

Müller, Raphael; Spengel, Christoph; Vay, Heiko

**Working Paper**

## On the determinants and effects of corporate tax transparency: Review of an emerging literature

ZEW Discussion Papers, No. 20-063

**Provided in Cooperation with:**

ZEW - Leibniz Centre for European Economic Research

*Suggested Citation:* Müller, Raphael; Spengel, Christoph; Vay, Heiko (2020) : On the determinants and effects of corporate tax transparency: Review of an emerging literature, ZEW Discussion Papers, No. 20-063, ZEW - Leibniz-Zentrum für Europäische Wirtschaftsforschung, Mannheim

This Version is available at:

<https://hdl.handle.net/10419/226357>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*

// NO.20-063 | 11/2020

# DISCUSSION PAPER

// RAPHAEL MÜLLER, CHRISTOPH SPENGEL,  
AND HEIKO VAY

## On the Determinants and Effects of Corporate Tax Transparency: Review of an Emerging Literature

# On the Determinants and Effects of Corporate Tax Transparency: Review of an Emerging Literature

**Raphael Müller**

University of Mannheim<sup>a</sup>  
raphael.mueller@uni-mannheim.de

**Christoph Spengel**

University of Mannheim<sup>a</sup>  
ZEW Mannheim<sup>b</sup>  
spengel@uni-mannheim.de

**Heiko Vay**

University of Mannheim<sup>a</sup>  
vay@uni-mannheim.de

This version: October 2020

## **Abstract:**

In response to discussions about large multinational enterprises' tax planning activities, legislators around the world have adopted numerous regulations to increase corporate tax transparency. New settings and datasets have spurred empirical research in recent years. Our paper presents a review of this emerging literature on corporate tax transparency. To this end, we first propose a framework to structure the diverse landscape of tax-related disclosures. Second, we elaborate on the conceptual underpinnings of tax transparency by drawing on established theories from financial accounting and CSR reporting research. Third, we survey empirical evidence on corporate tax transparency. We classify the findings into (i) determinants of firms' tax disclosure decisions, (ii) informativeness of different kinds of tax-related disclosure, and (iii) effects of increased tax transparency on firms and their stakeholders. Finally, we synthesize the main inferences and offer suggestions for future research.

**JEL Classification:** F23; G38; H25, H26; M14; M41

**Keywords:** tax transparency; tax disclosure; tax planning; literature review

---

Acknowledgments: We are especially grateful to Elisa Casi for her valuable support during the compilation of the relevant literature and for the fruitful discussions. We appreciate helpful suggestions and comments from Dirk Simons and the seminar participants at the Joint Workshop on Business Taxation 2020, University of Brescia. We also thank Klara Birck and Felix Fischer for excellent research assistance. We gratefully acknowledge funding from the Leibniz Science Campus MannheimTaxation, from the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) – Project-ID 403041268 – TRR 266, and from the Graduate School of Economic and Social Sciences of the University of Mannheim.

---

<sup>a</sup> University of Mannheim, Schloss, Ostflügel, 68131 Mannheim, Fax: +49 621 181-1706.

<sup>b</sup> ZEW Mannheim, L 7, 1, 68161 Mannheim, Fax: +49 621 1235-224.

# 1 Introduction

This study provides a thorough review of the emerging literature on corporate tax transparency at the intersection of financial accounting and corporate tax planning research. Tax minimization strategies of large multinational enterprises (MNEs) have received considerable attention from the media, the public, and policymakers in the last decade. The OECD (2017) estimates that the worldwide annual revenue losses due to base erosion and profit shifting (BEPS) amount to USD 100 - 240 billion. Curbing this behavior is a challenging task for tax authorities and legislators. The underlying tax planning strategies are mostly legal and often exploit a lack of coordination of national tax laws. In addition to specific anti-avoidance rules, policymakers worldwide have adopted several tax disclosure mandates in recent years to increase the transparency of corporate taxpayers. Tax transparency is expected to reduce MNEs' tax avoidance through three channels: (1) Tax authorities could use the incremental information to enhance their audit scrutiny and efficiency; (2) legislators could discover legal loopholes and subsequently adjust tax law; and (3), in case of public disclosures, firms may be disciplined by increased accountability to the general public, which may exercise pressure on companies to pay their "fair share" of taxes.

Academic interest in tax transparency started to grow in parallel to the developments on the political level. The increase in academic research was partially driven by the demand for empirical insights on the causes and effects of tax transparency. Moreover, new datasets and testable settings became available to researchers with the introduction of respective regulations. Figure 1 illustrates the trend in research on this topic.<sup>1</sup> Given the surge of empirical research and the variety of settings examined, existing studies provide heterogeneous and partially conflicting findings, making it challenging to interpret the observed outcomes. We strive to solve this issue by providing a structured analysis of the diverse literature that allows us to put the empirical evidence into perspective and to derive general conclusions on the current state of research. In particular, we aim to address the following aspects concerning tax transparency. First, which factors determine the tax disclosure choices of firms? Second, are the different tax disclosure mandates effective and, relatedly, are there unintended side effects of increasing tax transparency?<sup>2</sup> Third, how does tax disclosure relate to insights from financial reporting and

---

<sup>1</sup> Given the novelty of the topic, we consider articles published in academic journals as well as working papers in our review.

<sup>2</sup> We note that it is not the purpose of our review to scrutinize the desirability of the political goal to reduce tax avoidance. While we consider potential unintended real effects (e.g., changes in firms' investment and employment) in response to tax transparency, we discuss neither potential implications for global welfare nor societal effects regarding the perceived fairness of the tax system.

CSR reporting? Finally, we point out areas where we currently lack conclusive evidence and highlight promising avenues for future research.

For the purpose of the study, we understand “tax transparency” as the state or outcome achieved by tax disclosure. In this vein, tax disclosure is defined as the communication of initially private tax-related information by an issuer to one or several recipients, either on a mandatory or voluntary basis. Thus, tax disclosure covers a broad set of different disclosure types ranging from confidential<sup>3</sup> tax reporting to public disclosures issued by firms and third parties (such as tax authorities or the media). Importantly, tax disclosures create transparency of the taxpayer towards either the tax authority or the public. To keep the length of our review tractable, we limit the focus to the transparency of corporations, where we can draw from established evidence and theories from accounting research. Further, we only consider transparency concerning corporate income taxes, excluding other levies such as indirect taxes.

Previous literature reviews in the field of tax research have advanced our understanding of income tax accounts in financial statements, their application for measuring tax avoidance, and corporate tax avoidance behavior in general (Graham et al., 2012; Wilde & Wilson, 2018; and, in particular, Hanlon & Heitzman, 2010). However, surveys on the role of tax accounts are inherently confined to financial statements or even specific accounting regulations (e.g., FIN 48, see Blouin & Robinson, 2014) and neglect other potentially relevant sources of information. Moreover, prior reviews instead focus on the accounting information contained in tax items relating to inferences about future firm performance, earnings quality, and earnings management (Graham et al., 2012; Hanlon & Heitzman, 2010). In contrast, we mainly consider studies that examine the information content with regard to companies’ tax planning behavior. Nevertheless, we also briefly touch on current studies at the intersection of these topics.

Since corporate decisions on the level of tax avoidance are not made independent of disclosure choices, it is essential to understand which factors determine tax disclosure behavior and how disclosure decisions interact with actual tax avoidance. Prior surveys on corporate tax avoidance comprehensively review studies that examine the tax behavior of multinational firms (Dharmapala, 2020; Dyreng & Hanlon, 2019) as well as the determinants and, more recently, the effects of corporate tax planning (Brühne & Jacob, 2019; Wilde & Wilson, 2018).<sup>4</sup> While tax avoidance is typically measured using financial statements items, existing reviews pay little

---

<sup>3</sup> We use the terms “private” and “confidential” disclosure interchangeably.

<sup>4</sup> Brühne and Jacob (2019) briefly point to the benefits of lower transparency for tax-aggressive firms, but do not discuss the nuances of this relationship, especially with regard to tax transparency.

attention to the role of tax disclosure. As tax transparency rules are designed to curb tax avoidance, some overlap in reviewed studies may naturally arise. However, we complement existing reviews by adding the perspective of the recipients of tax-related disclosures. Specifically, we survey empirical evidence on the effects of corporate tax transparency on stakeholders, including investors, analysts, consumers, and tax authorities.

In light of the multitude of different disclosure channels and tax disclosure requirements, we propose a framework to classify disclosure types along with certain characteristics. Our primary distinction is between private and public disclosures due to the different sets of recipients. We further distinguish according to the issuer of the information and the degree of obligation (mandatory versus voluntary) to account for differing disclosure incentives. Based on this structure, we provide a concise overview of selected types of disclosure in the paper and a detailed description of a multitude of initiatives and rules currently in place across countries in the Appendix. This overview serves as a basis to understand common features and heterogeneity in the settings and allows to assess the diversity in empirical findings of the reviewed studies. Besides, it may also help researchers to identify interesting research settings.

Given the novelty of the topic, we elaborate on theoretical underpinnings of tax transparency by drawing on established disclosure theories from financial accounting and CSR reporting research (i.a., Beyer et al., 2010; Christensen et al., 2019; Leuz & Wysocki, 2016). We point to common features and distinct characteristics of tax disclosure and argue that the results from accounting or CSR reporting research do not necessarily generalize to tax disclosure settings.<sup>5</sup> Moreover, we discuss the potential costs and benefits of tax transparency identified in conceptual and normative literature and link this conceptual discussion with the growing empirical evidence on tax transparency. To provide a structure for the review, we divide empirical research into three categories, starting with analyses of the determinants of tax disclosure decisions. Second, we assess recent evidence on the information content of tax disclosures, focusing on new datasets and new types of disclosure. Finally, we survey empirical studies that examine the effects of tax disclosure rules on firm behavior as well as the reactions of stakeholders to changes in the level of tax transparency.

Our analysis of extant empirical literature on tax transparency leads to the following conclusions. First, roughly one-third of the papers within our scope analyze determinants of tax disclosure decisions, with the reporting firm's tax avoidance level being the most well-

---

<sup>5</sup> Regarding the empirical evidence on tax disclosure, we refer to insights from the financial reporting and CSR reporting literature where appropriate.

researched determinant. Empirical evidence suggests an ambiguous relationship. While tax-aggressive firms are more inclined to reduce transparency by concealing sensitive hard-fact information in mandatory disclosures, they also tend to issue more supplemental tax-related information either to legitimize their tax arrangements or to reduce information asymmetries arising from their tax avoidance activities. Evidence on other firm characteristics and attributes is highly context-specific, making it difficult to draw general conclusions on the nature of the relationship.

