998): Investment and Disclosure: The Disciplinary Role of Periodic Performance Reports. In *Journal of Accounting Research* 36 (1), pp. 33–55. DOI: 10.2307/2491319.

Kasanen, Eero; Kinnunen, Juha; Niskanen, Jyrki (1996): Dividend-Based Earnings Management: Empirical Evidence from Finland. In *Journal of Accounting and Economics* 22 (1-3), pp. 283–312. DOI: 10.1016/S0165-4101(96)00435-1.

Kerr, Jon N.; Ozel, Naim B. (2015): Earnings Announcements, Information Asymmetry, and Timing of Debt Offerings. In *The Accounting Review* 90 (6), pp. 2375–2410. DOI: 10.2308/accr-51116.

Kim, Oliver; Verrecchia, Robert E. (1994): Market Liquidity and Volume Around Earnings Announcements. In *Journal of Accounting and Economics* 17 (1-2), pp. 41–67. DOI: 10.1016/0165-4101(94)90004-3.

Koo, David S.; Ramalingegowda, Santhosh; Yu, Yong (2017): The Effect of Financial Reporting Quality on Corporate Dividend Policy. In *Review of Accounting Studies* 22 (2), pp. 753–790. DOI: 10.1007/s11142-017-9393-3.

Kraft, Arthur G.; Vashishtha, Rahul; Venkatachalam, Mohan (2018): Frequent Financial Reporting and Managerial Myopia. In *The Accounting Review* 93 (2), pp. 249–275. DOI: 10.2308/accr-51838.

La Porta, Rafael; Lopez-de-Silanes, Florencio; Shleifer, Andrei; Vishny, Robert W. (2000): Agency Problems and Dividend Policies around the World. In *The Journal of Finance* 55 (1), pp. 1–33. DOI: 10.1111/0022-1082.00199.

Leary, Mark T.; Roberts, Michael R. (2010): The Pecking Order, Debt Capacity, and Information Asymmetry. In *Journal of Financial Economics* 95 (3), pp. 332–355. DOI: 10.1016/j.jfineco.2009.10.009.

Leuz, Christian; Wysocki, Peter D. (2008): Economic Consequences of Financial Reporting and Disclosure Regulation: A Review and Suggestions for Future Research. In *SSRN Journal*. DOI: 10.2139/ssrn.1105398.

Leuz, Christian; Wysocki, Peter D. (2016): The Economics of Disclosure and Financial Reporting Regulation: Evidence and Suggestions for Future Research. In *Journal of Accounting Research* 54 (2), pp. 525–622. DOI: 10.1111/1475-679X.12115.

Link, Benedikt (2012): The Struggle for a Common Interim Reporting Frequency Regime in Europe. In *Accounting in Europe* 9 (2), pp. 191–226. DOI: 10.1080/17449480.2012.720874.

Liu, Nan; Espahbodi, Reza (2014): Does Dividend Policy Drive Earnings Smoothing? In *Accounting Horizons* 28 (3), pp. 501–528. DOI: 10.2308/acch-50764.

Loy, Thomas; Balzer, Veronica (2017): Die Umsetzung der Transparenzrichtlinie-Änderungsrichtlinie in Deutschland. Erleichterungen bei der Bekanntgabe quartalsweiser Finanzinformationen. In *Zeitschrift für Corporate Governance* (2), pp. 63–67.

Marra, Teye; Suijs, Jeroen (2004): Going-Public and the Influence of Disclosure Environments. In *Review of Accounting Studies* 9 (4), pp. 465–493. DOI: 10.1007/s11142-004-7793-7.

Matsa, David A. (2010): Capital Structure as a Strategic Variable: Evidence from Collective Bargaining. In *The Journal of Finance* 65 (3), pp. 1197–1232. DOI: 10.1111/j.1540-6261.2010.01565.x.

McKenzie, Daniel (2018): Trump Asks SEC to Study Switch from Quarterly to Semi-Annual Reporting. Edited by Chartered Professional Accountants Canada. Available online at https://www.cpacanada.ca/en/news/world/2018-09-14-trump-sec-semi-annual-reporting, last accessed on 11.11.2019.

Mensah, Yaw M.; Werner, Robert H. (2008): The Capital Market Implications of the Frequency of Interim Financial Reporting: An International Analysis. In *Review of Quantitative Finance and Accounting)* 31 (1), pp. 71–104. DOI: 10.1007/s11156-007-0069-0.

Milgrom, Paul R. (1981): Good News and Bad News: Representation Theorems and Applications. In *The Bell Journal of Economics* 12 (2), pp. 380-391. DOI: 10.2307/3003562.

Miller, Merton H.; Modigliani, Franco (1958): The Cost of Capital, Corporation Finance and the Theory of Investment. In *The American Economic Review* 48 (3), pp. 261–297.