Second, regarding the informativeness of tax disclosures, recent studies show that the quantitative information contained in novel country-by-country reporting (CbCR) data may complement existing profits shifting estimations in terms of country coverage. However, missing variables and limited comparability across reports might limit their usefulness. Besides, early evidence on qualitative tax disclosures is mixed, and it remains up to future research whether such disclosures can enhance our understanding of corporate tax behavior.

Third, most studies within our scope analyze the effects of tax transparency on firms and their stakeholders. Extant evidence shows that firms try to prevent falling under additional disclosure rules, suggesting that the disclosure is perceived as costly. Despite some evidence of affected firms adjusting certain tax planning strategies, the effects on overall tax avoidance are inconclusive for most regulations. Importantly, firms seem able to substitute scrutinized tax arrangements with alternative strategies. Moreover, recent studies document real responses by firms (e.g., changes in the location of investments and employment), implying further unintended consequences of transparency mandates.

Finally, regarding effects on recipients, it remains uncertain whether the proposed benefits of disclosure actually materialize. Research on investors' responses is concentrated on stock price reactions, which only capture the aggregate effect of all costs and benefits that investors expect. So far, little is known about how investors actually utilize the disclosed information. Similarly, there is no evidence whether analysts use tax disclosures from novel transparency regimes as existing studies on analysts are confined to the narrow setting of voluntary earnings forecasts and conference calls. Surveys and laboratory experiments show that revelations of corporate tax planning have adverse effects on firm perception by consumers. Yet, there is no conclusive or large-scale evidence that the reputational costs materialize in the form of changes in purchase behavior. Lastly, and despite their particular role as the primary recipient of tax disclosures, there is almost no evidence on whether and how tax authorities access or use information from tax-related disclosures.

In sum, these findings question the effectiveness of tax disclosure mandates and, in particular, whether tax transparency efficiently achieves its envisioned purpose. As the strength of the documented effects varies across disclosure types, policymakers should carefully reconsider the design of the implemented measures.

It becomes evident from our review of the empirical literature that we are still only at the beginning of empirical research on tax transparency despite the progress that has been made over the last years. Based on our conclusions, we derive seven promising areas that warrant additional research. First, future research would benefit from a comprehensive theoretical framework that incorporates the different incentives managers face concerning tax disclosure decisions. Such a framework would enable researchers to derive precise predictions on tax disclosure behavior and reconcile conflicting findings across various settings. Second, we suggest that future studies examine the role of (tax) executives regarding disclosure decisions within firms to shed light on the association with the simultaneous decisions on tax planning. Third, we look forward to research on the interaction effects between public and private disclosure requirements or between mandatory and voluntary disclosures. More precisely, future studies should examine whether different sets of disclosure act as substitutes or complements. Fourth, there is room for further research on the informativeness of qualitative disclosures, such as tax strategy reports or CSR reports, in light of their growing importance. For instance, such studies may address the questions of whether the disclosed information is verifiable or incrementally useful for recipients. Fifth, it seems worthwhile to combine and compare the information contained in various quantitative and qualitative disclosure types and develop more nuanced tax avoidance measures. Sixth, future research should investigate confidential disclosure requirements for tax planning arrangements, with a particular focus on the effects on firms, intermediaries, and tax authorities. Lastly, we encourage further research on how recipients process and prioritize tax-related information and how this ultimately affects their decision making and outcomes.

The remainder of the study is structured as follows. In Section 2, we define tax transparency and briefly explain its characteristics before we provide a structured overview of tax disclosures rules and initiatives. Section 3 illustrates the conceptual underpinnings of tax transparency, together with a discussion of potential costs and benefits. We review existing empirical literature based on the three categories outlined above in Sections 4 to 6. Finally, we summarize our findings and specify our suggestions for future research in Section 7.



## **2 Overview of tax transparency rules and initiatives**

### **2.1 Background, definitions, and scope**

The current landscape of tax transparency and tax disclosures is diverse. While we aim to give a broad picture of this area, we necessarily have to limit our review's scope to a certain extent for coherence. In general, we understand "tax disclosure" as the communication of initially private tax-related information by an issuer to one or several recipients, either on a mandatory or voluntary basis. "Tax transparency" describes the result or the state achieved by tax disclosures, i.e., improved recipients' knowledge. Based on this general understanding, we delineate the scope of our review as follows.

First, our study only includes disclosures that convey information about a taxpayer, creating transparency of the taxpayer towards the tax authorities, towards other selected recipients, or towards the general public. Conversely, we do not review any forms of transparency of the tax administration towards the public (such as information about administrative rulings or administrative efficiency). Second, we interpret the term "tax disclosure" rather broadly, containing not only explicit reporting about taxes but also any other kind of potentially tax-related information (e.g., geographic reporting). In the same vein, both quantitative and qualitative disclosures are included. Third, our study is confined to information about (multinational) enterprises and their income taxes. We do not examine the disclosures of individuals due to significant differences regarding the costs and benefits of tax transparency and owing to a lack of comparability with financial and CSR reporting.

Fourth, following economic and legal literature, we make a conceptual distinction between legal and illegal practices to reduce the income tax burden (Dharmapala, 2020; Gravelle, 2009, 2015; Slemrod & Yitzhaki, 2002). Therefore, we define tax evasion as an intentional illegal activity (e.g., concealing taxable income from the tax authorities), which constitutes a criminal offense in many countries. In contrast, tax avoidance and tax planning denote legal measures undertaken by a company to minimize its tax payments. Importantly, these measures do not affect substantive economic outcomes (Dharmapala, 2017).<sup>6</sup> Tax avoidance and tax planning encompass a wide range of instruments from the use of tax advantages explicitly granted by the legislator to rather aggressive transactions that may be perceived as "illegitimate", "unethical", or complying only with the letter but not with the spirit of the law. Despite the clear theoretical separation, we acknowledge that there is a "grey area" between legal and illegal

---

<sup>6</sup> This characteristic distinguishes tax avoidance and tax planning from behavioral responses to taxation (e.g., changes in investments and employment).

activities in practice. Delimitation problems arise from ambiguities in tax law, such as discretion regarding the acceptable range of arm's-length transfer prices (Gravelle, 2009, 2015). Due to the resulting uncertainty, tax avoidance and tax planning can be subject to the risk that certain tax position cannot be sustained in a potential tax dispute (Blaufus et al., 2019).

For the purpose of our study, we exclude transparency rules and initiatives that clearly aim at fighting tax evasion due to its distinct legal assessment. These measures are primarily targeted at individuals anyway (Dharmapala, 2020). Instead, we focus on disclosures conveying information about companies' legal efforts to reduce their income tax burden. To prevent practical problems of delimitation, we also include the "grey area" of legally questionable activities in this category and collectively refer to it as tax avoidance or tax planning.<sup>7</sup> Within this framework, profit shifting, i.e., the (artificial) allocation of MNEs' profits to low-tax countries, represents one important subset of tax avoidance instruments (Dharmapala, 2020).

The following subsection presents a structured classification of the current landscape of tax-related disclosures. To this end, we extracted the different disclosure rules set out in the national reports on tax transparency for 29 countries contained in Başaran Yavaşlar and Hey (2019). We complemented this source by financial reporting regulations, international tax transparency initiatives (e.g., by the OECD and the EU), and other types of mandatory or voluntary disclosures investigated by the empirical studies, which we review in Sections 4 to 6. From this collection, we selected all types of disclosures which match the criteria described above.

## **2.2 Structured classification of tax transparency rules and initiatives**

In order to enable a comparison of the heterogeneous types of disclosure falling under our scope, Figure 2 provides a graphical overview of our classification. Table A.1 in the Appendix presents selected details for individual rules and initiatives of particular interest.

The different disclosures could be distinguished along several dimensions, such as the issuing party or the character of the disclosure (mandatory or voluntary). However, our primary distinction criterion is between public disclosures (i.e., available to every recipient) and private

---

<sup>7</sup> We note that extant literature has not agreed upon a uniform understanding of the terms "tax avoidance" and "tax planning". While some authors define tax planning as the "ethical" and tax avoidance as the "unethical" forms of tax behavior (e.g., Middleton & Muttonen, 2020), others rather view tax planning as a generic term and tax avoidance as a subset (e.g., Wilde & Wilson, 2018). Since we do not attempt to distinguish according to moral or ethical dimensions, we follow Graham et al. (2014) and use tax avoidance and tax planning interchangeably to refer to all legal (and "grey-area") measures to reduce a company's tax burden. In contrast, the terms "approach to tax" and "tax strategy" describe a broader concept. In addition to a companies' attitude towards tax planning, this concept comprises other components such as tax governance and the relationship with tax authorities.

disclosures (i.e., available only to selected recipients). As the potential costs and benefits largely depend on who has access to the information, we expect considerable differences between both groups. Besides, considering the specific role of the tax authority as a recipient, private disclosure plays a much more important role in tax research than in the related areas of financial reporting and CSR reporting research. Within the broad category of public disclosure, a significant distinction can be made as to the issuer. If firms publish the information by themselves, they can usually exercise some discretion even within mandatory requirements. This is typically not the case if a third party carries out the publication. Consequently, extant research on the determinants of tax disclosure decisions (as surveyed in Section 4) is limited to settings of information communicated by firms.

### **2.2.1 Public tax disclosure**

Tax-related disclosures contained in companies' general-purpose financial reporting serve as our starting point. The main objective of financial reporting standards such as the US Generally Accepted Accounting Principles (GAAP) and IFRS is to provide investors with decision-useful information.<sup>8</sup> Although not their primary goal, certain financial reporting disclosures can indicate a firm's tax planning. In this vein, the notes to the (consolidated) financial statements constitute the primary source of potential information. We briefly discuss the most relevant disclosures required in the financial statements of listed US and EU firms in the following (see Section I.A of Table A.1 for more details).<sup>9</sup>

First of all, US firms registered with the Securities and Exchange Commission (SEC) are obliged to provide a breakdown of their pre-tax income and income tax expense into domestic and foreign. This rough geographical split gives a first indication of how the tax burden differs between domestic and foreign operations. EU firms do not face a similar requirement, but some report the information voluntarily.

More details are revealed in the mandatory "tax reconciliation", i.e., a reconciliation of the GAAP effective tax rate (ETR) to the statutory (federal) tax rate, either in absolute amounts or percentages. This disclosure can provide evidence of foreign earnings subject to tax in low-tax countries. However, their occurrence does not necessarily point to profit shifting but may simply reflect a company's international distribution of real activities. Deviations between the

---

<sup>8</sup> See Section 3.1 for a detailed discussion of the objectives of general-purpose financial reporting.

<sup>9</sup> Note that our examination of financial reporting is limited to disclosure requirements (and their information content with regard to tax planning). For a summary of material accounting rules on the recognition and measurement of income tax items, see Graham et al. (2012) and the appendix of Hanlon and Heitzman (2010).

ETR and the statutory tax rate can also arise due to permanent book-tax differences (BTDs), i.e., differences between the accounting and tax treatment of certain transactions that will not revert future periods. Such permanent BTDs are potentially indicative of non-conforming tax avoidance.

In contrast, temporary BTDs (i.e., differences between the accounting and tax valuation of an asset or liability which will revert at some time in the future) have to be recognized as deferred tax assets or liabilities, accompanied by comprehensive disclosure obligations. Within an MNE group, temporary BTDs can also arise from retained earnings of foreign subsidiaries. However, under certain prerequisites, firms may designate such retained earnings as permanently reinvested to avoid recognizing a deferred tax liability for any taxes due upon repatriation. In this case, specific disclosures are required in the notes. Under the former worldwide tax system in the US, this option was highly relevant for US MNEs in the context of tax planning through low-tax subsidiaries.<sup>10</sup>

Another item often perceived as particularly informative of tax planning are the so-called unrecognized tax benefits (UTBs). According to US GAAP, companies have to record a contingent liability to accrue tax expense for potential future tax authority adjustments. The issuance of FIN 48 as of 2007 did not only reform the recognition and measurement of UTBs but also introduced comprehensive disclosure requirements in the notes, increasing transparency regarding a firm's controversial tax positions.

Apart from the tax footnote itself, other information in the notes may also indicate a company's tax planning behavior. Both US GAAP and IFRS require certain geographic disclosures in the segment reporting. While most firms disaggregate their segments according to non-geographic criteria, MNEs are obliged to show at least a breakdown of their revenues and long-lived assets into domestic and foreign. Combined with the corresponding analysis of pre-tax income and tax expense (see above), these disclosures may enable first inferences regarding the alignment of economic activity, profit allocation, and tax payments. However, the separation into domestic and foreign is still highly aggregated. Finally, the list of subsidiaries included in the consolidated financial statements can reveal an MNE's number of tax haven presences. The EU Accounting Directive<sup>11</sup> mandates disclosure of all subsidiaries in the notes. In contrast, US firms only have to report significant subsidiaries in Exhibit 21 to their 10-K filings.

---

<sup>10</sup> While the relevance has decreased considerably after the Tax Cuts and Jobs Act of 2017, BTDs from investments in foreign subsidiaries can still arise, e.g., due to foreign withholding taxes or state taxes.

<sup>11</sup> Directive 2013/34/EU, hereinafter referred to as the Accounting Directive.

While a complete set of financial statements has to be published annually, listed firms have to file quarterly (US) or half-yearly (EU) interim reports, including condensed financial statements. These filings are accompanied by additional mandatory disclosures, such as the management discussion and analysis (MD&A) and risk factor disclosures (US) or the management commentary (EU), which can also contain quantitative and qualitative information about tax planning (e.g., in the form of tax risks). Finally, many firms voluntarily issue (quarterly) earnings announcements as press releases, followed by conference calls with analysts.

Due to the evolving trend towards more tax transparency, specific rules have been introduced, which require public tax(-related) disclosures by firms, complementing the information from general-purpose financial reporting. One of the most important concepts is CbCR. It discloses economic activity indicators, allocated pre-tax profits, and income taxes separately for each country where an MNE maintains subsidiaries or branches. This information is supposed to help recipients assess whether a company pays its “fair share” of income taxes in each country, corresponding to its economic activities. Section I.B of Table A.1 provides an overview of current public CbCR regimes.

The idea of CbCR was first proposed for the extractive industries, driven by the objective of reducing corruption rather than tax avoidance. Accordingly, the items to be disclosed here are more focused on the different kinds of payments between firms and governments (including taxes) and less on economic activity. The EU, Canada, and the US have passed CbCR requirements for the extractive industries. Still, the publication has not come into effect in the US yet due to ongoing disagreement regarding the final rules to be issued by the SEC. In 2013, the EU adopted a public CbCR for financial institutions to restore trust in this sector after the financial crisis by creating transparency on corporate tax behavior and public subsidies. Finally, policy-makers in the EU have discussed proposals of a general public CbCR requirement for all large MNEs since 2016, but no agreement has been reached so far.

Unlike the quantitative information of CbCR, the UK has recently introduced the mandatory disclosure of a tax strategy report for firms above a certain size threshold. This report is supposed to state qualitative information about a company’s risk management and governance concerning tax, its attitude towards tax planning, and its relationship with the tax authority (see Section I.C. of Table A.1). While this type of disclosure principally demands the most explicit information about tax planning, its qualitative nature inherently bears the risk of firms using platitudes and boilerplate language, thereby limiting the reports’ usefulness.

Apart from all these mandatory rules, firms can, of course, always decide to publish tax-relevant information voluntarily. This may be done by either adding supplemental explanations or figures to obligatory disclosures or issuing other kinds of tax-related information, e.g., within voluntary CSR reports or as a separate tax contribution report. While we cannot cover the whole variety, we briefly review two voluntary disclosure frameworks (see Section I.D. of Table A.1). The decision of whether to commit to these frameworks is completely voluntary. Still, if a firm wants to label its disclosure as compliant, it has to apply specific rules of the framework. The Australian Tax Transparency Code (TTC) proposes both quantitative elements (e.g., a reconciliation of accounting profit to tax expense and income tax paid) and qualitative disclosures on the approach to tax (similar to the content of the UK tax strategy report). More importantly, the Global Reporting Initiative (GRI), an international non-profit organization issuing the most widely adopted sustainability reporting standards, has recently adopted a new standard for reporting on tax practices (GRI, 2019). Besides qualitative information on the approach to tax and tax governance (again similar to the UK tax strategy report), this standard demands a public CbCR with a comprehensive list of tax-related items to be recorded per country.

As illustrated in Figure 2, tax-related public disclosures can also be issued by a third party who has either access to private information or an advantage in interpreting certain information. Obviously, tax authorities receive such confidential data through firms' tax returns and other filings. Section II of Table A.1 describes a selection of public tax return disclosure regimes that are (or were) in place in different countries worldwide. Most of these regimes have in common that tax authorities regularly publish certain items from annual tax returns (e.g., taxable income, taxes paid) of all or of the largest resident companies. The information is either accessible on a central website of the tax authority or upon request in local tax offices. The main objective of these regimes is usually to ensure transparency regarding companies' domestic tax payments and hold the companies accountable towards the general public.<sup>12</sup> Furthermore, a comparison of the public tax return data with financial statement information can improve the understanding of a firm's tax planning behavior.

Public disclosures by other regulators such as exchange supervisory authorities may also contain tax-related information. For example, the SEC regularly reviews US-listed firms' annual 10-K filings and issues comment letters when a filing is deficient or needs further

---

<sup>12</sup> Note that the public tax return disclosure in Turkey and the THPC program in Pakistan (both outlined in Section II of Table A.1) rather follow the idea of a "public praising" as they only report on the "top taxpayers" each year.

clarification. Upon resolution of the issue, the comment letter and the firm's response are published by the SEC. Tax-related deficiencies may reflect firms' efforts to hide tax avoidance activities.

Finally, at least two other parties can be identified as sources of public information about firms. First, analysts play an important role as information intermediaries on the stock market. For the largest firms, they issue their own earnings forecasts (implicitly including the expected ETR), which may or may not be superior to management's forecasts. Second, confidential information on companies' tax avoidance activities can also be revealed by whistle-blowers in the course of data leaks (such as Lux Leaks, Panama Papers, or Paradise Papers). Even apart from such major leaks, numerous press articles in the last decades have uncovered and discussed the tax planning strategies of individual MNEs (see Middleton & Muttonen, 2020).

### **2.2.2 Private tax reporting**

We now turn to the second broad category, private disclosure, i.e., the communication of information to selected parties only. Private disclosures can either be made by the firms themselves or by other actors with access to the information (e.g., intermediaries such as banks and advisors). Since the related costs and benefits within this category largely depend on who obtains the information, we further distinguish according to the recipient and start with the tax authorities as the most common one (see Figure 2).

First, an essential disclosure requirement is the confidential CbCR proposed by the OECD (2015) as part of its BEPS Action Plan, which has already been implemented by more than 80 countries worldwide (see Section III.A. of Table A.1). In contrast to the other CbCR regimes described above, the reports are not made public. Large MNEs have to file the report to the tax authority in charge (usually in the headquarter country). The national authorities of the participating countries automatically exchange the data between each other. As a part of the transfer pricing documentation, the CbCR information is supposed to help tax authorities to assess transfer pricing risks and to identify and evaluate other profit shifting risks.

Second, in the course of the trend towards more transparency, the international exchange of bank account and ownership data has considerably increased within the last decade. The development started with bilateral agreements between countries on the exchange of tax information upon request (tax information exchange agreements, TIEAs). It progressed to frameworks for the automatic exchange of information, such as the Foreign Account Tax Compliance Act (FATCA) for the US and the multilateral Common Reporting Standard (CRS). We do not focus on these exchange agreements since they are primarily targeted at fighting tax evasion

(and other illegal activities) of wealthy individuals. Nevertheless, they can provide tax authorities with information on companies' international tax avoidance activities to a certain extent.

Third, several countries have adopted regimes requiring the disclosure of specific tax planning arrangements (see Section III.B of Table A.1 for an overview). These regimes set out specific criteria under which a transaction has to be reported to the tax authorities, typically including that a tax advantage constitutes the main benefit of the transaction. The disclosure obligation is usually upon the promoter of the arrangement and/or upon the company implementing it. Tax authorities can then assess whether the reported transactions actually comply with tax law and can promptly inform legislators about necessary actions to close loopholes. The most important regime is DAC 6,<sup>13</sup> which applies in the EU as of July 2020 and which stipulates an automatic exchange of the disclosed information between member states.