Miller, Merton H.; Modigliani, Franco (1961): Dividend Policy, Growth and the Valuation of Shares. In *The Journal of Business* 34 (4), pp. 411–433.

Miller, Merton H.; Rock, Kevin (1985): Dividend Policy under Asymmetric Information. In *The Journal of Finance* 40 (4), pp. 1031–1051. DOI: 10.1111/j.1540-6261.1985.tb02362.x.

Minnis, Michael; Sutherland, Andrew (2017): Financial Statements as Monitoring Mechanisms: Evidence from Small Commercial Loans. In *Journal of Accounting Research* 55 (1), pp. 197–233. DOI: 10.1111/1475-679X.12127.

Morellec, Erwan; Nikolov, Boris; Schürhoff, Norman (2012): Corporate Governance and Capital Structure Dynamics. In *The Journal of Finance* 67 (3), pp. 803–848. DOI: 10.1111/j.1540-6261.2012.01735.x.

Myers, Stewart C. (2000): Outside Equity. In *The Journal of Finance* 55 (3), pp. 1005–1037. DOI: 10.1111/0022-1082.00239.

Myers, Stewart C.; Majluf, Nicholas S. (1984): Corporate Financing and Investment Decisions when Firms Have Information that Investors Do Not Have. In *Journal of Financial Economics* 13 (2), pp. 187–221. DOI: 10.1016/0304-405X(84)90023-0.

Naranjo, Patricia L.; Saavedra, Daniel; Verdi, Rodrigo S. (2018): Information Asymmetry and Financing Decisions Around the World. In *SSRN Journal*. DOI: 10.2139/ssrn.2147838.

Parades, Tory A. (2003): Blinded by the Light: Information Overload and Its Consequences for Securities Regulation. In *Washington University Law Review* 81 (2), pp. 417-485.

Pellens, Bernhard; Knappstein, Janina; Muschallik, Marco; Schmidt, André (2017): Quartalsbericht oder Quartalsmitteilung? Empirische Analyse der quartalsweisen Berichterstattungspraxis der DAX30- und MDAX-Unternehmen. In *Der Betrieb* (1-2), pp. 1–7.

Petacchi, Reining (2015): Information Asymmetry and Capital Structure: Evidence from Regulation FD. In *Journal of Accounting and Economics* 59 (2-3), pp. 143–162. DOI: 10.1016/j.jacceco.2015.01.002.

Quah, Michelle (2019): Quarterly Reporting: Risk-Based Approach Cannot be too Narrow. Edited by Business Times. Available online at https://www.businesstimes.com.sg/companies-markets/quarterly-reporting-risk-based-approach-cannot-be-too-narrow, last accessed on 11.11.2019.

Rogers, Jonathan L.; van Buskirk, Andrew (2009): Shareholder Litigation and Changes in Disclosure Behavior. In *Journal of Accounting and Economics* 47 (1-2), pp. 136–156. DOI: 10.1016/j.jacceco.2008.04.003.

Rogers, Jonathan L.; van Buskirk, Andrew; Zechman, Sarah L. C. (2011): Disclosure Tone and Shareholder Litigation. In *The Accounting Review* 86 (6), pp. 2155–2183. DOI: 10.2308/accr-10137.

Safieddine, Assem; Titman, Sheridan (1999): Leverage and Corporate Performance: Evidence from Unsuccessful Takeovers. In *The Journal of Finance* 54 (2), pp. 547–580. DOI: 10.1111/0022-1082.00117.

Shi, Charles; Pukthuanthong, Kuntara; Walker, Thomas (2013): Does Disclosure Regulation Work? Evidence from International IPO Markets. In *Contemporary Accounting Research* 30 (1), pp. 356–387. DOI: 10.1111/j.1911-3846.2012.01158.x.

Singapore Stock Exchange (2018): Consultation Paper Review of the Quarterly Reporting Framework. Available online at https://www.cfasociety.org/singapore/Lists/MAS%20Consultation%20Paper/Attachments/13/Consultation%20Paper%20on%20Quarterly%20Reporting%20Framework.pdf, last accessed on 12.11.2019.

Smith, Clifford W.; Warner, Jerold B. (1979): On Financial Contracting. In *Journal of Financial Economics* 7 (2), pp. 117–161. DOI: 10.1016/0304-405X(79)90011-4.

Statista (2019): Revenue of the Big Four Accounting / Audit Firms worldwide in 2018, by Function. Available online at https://www.statista.com/statistics/250935/big-four-accounting-firms-breakdown-of-revenues/, last accessed on 20.11.2019.

Stern, Nicole (2019): Börse schafft Quartalsberichte ab. In *Die Presse*, 2/22/2019, p. 11.