Fourth, our classification includes two forms of supplementary reconciliations to be filed in the US, along with the annual tax return (see Section III.C of Table A.1). Schedule M-3 requests a very detailed reconciliation of financial statement income to US taxable income, distinguishing between temporary and permanent differences. Schedule UTP, introduced about four years after FIN 48, requires firms to itemize and describe the US portion of UTBs, which are disclosed as an aggregate in the notes to the financial statements. Both Schedules provide the US tax authorities with incremental information compared to companies' public disclosures, helping to detect tax avoidance and increase tax audit efficiency.

Finally, firms may issue private disclosures to any other selected recipient who has the power to demand such information. For example, influential equity investors or creditors sometimes request the tax returns (usually of smaller firms), which can either serve them as an additional measure of firm performance or to assess the risks resulting from tax planning.

As shown in this subsection, even within our limited scope of tax transparency, there is a plethora of tax-related disclosures differing across several dimensions. It is crucial to be aware of this heterogeneity and the potential interplay between different kinds of disclosures when assessing the results of the empirical studies examining various settings.

---

<sup>13</sup> Council Directive (EU) 2018/822, hereinafter referred to as DAC 6.



### **3 Conceptual underpinnings of corporate tax disclosure**

#### **3.1 Theories from financial reporting**

While research on tax transparency is just emerging, there is abundant theoretical, analytical, and empirical literature on financial reporting and accounting disclosure.<sup>14</sup> To assess whether these insights might generalize to tax transparency, we provide a concise overview of the theoretical background of corporate disclosure. The demand for accounting information arises for two main reasons. First, *ex-ante*, managers usually have better information about the firm's prospects than potential investors. In addition, managers have incentives to overstate the expected profitability of the firm. If capital providers cannot assess the true value, they will underprice (overprice) firms with high (low) profitability. This results in adverse selection referred to as the "lemons problem" (Akerlof, 1970; Healy & Palepu, 2001). Disclosure can solve this problem by mitigating information asymmetry, which constitutes the "valuation role" of accounting (Beyer et al., 2010). Second, *ex-post*, the separation between ownership and control gives rise to agency problems, as self-interested managers are able to expropriate investors' funds (Healy & Palepu, 2001). Agency problems can be addressed by aligning the interests of managers and investors through optimal contracts. Disclosures are needed to monitor compliance with these contracts, representing the "stewardship role" of accounting (Beyer et al., 2010). It follows that (potential) outside investors on the capital markets are the primary addressees of financial reporting.

One of the key questions of accounting research is whether (and to what extent) mandatory disclosure requirements are necessary. The unraveling argument posits that, under ideal conditions, firms will voluntarily disclose all information (Grossman & Hart, 1980; Grossmann, 1981; Leuz & Wysocki, 2016; Milgrom, 1981). As described above, adverse selection leads to an underpricing of all firms with above-average projected profitability. Thus, above-average firms have an incentive to communicate private information to signal that they are better than their competitors (signaling theory). As soon as these firms have disclosed, investors will rationally adjust the other companies' price downwards, creating incentives for those in the remaining group whose value is now above the new market price to disclose. In the end, all firms (except the very worst) voluntarily reveal their private information (Leuz & Wysocki, 2016). However, the unraveling argument rests on several assumptions that are not fulfilled in most settings (Beyer et al., 2010). Most importantly, disclosures are usually not costless for firms

---

<sup>14</sup> We refer the reader to the excellent reviews of Beyer et al. (2010), Healy and Palepu (2001), Leuz and Wysocki (2016), and Verrecchia (2001).

(Verrecchia, 2001). Absent mandatory rules, rational managers will therefore decide to publish information only if the expected benefits exceed the expected costs.

The accounting literature has developed several economic-based theories and hypotheses that explain the incentives and disincentives for managers regarding their voluntary disclosure decisions. Based on the signaling theory and the “valuation role” of accounting, the capital market transaction hypothesis suggests that managers are particularly inclined to communicate information prior to issuing equity or debt since a reduction in information asymmetry will decrease the cost of capital (Healy & Palepu, 2001). Related to the agency theory and the “stewardship role” of accounting, managers may voluntarily report information to reduce monitoring costs and convince shareholders that they act in their interests (A. Watson et al., 2002). Conversely, managers may decide to withhold information to avoid unwanted scrutiny by investors (Graham et al., 2005). Other theories focus on managers’ self-serving motivations to issue disclosure in more specific settings, including the stock-based compensation, corporate control contest, and management talent signaling hypothesis (Beyer et al., 2010; Healy & Palepu, 2001). Finally, several economic-based theories reflect the different types of costs associated with disclosure. Proprietary costs (from submitting commercially sensitive information to competitors), litigation costs (related to forward-looking disclosures), political costs (from unwanted attention and reactions of regulators), and the risk of setting a disclosure precedent constitute considerable disincentives for managers (Dye, 1986; Graham et al., 2005; Healy & Palepu, 2001; Leuz & Wysocki, 2016; Verrecchia, 2001).

In a perfect market, managers will optimally trade off the different costs and benefits so that their voluntary disclosure decisions result in an efficient level of information production (Healy & Palepu, 2001). Consequently, mandatory disclosures are only justified if they produce an outcome that is socially more desirable than the market solution (Beyer et al., 2010; Leuz & Wysocki, 2008). In this vein, a major argument for reporting requirements is that public disclosures imply financial and real externalities. Disclosures of one firm potentially convey implicit information about other firms and affect their real decisions, so that the social value of disclosure exceeds its private value to the publishing firm (Christensen et al., 2019; Leuz & Wysocki, 2016). Besides, mandatory rules can cause market-wide cost savings due to enhanced comparability of financial reporting. The threat of strict sanctions can serve as a cost-effective way to credibly commit to frequent disclosures (Beyer et al., 2010; Leuz & Wysocki, 2016). Finally, disclosure regulation can inhibit potential deadweight losses arising from the expropriation of outside investors by managers (Leuz & Wysocki, 2008). Despite these social benefits, it has to be noted that the implementation and enforcement of mandatory disclosure regimes are costly

and associated with their own problems, e.g., firms trying to capture the regulatory process (Beyer et al., 2010). Thus, it is not self-evident whether mandatory rules actually achieve an outcome that is socially preferable to the market solution (Christensen et al., 2019).

In summary, owing to the absence of a unifying and comprehensive theory, it remains rather challenging to justify the need for mandatory disclosure regimes (Beyer et al., 2010; Verrecchia, 2001). While the net effects of such regimes are ultimately an empirical issue, recent reviews of Beyer et al. (2010) and Leuz and Wysocki (2016) emphasize that we still largely lack empirical evidence on real effects, market-wide effects, and externalities. Thus, they conclude that the pervasiveness of disclosure regulation in developed capital markets such as the US is an unanswered question to date, which warrants more research.

We now briefly assess to what extent these theoretical underpinnings also generalize to tax disclosure. Financial reporting primarily serves the purpose of reducing information asymmetry between managers and (potential) outside investors to mitigate adverse selection and agency problems. By construction, this also applies to tax information contained in general-purpose financial reporting. In contrast, the main objective of most other types of tax disclosure is to reduce corporate tax avoidance and to align the international allocation of firms' taxable income with the distribution of economic activity. These differing objectives are also reflected in the groups of addressees. While financial reporting is primarily targeted at outside investors on the capital market, the potential audience of tax disclosures is broader. Many tax-related disclosures are of interest to investors as well, since they inform about tax risks and may even contain other economic information (e.g., CbCR data also reveal the geographic distribution of activities). However, the primary addressees are usually tax authorities, legislators, and the general public. Within this group, tax authorities undoubtedly play a particular role as firms' tax planning decisions directly affect the tax revenues raised, and as tax authorities likely use the information disclosed when assessing a company's tax liability. This particularity also manifests in the fact that several tax transparency rules and initiatives stipulate a private disclosure to tax authorities only. Conversely, financial reporting inherently requires a publication of the information to fulfill its purpose.

We conclude that, at least with regard to public tax-related disclosures, it is generally possible to build upon the insights of accounting research on the (dis)incentives affecting disclosure decisions and the implications of mandatory reporting regimes. Private disclosures to tax authorities, however, are a distinctive feature of the tax setting.

### 3.2 Theories from CSR reporting

Apart from revelations about corporate tax avoidance, the growing size, power, and internationalization of the world's largest companies have also more generally shifted the focus of non-governmental organizations (NGOs) and the general public to the issue of CSR (Middleton & Muttonen, 2020). Following Christensen et al. (2019), we define CSR as “corporate activities and policies that assess, manage, and govern a firm’s responsibility for and its impact on society and the environment.” To meet the rising demand, MNEs have increased their CSR activities and the related public disclosures (in the following referred to as “CSR reporting”), which has spurred theoretical and empirical research.<sup>15</sup> In recent years, many countries have introduced some form of CSR-related reporting mandates that often follow the “comply or explain” principle. Due to the lack of uniform reporting requirements under this principle, managers have substantial discretion regarding their CSR reporting decisions.<sup>16</sup>

In addition to the economic-based theories described in the previous subsection, researchers have applied three socio-political theories to explain firms’ incentives for voluntary CSR reporting. First, the stakeholder theory suggests that CSR activities are undertaken, and disclosures are issued if there is enough demand from stakeholders. Corporate decisions need to balance the potentially diverging interests of different stakeholders (Lanis & Richardson, 2013; Middleton & Muttonen, 2020). Second, legitimacy theory is based on the idea of a “social contract”. Failing to conform to societal expectations may cause companies to lose their legitimacy. Firms conduct CSR activities and report on them to avoid this existential threat (Deegan, 2002; Hardeck & Kirn, 2016). Third, the institutional theory assumes that the extent of CSR activities and reporting depends on the institutions in the environment in which a company operates. Normative and coercive forces (e.g., the codification of CSR reporting standards) as well as mimetic forces (e.g., following best practice) drive companies CSR disclosure decisions (Middleton & Muttonen, 2020).

As for financial reporting, rational managers will voluntarily publish CSR information if the expected benefits exceed the expected costs. Accordingly, mandatory disclosure regimes are only justified if they generate a socially more desirable outcome (Christensen et al., 2019). In this context, however, it has to be added that introducing mandatory reporting can impose social pressure on individual firms to improve their CSR performance. Since many CSR

---

<sup>15</sup> Christensen et al. (2019) provide a thorough and comprehensive review of this literature.

<sup>16</sup> In the European Union, the Non-Financial Reporting Directive (Directive 2014/95/EU) introduced a mandatory CSR reporting requirement for listed firms as of 2017. Given the qualitative nature of the disclosure, firms have flexibility to disclose the information they consider most useful.

activities mitigate negative externalities (e.g., a reduction in pollution) or create public goods, a CSR reporting obligation can indirectly give rise to social benefits above those described for mandatory financial reporting (Christensen et al., 2019).

The growing awareness for CSR and corporate tax behavior has initiated a discussion among academics and practitioners of whether a firm's approach to tax constitutes an element of its CSR and, consequently, whether CSR reporting should contain certain tax-related disclosures. Proponents argue that the tax contribution of an MNE is part of its economic responsibility, as governments are supposed to use the tax revenues to the benefit of society (Middleton & Muttonen, 2020; Sikka, 2010). Opponents challenge the implicit assumption that the government always employs the funds more efficiently for social benefits. They point out that companies can utilize tax savings for hiring employees, for R&D investments (which are typically associated with positive externalities), or for performing their own CSR activities (A. K. Davis et al., 2016; Middleton & Muttonen, 2020). Empirical evidence on the relationship between CSR activities and corporate tax behavior is mixed. Some studies document that higher CSR scores are associated with lower tax aggressiveness, suggesting that managers perceive CSR and responsible tax behavior as complements (Hoi et al., 2013; Lanis & Richardson, 2012). Other studies find that firms with better CSR performance exhibit higher levels of tax avoidance, consistent with managers increasing CSR activities to offset adverse reputational effects from tax avoidance (A. K. Davis et al., 2016; Lanis & Richardson, 2013). L. Watson (2015) observes that the relationship between CSR and tax avoidance varies with firms' earnings performance.

Despite their mixed results, all these studies provide evidence of at least some relation between the approach to tax and CSR. Moreover, descriptive analyses suggest that MNEs increasingly include tax-related disclosures in their CSR reports (Hardeck & Kirn, 2016; Middleton & Muttonen, 2020). This development is also reflected in the fact that the GRI as an issuer of the most widely adopted framework for voluntary CSR reporting has recently devoted a separate standard to reporting on tax practices (see Section 2.2.1). We thus infer that an analysis of tax transparency should also draw on the insights from CSR reporting research. Accordingly, some of the distinctive features of CSR reporting identified by Christensen et al. (2019) apply to tax disclosure as well. First, public tax disclosure is also characterized by a broader group of users than financial reporting, including less sophisticated recipients such as consumers. Second, tax disclosures are – to some degree – subject to diverse objective functions since corporate tax behavior faces the conflict between profit maximization and fulfilling the interests of other stakeholders (e.g., tax authorities and the society in general). Third, while many forms of tax-

related information are monetary by its nature, qualitative disclosures (e.g., on the tax strategy) bear the problem of diversity in measurement. Forth, although the obligation to pay tax is clearly based on legal provisions, managers can decide to what extent they want to engage in tax planning. Combined with the discretion in disclosure rules, tax disclosures – like CSR reporting – can also be subject to a dual endogeneity, which complicates empirical analyses (Christensen et al., 2019).

In summary, the conceptual underpinnings of tax transparency are multi-faceted. Some elements of tax disclosure belong to (or at least are closely related to) financial reporting; some elements are perceived as part of (or share features with) CSR reporting; and to some extent, tax disclosures are distinct due to the particular role of tax authorities and the pervasiveness of private disclosures to this specific group of recipients.

### **3.3 Conceptual discussion of tax disclosure**

Unlike financial and CSR reporting, theoretical literature dealing with (dis)incentives for voluntary tax disclosure is mostly missing (except for Middleton & Muttonen, 2020). However, considering the commonalities between the different corporate disclosure types, we show how economic-based and socio-political theories can also be applied to discretionary tax disclosure decisions. We focus on disclosure incentives first (Section 3.3.1) and discuss the disincentives later in the context of the firm-specific costs resulting from mandatory tax transparency regimes (Section 3.3.2).

#### **3.3.1 Theories on voluntary tax disclosure**

Among the economic-based theories, the signaling theory suggests that companies with favorable information have an incentive to disclose to differentiate from their competitors. With respect to corporate taxes, the theory posits that companies that assume that their tax-related information will be perceived positively as an indication of responsible tax behavior will disclose voluntarily (Hardeck & Kirn, 2016; Middleton & Muttonen, 2020). This mechanism may even explain voluntary private disclosures to tax authorities, sending a signal of tax compliance to reduce audit scrutiny. According to the agency theory, managers issue voluntary disclosures to reduce the costs of monitoring by shareholders (or refrain from publication to avoid unwanted shareholder scrutiny). As summarized by Hanlon and Heitzman (2010), corporate tax planning is subject to specific agency implications. While (risk-neutral) shareholders expect managers to maximize profits, including efficient tax planning decisions, the interests of (risk-averse) managers may differ. Contracts can be designed to align the interests, and disclosures can serve as

a control mechanism (Wilde & Wilson, 2018). In contrast, research has also provided evidence that managers exploit the complexity and opacity associated with tax avoidance activities to extract private benefits to the detriment of shareholders (Atwood & Lewellen, 2019; Desai et al., 2007; Desai & Dharmapala, 2006).<sup>17</sup> In this vein, managers may issue voluntary disclosures to demonstrate that they abstain from such self-serving behavior.

Turning to socio-political theories, the stakeholder theory explains voluntary disclosures as a response to certain stakeholders' demand. Taxation is particularly salient from this perspective since tax authorities (or, more generally, governments) as a stakeholder group have a direct interest in the resulting tax revenues (Hardeck & Kirn, 2016; Middleton & Muttonen, 2020). While this request could be satisfied by private disclosure, the increased attention to corporate tax behavior has also triggered the demand of other stakeholder groups for public disclosure. In line with the legitimacy theory, a firm's aggressive tax behavior can be perceived as a breach of the "social contract" and potentially result in consumer boycotts. Companies facing such a threat have incentives to publicly disclose information to explain their behavior and regain their legitimacy (Lanis & Richardson, 2013; Middleton & Muttonen, 2020). Finally, the institutional theory posits that a firm's institutional environment shapes the extent of voluntary tax disclosure. This environment includes normative and coercive forces (e.g., voluntary tax disclosure frameworks) as well as mimetic forces (e.g., companies adapting to the disclosure practices of their industry peers; Middleton & Muttonen, 2020).

In summary, the incentives identified for voluntary accounting and CSR disclosures are also effective for public (and some even for private) tax disclosure decisions. While the economic-based theories suggest that companies already paying their "fair share" of taxes are more inclined to disclose, socio-political theories rather predict disclosures of firms accused of aggressive tax behavior and/or subject to increased tax-related stakeholder scrutiny (Hardeck & Kirn, 2016). Ultimately, it is an empirical question which incentives prevail under which conditions. We review extant evidence on the determinants of tax disclosure decisions in Section 4.

### **3.3.2 Costs and benefits of mandatory tax disclosure**

So far, the conceptual literature on tax transparency is primarily focused on assessing the potential costs and benefits arising from mandatory tax disclosure regimes and on evaluating whether the different regimes are likely to achieve the goal of reducing tax avoidance. In the

---

<sup>17</sup> See also the following Section 3.3.2 for more details on the relationship between tax avoidance and extraction of private rents by managers.

following, we aim to give an outline of the current state of the discussion. Unless indicated otherwise, the respective costs and benefits pertain to both public and private disclosure.

To begin with, tax transparency mandates are supposed to entail capital market benefits for firms for at least two reasons. First, to the extent that tax-related public disclosures contain incremental financial information about the firm, they can mitigate adverse selection problems on the capital market in the same manner as financial reporting. This results in increased stock market liquidity and reduced cost of capital (Cockfield & MacArthur, 2015; Healy & Palepu, 2001). Second, as indicated above, some studies suggest a complementary relationship between tax avoidance and the extraction of private benefits by managers (Atwood & Lewellen, 2019; Desai & Dharmapala, 2006). Managers have an incentive to conceal their tax avoidance activities from tax authorities. To this end, they reduce the informativeness of both public and private disclosures. In turn, the resulting opaqueness creates some latitude for managers to divert private rents from the tax savings at the expense of shareholders (Hanlon et al., 2014). Desai et al. (2007) posit that stronger tax enforcement can inhibit such behavior if tax authorities are able to identify cases of unacceptable tax avoidance.<sup>18</sup> To the extent that additional tax disclosure requirements render private rent extraction less attractive, outside shareholders may reward the reduced costs for the monitoring of managers. This effect may even occur in case of private disclosure to tax authorities, as the findings of Desai et al. (2007) suggest that improved monitoring by the tax administration can limit managerial diversion.

Apart from capital market benefits, tax disclosure requirements can lead to an improved understanding of managers as they are forced to produce certain information (Hanlon, 2018). In combination with more effective monitoring by outsiders, managers may ultimately make more efficient investment decisions (Christensen et al., 2019; Leuz & Wysocki, 2016).

Most conceptual literature, however, deals with the various costs imposed on firms. Obviously, many tax disclosure regulations give rise to direct costs, including one-off costs for the implementation of a reporting system and recurring costs for the preparation, auditing (if required), and publication of the data (Devereux et al., 2011; Evers et al., 2017). As parts of these costs are fixed, disclosure requirements can be particularly burdensome for smaller companies (Leuz & Wysocki, 2016).

---

<sup>18</sup> While the tax authority may be regarded as minority shareholder due to its tax claim on corporate profits (Desai et al., 2007; Hanlon & Heitzman, 2010), it should be noted that the tax authority is not interested in reducing agency conflicts between managers and shareholders per se. Its objective is to secure corporate tax payments in accordance with the applicable tax laws (Desai et al., 2007; Hanlon et al., 2014).



More importantly, mandatory tax disclosures imply several indirect or implicit costs for firms. First, it is the stated purpose of many regulations to curb corporate tax avoidance. If companies do not compensate for reduced tax planning opportunities (e.g., by relocating activity as described below), they will face increased tax expense. To the extent that firms bear the corporate tax burden, their after-tax profits will decline. A related, albeit unintended, side effect of certain tax disclosure rules (particularly of CbCR) lies in the risk that the tax authorities of some countries might use the information to justify unilateral transfer pricing adjustments (Evers et al., 2017; Hanlon, 2018). Consequently, MNEs are either confronted with double taxation or at least with rising controversy costs.