Stoumbos, Robert (2017): How Does More Frequent Reporting Reduce Information Asymmetry? In *Working Paper*. Available online at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3008708, last accessed on 20.11.2019.

Tan, Angela (2018): SGX Set to Review Mandatory Quarterly Reporting. Edited by Business Times. Available online at https://www.businesstimes.com.sg/companies-markets/sgx-set-to-review-mandatory-quarterly-reporting, last accessed on 11.11.2019.

Tang, Tony T. (2009): Information Asymmetry and Firms' Credit Market Access: Evidence from Moody's Credit Rating Format Refinement. In *Journal of Financial Economics* 93 (2), pp. 325–351. DOI: 10.1016/j.jfineco.2008.07.007.

Tausch-Nebel, Lasse; Weber, Stefan C.; Vaagt, Stephan (2017): Praxis und Determinanten der novellierten Quartalsberichterstattung im DAX, MDAX, SDAX und TecDAX. In

Zeitschrift für internationale und kapitalmarktorientierte Rechnungslegung (4), pp. 164–172.

United States Securities and Exchange Commission (2018): Request for Comment on Earnings Releases and Quarterly Reports. [Release No. 33-10588; 34-84842; File No. S7-26-18]. Available online at https://www.sec.gov/rules/other/2018/33-10588.pdf, last accessed on 11.11.2019.

van Buskirk, Andrew (2012): Disclosure Frequency and Information Asymmetry. In *Review of Quantitative Finance and Accounting* 38 (4), pp. 411–440. DOI: 10.1007/s11156-011-0237-0.

Verrecchia, Robert E. (1983): Discretionary Disclosure. In *Journal of Accounting and Economics* 5, pp. 179–194. DOI: 10.1016/0165-4101(83)90011-3.

Verrecchia, Robert E. (2001): Essays on Disclosure. In *Journal of Accounting and Economics* 32 (1-3), pp. 97–180. DOI: 10.1016/S0165-4101(01)00025-8.

Wang, Shiheng; Welker, Michael (2011): Timing Equity Issuance in Response to Information Asymmetry Arising from IFRS Adoption in Australia and Europe. In *Journal of Accounting Research* 49 (1), pp. 257–307. DOI: 10.1111/j.1475-679X.2010.00392.x.

Welker, Michael (1995): Disclosure Policy, Information Asymmetry, and Liquidity in Equity Markets. In *Contemporary Accounting Research* 11 (2), pp. 801–827. DOI: 10.1111/j.1911-3846.1995.tb00467.x.

Wiener Börse (2018): Regelwerk prime market, revised 03.01.2018.

Wiener Börse (2019a): APA News vom 22.02.2019 – Wiener Börse: Quartalsberichte für prime-market-Firmen nun freiwillig. Available online at

https://www.wienerborse.at/news/apa-news-detail/?id=806134691, last accessed on 21.10.2019.

Wiener Börse (2019b): Regelwerk prime market, revised 20.02.2019.

Wiener Börse (2019c): Wiener Börse: Quartalsberichte für prime-market-Firmen nun freiwillig. Available online at https://www.wienerborse.at/news/apa-news-detail/?id=806134691, last accessed on 11.11.2019.

Zülch, Henning; Hecht, Jens (2017): Quo vadis Quartalsmitteilungen? Eine Analyse der aktuellen Informationsqualität. In *Zeitschrift für internationale und kapitalmarktorientierte Rechnungslegung* (2), pp. 98–99.

Appendix

Contribution to Essays

Essay 1 (Chapter 2)

I had the paper idea and developed the research design. Refinement of the research design was an iterative and collaborative process.

I collected the required data and was responsible for the data analyses. The collected data and the analyses were cross-checked and validated by the co-authors.
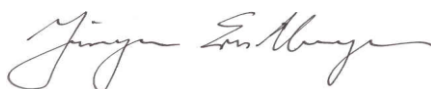
I wrote the main part of an initial draft of the paper. Revisions to the text and the development of alternative analyses, for example based on feedback by seminar and conference participants, were an iterative and collaborative process. The final wording was an iterative and collaborative process.

Christopher Fritz (lead author)

Dr. Benedikt Downar

Prof. Dr. Jürgen Ernstberger

Essay 2 (Chapter 3)

I had the paper idea and developed the research design.

I collected the required data and was responsible for the data analyses.

I wrote an initial draft and subsequently revised the paper. The paper has benefited from helpful comments and suggestions by my supervisor Prof. Dr. Jürgen Ernstberger and Dr. Benedikt Downar.

Christopher Fritz (author)

Essay 3 (Chapter 4)

I collected and analyzed the data.

The development of the research design and discussion of the results was an iterative and cooperative process.

I wrote the main part of the initial paper draft. Further refinements and the final wording were an iterative and cooperative process.

Christopher Fritz (lead author)

Dr. Benedikt Downar