Second, the potential costs identified as disincentives for voluntary financial disclosure decisions (see Section 3.1) apply to tax transparency mandates as well.<sup>19</sup> In this vein, several authors point out that public tax disclosure requirements (particularly CbCR) are associated with proprietary costs (Devereux et al., 2011; Evers et al., 2017). The data to be published may reveal commercially sensitive information about the profitability of certain activities or locations of an MNE, which can attract competitors or trigger suppliers or customers to renegotiate the terms of their contracts. Competitive disadvantages are especially likely if not all companies are subject to a disclosure regime (Murphy, 2003; Spengel, 2018). In contrast, others claim that the tax disclosure requirements in question are not specific and granular enough to actually contain trade secrets (Cockfield & MacArthur, 2015; Morris, 2015). The notion that tax information is generally protected by tax secrecy laws in many countries and that disclosure rules may erode this principle (Lenter et al., 2003; Oats & Tuck, 2019) represents a tax-specific facet of the proprietary cost discussion.<sup>20</sup> Like other corporate disclosures, tax transparency regimes can impose political costs on the affected companies in the form of increased regulatory scrutiny and adverse political actions (Leuz & Wysocki, 2016; Watts & Zimmerman, 1978). It is one of the goals of (both public and private) tax disclosure rules to inform legislators about necessary tax law adjustments.

Third, public tax disclosure requirements can expose companies to considerable reputational risks, such as public shaming of firms perceived as tax avoiders. Survey evidence suggests that reputational concerns play a decisive role in firms' tax planning decisions (Graham et al., 2014). While some tax transparency regimes build upon this mechanism to reduce tax

---

<sup>19</sup> Litigation costs, however, are not supposed to play a major role in the context of tax disclosures.

<sup>20</sup> It has to be noted that the primary intent of tax secrecy laws is to protect privacy rights of individuals (Cockfield & MacArthur, 2015). Thus, this issue is less relevant for corporate taxation, except for family-owned businesses.

avoidance, unjustified accusations due to misinterpretation of the published data by non-experts can imply unintended adverse consequences (Lenter et al., 2003). The extent of reputational risks is likely to depend on a firms' business model and industry (i.e., exposure to consumers and demand elasticity; Cockfield & MacArthur, 2015).

Finally, tax disclosure mandates can cause adverse real effects. If the application is limited to specific locations or conditional on company size, firms will rationally try to avoid being subject to costly disclosures. This response can involve relocations and disincentives for economic growth (Devereux et al., 2011). However, circumventing disclosure is probably not possible (or in itself too costly) for most firms. Prior research has provided ample evidence that corporate investment and employment are sensitive to corporate taxation (Clifford, 2019; De Mooij & Ederveen, 2003; Feld & Heckemeyer, 2011; Giroud & Rauh, 2019). Moreover, opportunities to shift profits out of a high-tax country are positively associated with economic activity in this country (Overesch, 2009; Suárez Serrato, 2019).<sup>21</sup> Hence, if disclosure requirements reduce profit shifting opportunities (or, more generally, tax avoidance), they may induce affected firms to relocate investments and employment to low-tax countries. In the same vein, Hanlon (2018) conjectures that firms subject to CbCR regimes might react by adjusting their distribution of real activities to prevent being perceived as tax-aggressive and, at the same time, keep their tax burden constant.

Regarding the recipients, most academic literature discusses whether the proposed benefits of tax transparency regimes are likely to materialize. The main motivation, especially for private disclosures, is to provide tax authorities with information to enhance audit scrutiny and efficiency (Cockfield & MacArthur, 2015). However, as tax planning is mostly lawful, potential benefits are limited to identifying and scrutinizing tax avoidance cases in the “grey area” between legal and illegal measures (Spengel, 2018). Besides, several authors raise doubts regarding the information content of specific tax disclosures. Their criticism relates to the basic concept and lack of comparability of CbCR data (Devereux et al., 2011; Hanlon, 2018) as well as to the informative value of qualitative tax strategy disclosures (Oats & Tuck, 2019).

Apart from the tax administration, legislators are also supposed to profit from tax transparency regimes. They can utilize the information disclosed as a starting point to detect weaknesses of and develop necessary adjustments to tax law in order to restrict unintended tax planning possibilities. While private disclosures are generally sufficient for this purpose, a

---

<sup>21</sup> Based on this notion, Dharmapala (2020) offers potential explanations why certain rules to prevent profit shifting are not applied more extensively by high-tax countries.

publication can help to hold legislators publicly accountable for taking necessary actions (Devereux et al., 2011; Lagarden et al., 2020). However, as the pervasiveness of legal tax planning opportunities is mainly due to a lack of international consensus and coordination, the actual benefit of more disclosures remains questionable.

Finally, proponents of public tax disclosure claim that such a disclosure enables the society to assess MNEs' tax behavior. The argument implies that consumers can incorporate this information into their purchase decisions (Forstater, 2017). Against this backdrop, researchers have argued for years about whether the general public actually has the expertise to interpret the reports correctly or whether this concern is too "paternalistic" (Devereux et al., 2011; Lenter et al., 2003). While the public disclosure of previously confidential tax information could strengthen the perceived fairness and equality of the tax system, some authors question whether paying a "fair share" of taxes according to the perspective of the general public constitutes an appropriate benchmark for assessing tax liabilities (Lagarden et al., 2020).

The only kind of costs that recipients of tax disclosures face are the costs of processing the data. Ever-increasing amounts of available information can result in an information overload impairing the visibility of relevant details and ultimately reducing efficiency (Hanlon, 2018; Middleton & Muttonen, 2020). The tax authorities are probably especially susceptible to this problem as they receive the largest amount of tax-related information about firms.

Unsurprisingly, the conceptual literature arrives at mixed conclusions about whether tax transparency regimes will efficiently achieve their central purpose. Some authors are convinced that mandating tax disclosures will reduce tax avoidance and promote a better international alignment of taxable income and economic activities (Cockfield & MacArthur, 2015; Murphy, 2003). Others emphasize that the multitude of potential consequences and responses makes it hard to predict whether the benefits will materialize and outweigh the costs (Evers et al., 2017; Hanlon, 2018; Oats & Tuck, 2019). Public disclosure requirements are seen as especially critical. They come along with higher expected costs, while the intended effect of mitigating tax avoidance might as well be achieved by private disclosure mandates (Devereux et al., 2011). Some authors point out that a requirement to publish the information can even have detrimental effects, such as increased comparability with peer firms leading to even more tax aggressiveness (Devereux et al., 2011) or companies diluting the informativeness of their tax return data in light of a subsequent publication (Lenter et al., 2003). After all, questions on the informativeness of, responses to, and net benefits of the different tax disclosure mandates need to be answered by empirical research. We review extant evidence in Sections 5 and 6.

## **4 Determinants of tax disclosure decisions**

After having discussed the theoretical concepts of tax disclosure, we now turn to the review of the extant empirical literature on tax transparency. We start by assessing studies that investigate the determinants of corporate tax disclosure behavior in this section and continue with empirical studies on the informativeness of the disclosed data in Section 5. Finally, we review the empirical evidence on how firms and stakeholders respond to tax disclosure regulations and increased corporate transparency in Section 6. A condensed overview of the surveyed literature on tax transparency following this structure can be found in Table A.2 in the Appendix.

The overall level of tax disclosure of a firm depends on (1) mandatory reporting rules, (2) the discretion exercised under mandatory reporting regimes, and (3) the amount of voluntary disclosure. Empirical research on disclosure determinants focuses on the two latter aspects and analyzes the factors related to firms' discretionary or voluntary disclosure decisions. Owing to this research question, studies on the determinants of disclosure behavior are mainly based on public disclosures issued by the firms themselves. To survey this literature, we first describe firm attributes associated with firms' tax disclosure decisions, with a particular focus on the role of corporate tax planning.<sup>22</sup> Next, we outline how external pressure affects tax disclosure decisions and how firms behave when subject to various interacting reporting requirements. Given the proximity to disclosure research in related areas, we refer to findings from financial reporting and CSR literature where appropriate.

### **4.1 Firm characteristics and activities**

#### **4.1.1 Generic firm attributes and characteristics**

##### **4.1.1.1 Firm size**

Among the various characteristics that influence firms' tax disclosure decisions, several studies have identified a positive association between firm size and the level of compliance with mandatory disclosure regulations. For instance, Belnap (2019a) finds that larger firms are more likely to comply with the UK requirement to disclose a tax strategy report mandated by the UK regulatory body and provide less boilerplate disclosures. The results confirm the expectation that large corporations are particularly sensitive to political and reputational costs due to their

---

<sup>22</sup> We limit the discussion to selected firm attributes that we identified in the papers within our scope. Importantly, we require these attributes to be explained and interpreted in the respective papers.

high visibility (Watts & Zimmerman, 1978).<sup>23</sup> In a German setting, Evers et al. (2014) find a positive association between firm size and disclosure quality of deferred taxes under German GAAP. Similarly, the results of L. A. Robinson and Schmidt (2013) imply that larger firms are more compliant with reporting requirements under FIN 48. However, the authors also document that larger firms reduce the overall clarity of their disclosure. This finding is consistent with other studies that identify a negative relation between size and disclosure choice in voluntary disclosure settings (e.g., N. Chen et al., 2019) or in settings where firms have certain latitude in determining how much information they actually provide (Akamah et al., 2018; Ayers et al., 2015; Krapat et al., 2016). One potential explanation for the mixed evidence could be that larger firms reduce overall disclosure quality to keep certain information private while technically complying with the reporting requirements (L. A. Robinson & Schmidt, 2013). Moreover, one should be aware that firm size captures different dimensions of firm characteristics (Healy & Palepu, 2001) such as operational complexity, which might create different disclosure incentives (N. Chen et al., 2019; Ehinger et al., 2020).

#### **4.1.1.2 Corporate governance**

A large body of literature in accounting research examines agency conflicts in the context of corporate governance with fairly mixed results. While some studies support the notion that institutional investors lead to more disclosure due to tightened monitoring, other studies suggest that firms with large institutional ownership reduce voluntary disclosure to prevent information leakage to outside investors (for a thorough review of this literature, see Beyer et al., 2010). Evidence from the CSR literature implies that managers are more likely to issue CSR reports when firms have less concentrated ownership structures, which is consistent with the latter view (Christensen et al., 2019).

In the context of tax disclosure, empirical research on the effects of corporate governance mechanisms is relatively scarce. Ayers et al. (2015) predict and find a negative association between the share of institutional investors and voluntary disclosure of deferred taxes on permanently reinvested earnings. The authors argue that institutional owners prefer to keep their informational advantage over other stakeholders. However, N. Chen et al. (2019) do not observe a significant relationship between institutional ownership and voluntary ETR forecasts in conference calls. While differing agency issues in the setting of the two studies might explain the inconsistent findings, more research is needed to understand how governance structures and

---

<sup>23</sup> Similarly, studies on CSR disclosure typically report a positive association between firm size and disclosure quantity and quality (Christensen et al., 2019; Hardeck et al., 2019).

managerial incentive schemes influence disclosure decisions on tax-related items and whether agency concerns are comparable to other disclosure settings.

#### **4.1.1.3 Information environment**

Corporate tax disclosure decisions are likely influenced by a firm's general level of transparency. In other words, transparent firms might be more inclined to provide additional information about their tax positions. Extant financial accounting literature mainly relies on analyst coverage as a proxy for the quality of firms' information environment.<sup>24</sup> However, empirical findings concerning tax disclosure decisions are relatively mixed. Some studies suggest that the number of analysts following is positively associated with voluntary tax disclosure in conference calls, in line with the expectation mentioned above (Balakrishnan et al., 2019; N. Chen et al., 2019). In contrast, other studies either document a negative relationship between analyst coverage and voluntary tax disclosure (Ehinger et al., 2020) or find no significant relationship at all (Ayers et al., 2015; Dyreng et al., 2020). The conflicting findings cast some doubts on the interpretation of the measure as a proxy for the information environment.

Alternatively, analyst coverage might be viewed as a measure of the level of monitoring and scrutiny by the capital market (Dyreng et al., 2020). In a recent study, Mauler (2019) exploits the variation in analysts' issuance of tax forecasts to investigate the effects of analyst behavior on firms' disclosure decisions more explicitly. The author documents that firms disclose more information in their tax footnotes if analysts issue tax forecasts. Thus, the results suggest that firms respond to higher levels of scrutiny on their tax accounts by increasing their tax transparency.

#### **4.1.1.4 Operating industry**

The operative environment is another factor that is likely correlated with the disclosure of tax-related information. Consistent with studies in financial accounting and CSR literature<sup>25</sup>, the results confirm that the sensitivity regarding tax disclosure decisions varies across industries. For example, Gleason and Mills (2002) report that firms in litigious sectors are more likely to disclose material contingent tax liabilities related to the Internal Revenue Service (IRS) claims. Their evidence suggests that firms provide additional information by accruing tax losses when facing a higher risk of lawsuits. Other studies show that a firm's business model is

---

<sup>24</sup> For a discussion of how corporate disclosure relates to analysts' behavior and outcomes, see Section 6.3.1.

<sup>25</sup> In line with the legitimacy theory, studies on CSR reporting show that firms operating in controversial industries, e.g., "sin industries", have higher quality CSR disclosures to legitimize their activities or to influence public opinion on the firm (Christensen et al., 2019).

associated with the level of tax transparency. For example, Bilicka et al. (2020) report in a supplemental test that firms operating in consumer-oriented industries voluntarily provide more qualitative information on their tax strategies, potentially due to greater stakeholder attention on tax issues. Examining the relation between geographic segment aggregation and firm characteristics, Akamah et al. (2018) also find that firms in retail, extractive, and in less competitive industries disclose, on average, more granular information about their geographic activities. However, these firms are incrementally more likely to aggregate geographic segments when having at least one tax havens presence. Hence, revealing tax haven presences seems costly for these firms, although the benefits of concealing information about the geographic distribution of business activities likely differ across industries. While firms in the extractive industries might anticipate potential political costs, retail businesses are rather concerned about reputational effects in terms of consumer boycotts.

#### **4.1.2 The role of tax aggressiveness**

One of the most frequently examined firm characteristics in the context of tax transparency is the level of tax planning. Note that we do not discuss the informativeness of tax-specific financial accounting items concerning the level of tax planning in this section.<sup>26</sup> Instead, we focus on studies that examine whether and how tax avoidance relates to individual disclosure decisions. One important caveat for the empirical analysis of the level of tax avoidance as a determinant of tax disclosure is the issue of endogeneity. In particular, the decision on both tax avoidance and disclosure behavior may be jointly determined by several firm-specific characteristics, some of which might be unobservable. Moreover, the level of tax avoidance is likely chosen in light of existing disclosure requirements, making it challenging to separate the two channels and draw causal inferences on the direction of causality. Therefore, most existing studies investigate associations between the decision to disclose certain tax-related information and a firm's level of tax avoidance.<sup>27</sup>

---

<sup>26</sup> For a discussion of the informativeness of tax disclosure, see Section 5. We also refer the reader to the excellent review of Hanlon and Heitzman (2010) on the quality of frequently used tax avoidance measures, which is not within the scope of our survey.

<sup>27</sup> In their review on tax avoidance, Brühne and Jacob (2019) survey some studies that investigate the association between tax avoidance and firm transparency more broadly. According to their findings, most studies document a negative association between tax avoidance and firms' level of transparency, consistent with tax-avoiding firms being more opaque. Note, however, that we review studies that explicitly focus on tax-related disclosures.

#### **4.1.2.1 Tax avoidance and mandatory tax disclosure**

As discussed in Section 3, the disclosure of tax-related information could be costly for firms if this information can be linked to their overall tax position. In other words, the incentive to withhold information or to provide more opaque disclosures is stronger if firms expect the disclosure to be informative for stakeholders like tax authorities, who might use the information when assessing the firms' tax liability.

The compliance with mandatory disclosure requirements regarding the information on international activities seems to be particularly sensitive to the level of corporate tax planning as the information indicates tax avoidance opportunities (e.g., Ayers et al., 2015) and presences in tax havens (e.g., Akamah et al., 2018, and Hope et al., 2013). Gramlich and Whiteaker-Poe (2013) analyze Google's and Oracle's decision to drastically reduce the disclosure of material foreign subsidiaries in Exhibit 21 to their 10-K filings. The authors conclude that disclosing fewer subsidiaries is rational from a firm perspective, especially if these subsidiaries are located in tax havens. Building on these observations, Krapat et al. (2016) use a large sample of firms that substantially reduced their subsidiary disclosure and find that these firms report declining ETRs in subsequent periods relative to MNEs that did not change their disclosure behavior. The authors argue that reputational concerns and public scrutiny are the primary reasons for non-disclosure in Exhibit 21. The IRS already possesses detailed information about foreign activities due to confidential tax reporting requirements for US firms. The findings by Dyreng et al. (2020) corroborate this assertion. The authors compare the subsidiaries disclosed in Exhibit 21 to subsidiaries filed with the IRS and confirm that the propensity of non-disclosure in Exhibit 21 is higher for subsidiaries located in tax havens. Given that the IRS already receives the information through the tax returns, the authors conclude that firms attempt to obscure their tax planning activities from the public to avoid criticism. In sum, these studies imply that firms strategically decide not to comply with financial reporting regulations to obfuscate the regional distribution of their economic activities, presumably to avoid additional scrutiny and criticism by external stakeholders such as the media, consumers, or the general public.

Beyond geographic disclosure requirements, empirical evidence indicates a close link between firms' tax aggressiveness and the quality of mandatory disclosures. In their study on first-time FIN 48 disclosures, L. A. Robinson and Schmidt (2013) find that tax-aggressive firms provide lower quality disclosures both in terms of disclosure completeness (i.e., compliance) and clarity. Similarly, two recent studies analyze the textual attributes of tax-related qualitative disclosures. According to their results, tax-aggressive firms make more boilerplate disclosures



(Belnap, 2019a) and have more complex tax footnotes<sup>28</sup> in their financial statements (Inger et al., 2018). Furthermore, indirect evidence of low-quality tax disclosures by tax-avoiding firms is presented by Kubick et al. (2016). The authors document that firms with lower ETRs have a higher propensity of receiving tax-related SEC comment letters. The SEC issues such comment letters if it identifies material deficiencies in a firm's filings or if financial items require further clarification.<sup>29</sup> Thus, the receipt of a tax-related comment letter indicates the low quality of a firm's mandatory tax disclosure in its financial statements.

In aggregate, the evidence discussed so far is consistent with the expectation that tax-avoiding firms are less transparent. In particular, firms use discretion in financial reporting regulations to conceal information about their tax position or even omit required disclosure. Hence, regulators should reduce the room for interpretation in the respective rules and ensure that existing reporting requirements are properly enforced.

#### **4.1.2.2 Tax avoidance and voluntary tax disclosure**

Firms engage in corporate tax planning to benefit from future tax savings. At the same time, sophisticated tax arrangements could also increase the organizational (Blouin & Krull, 2018; Lewellen & Robinson, 2014) and the financial complexity of businesses (Balakrishnan et al., 2019). Related literature from financial accounting research shows that financial reporting complexity can impair a firm's information environment and increase information processing costs for users, which could, in turn, affect the firm's cost of capital (Lehavy et al., 2011; Miller, 2010; You & Zhang, 2009). Thus, firms could have an incentive to provide additional disclosures to resolve uncertainty around financial reporting items and mitigate the adverse consequences of (tax) reporting complexity (e.g., Guay et al., 2016). Tax complexity refers to specific income tax components (e.g., permanent BTDs) and characteristics (e.g., ETR volatility), which are difficult to interpret for financial statement users and which make it difficult to predict income tax cash flows for future periods accurately (e.g., Bratten et al., 2017). In fact, recent empirical studies find that firms discuss income tax-related topics more frequently in conference calls when tax reporting complexity is higher (N. Chen et al., 2019; Ehinger et al., 2020; Koutney, 2019). Similarly, Flagmeier and Müller (2017) show that firms issue more

---

<sup>28</sup> While the authors argue that managers intentionally reduce the readability of the tax footnotes, they cannot fully rule out that the lower readability might be due complex tax planning structures, which are by nature hard to describe.

<sup>29</sup> For more information, see <https://www.sec.gov/fast-answers/answerscommentlettershtm.html> (accessed on 1 July 2020).

comprehensive information about tax-loss carry-forwards when the usability of the losses is less certain.

Other studies analyze the effects of tax aggressiveness on voluntary tax disclosure behavior more directly. Early evidence is provided by Schwab (2009), who shows that earnings announcements that include voluntary information on BTDS are more likely for firms with a higher level of tax avoidance, which is a potential source for large BTDS. Consistent with the prediction that tax-aggressive firms have a weaker information environment, Balakrishnan et al. (2019) find that analyst forecast errors and information asymmetries are higher for tax-avoiding firms. In further analysis, the authors show that firms with a low ETR disclose more detailed MD&A sections and provide more tax-related discussions in conference calls, potentially indicating that firms attempt to mitigate transparency concerns or complexity by issuing clarifying information.

Overall, and in line with theoretical predictions, the empirical evidence suggests that managers face conflicting incentives with respect to the optimal level of transparency. On the one hand, supplemental disclosure could facilitate the interpretation of tax-related financial items for capital market participants and mitigate potential agency costs associated with the concern that managers might derive private benefits from tax avoidance. On the other hand, the information could also be accessed by tax authorities to target future audits. Ehinger et al. (2020) assess the relative importance of both channels and find that the risk of being audited by the IRS attenuates the positive effect of tax complexity on voluntary disclosure of changes in taxes or forward-looking tax information. Nevertheless, more research is necessary to understand better which factors (complexity, public scrutiny, or audit probability) drive the cost-benefit considerations and under which conditions firms are willing to provide additional information.

#### **4.1.2.3 Tax avoidance and CSR reporting**

As income taxes and corporate tax strategies are gradually recognized as an integral part of CSR disclosures (e.g., GRI, 2019, see Section 3.2), a developing stream of literature at the intersection of CSR and tax research investigates whether corporate tax behavior is associated with the inclusion of tax-related information in CSR reports. Based on a case study of a Finnish MNE, Ylönen and Laine (2015) provide illustrative insights on how an MNE's commitment to sustainability and an open discussion with stakeholders in CSR disclosures conflicts with its actual approach to tax. In particular, the company provided very sparse information on taxation and tax planning in its renowned CSR reports despite claiming transparent communication.

Moreover, the authors show that the company heavily engaged in tax avoidance via intra-group transfer pricing using a Dutch holding company.

However, the results of more recent studies with larger samples provide a different perspective in line with the legitimacy theory. That is, tax-avoiding firms are more likely to include tax-related information in their CSR disclosure to legitimize their tax strategies or to alleviate political and societal pressure for not paying their “fair share” of taxes (Hardeck & Kirn, 2016; Kao, 2019). Regarding the content, early evidence indicates that tax-avoiding firms provide more soft information such as a general commitment to a socially responsible approach to tax that is hard to verify (Hardeck & Kirn, 2016; Kao, 2019). Besides, tax-aggressive firms are less likely to mention compliance aspects in their CSR reports (Hardeck et al., 2019). In a cross-country study on tax disclosure in CSR reports, Hardeck et al. (2019) show that country-level variation in cultural dimensions partly explains whether firms discuss taxes in CSR reports. Moreover, cultural dimensions are associated with differing views about tax payments and CSR expressed by the firms. For instance, firms in countries characterized by higher masculinity are more likely to view taxes and CSR as substitutes rather than complements.

Based on these first insights, future research should further investigate what firms actually disclose in CSR reports and whether the information is incrementally useful to readers of the reports compared to the information provided in financial statement disclosures. Given that public CbCR and qualitative tax strategy reports become a mandatory element of CSR disclosures for firms following the GRI reporting framework, the relationship between CSR disclosure and tax behavior continues to be a promising area for future research.

## **4.2 External pressure**

In recent years, corporate tax planning activities have moved into the focus of attention of the media (e.g., S. Chen et al., 2019) and NGOs. The latter attempt to exert public pressure on firms by uncovering tax planning arrangements and disclosure deficiencies associated with tax avoidance. The political and reputational costs argument predicts that unintended scrutiny and public pressure by external stakeholders constitute relevant criteria for a firm’s disclosure decisions.<sup>30</sup> Empirical evidence confirms the relation between tax disclosure behavior and public scrutiny. For instance, Dyreng et al. (2020) report that media coverage is unrelated to the

---

<sup>30</sup> Apart from changes in disclosure behavior, external pressure might also induce changes in corporate tax avoidance as well as real effects. We review the literature on corporate responses to increased transparency in Section 6.1.

disclosure of non-tax haven subsidiaries but negatively associated with the disclosure of significant tax haven presences. The authors conclude that firms strategically omit tax haven subsidiaries that could be picked up by the media to avoid unintended scrutiny. In an earlier study, Dyreng et al. (2016) exploit a unique setting to investigate corporate disclosure responses to public pressure levied by an NGO on large UK firms that did not comply with a mandatory regulation to disclose all foreign subsidiaries. The authors find that initially non-compliant firms immediately increased their disclosure. Among the newly disclosed subsidiaries, the fraction of tax haven locations was disproportionately higher, which suggests that firms previously intended to hide this information.

The results concerning media attention and public scrutiny should be interpreted with some caution as media attention and public scrutiny are not randomly assigned. Since journalists aim to generate attention among readers, they are more likely to choose controversial topics such as corporate tax avoidance (Jensen, 1979),<sup>31</sup> which introduces a selection bias in the examined samples. A notable exemption is a study of Belnap (2019a), who conducts a field experiment to test the effect of public scrutiny on firm disclosure behavior. His results indicate that treated firms start to comply with mandatory disclosure requirements. Moreover, previously compliant firms slightly improve the quality of their disclosure. One explanation to reconcile the differing findings is that firms disclose less ex-ante to reduce costly public scrutiny. However, sufficiently large shocks in public scrutiny (e.g., caused by intense media coverage or public “shaming” campaigns) may alter the disclosure equilibrium for firms, especially for firms that violate mandatory regulations (Belnap, 2019a). This ex-post disclosure behavior would be consistent with socio-political theories (e.g., firms increasing disclosure to satisfy the demand by outside stakeholders, see also Section 3.3.1).

Another piece of evidence on the effect of external pressure on disclosure is presented by Kubick et al. (2016). The authors document that firms increase the length of tax footnotes and the number of references to taxation in the MD&A section of their reports after receiving a tax-related SEC comment letter. These results complement prior findings in accounting literature on the effect of regulatory scrutiny (S. V. Brown et al., 2018; J. R. Robinson et al., 2011).

---

<sup>31</sup> This prediction is supported by S. Chen et al. (2019), who find that firm visibility and level of tax avoidance are relevant determinants of media coverage.

### 4.3 Interaction between different disclosure types

Firms are subject to various tax reporting regulations and disclosure regimes, as we have documented in Section 2.2. Importantly, each set of disclosure creates specific reporting incentives for firms depending on the addressee of the information (e.g., investors, the general public, tax authorities). However, the information required by different regulations could be interrelated to a certain extent. This is most obvious for the relationship between financial reporting standards and confidential tax reporting to tax authorities. Firms may alter their disclosure behavior to the extent to which these two sets of disclosure interact with each other (Hope et al., 2013).

A particularly well-studied example is the introduction of Schedule UTP, which requires US firms to confidentially provide the IRS with additional information about the UTBs recorded in their public financial statements. The UTBs are reserves for the firm's uncertain tax positions, which might be subject to adjustments during tax audits. The reserves are disclosed on aggregate across jurisdictions, and firms are not required to specify the positions underlying the total amount. Schedule UTP obliges firms to report a narrative description of the components of UTBs that relate to tax positions taken in the federal tax return in the US. The regulation increases overall tax transparency as it provides the IRS with previously unavailable information allowing for more detailed analyses of uncertain tax positions. Notably, the Schedule UTP setting is unique because the extent of private disclosure depends on firms' financial reporting decisions regarding the amount of UTBs.

Empirical studies document robust evidence that firms respond to Schedule UTP's introduction by reducing financial reporting reserves for UTBs without changing their underlying tax behavior (Abernathy et al., 2013; Honaker & Sharma, 2017; Towery, 2017). Exploiting confidential tax return data, Towery (2017) shows that firms strategically reduce the amount of reported UTBs. Still, they do not seem to claim fewer income tax benefits in corporate tax returns. In contrast to prior studies, Bozanic et al. (2017) analyze how firms modify their narrative disclosures in financial statements following Schedule UTP. The authors show that affected firms increase the length of tax footnotes. Moreover, firms seem to discuss topics that relate to UTBs after the imposition of the confidential reporting requirement. These findings indicate that firms increase voluntary public disclosure, but they also suggest a disconnect between qualitative and quantitative disclosure responses. One potential reason for the conflicting results might be that firms try to mitigate the costs associated with the disclosure to the IRS by reducing the amount of UTBs in their financial statements. For the remaining fraction of UTBs,

however, the cost-benefit tradeoff has likely changed, which could induce voluntary qualitative disclosure in the footnotes to explain the uncertain tax positions to investors.

Apart from the studies on Schedule UTP, little attention has been paid to the interaction of different disclosure types. A notable exception is a study of Kays (2019), who investigates voluntary tax disclosure responses to the mandatory disclosure of tax return data by a third party, namely the Australian Taxation Office (ATO). The author argues that large deviations between tax return income and financial statement income may increase uncertainty about firms' future cash flows among investors. Consistent with her expectation, she documents that firms with larger deviations are more likely to issue supplemental information with reference to the ATO's publication. These results imply that the third-party disclosure increased the benefits of additional voluntary disclosure.

In a recent study, R. J. Brown et al. (2019) examine whether the mandatory disclosure of *public* CbCR for EU banks alters the disclosure incentives under geographic segment reporting. As the public CbCR contains very granular country-level information about bank's operations for every country, its introduction likely reduces the proprietary or political costs associated with segment reporting. However, R. J. Brown et al. (2019) fail to find a significant change in banks' segment reporting after the CbCR adoption. Given that the CbCR for banks is publicly available for all interested stakeholders anyway,<sup>32</sup> adjusting segment reports may involve unnecessary direct preparation costs, which could explain this result. However, the recent introduction of a *private* CbCR in OECD and EU countries may provide a more promising setting to assess public tax disclosure responses.

#### **4.4 Interim conclusion**

Research on the determinants of corporate tax disclosure decisions shows that firms consider several factors when they trade off the costs and benefits associated with the disclosure of tax-related information. Moreover, the evidence presented above suggests that the disclosure decision is highly firm- and context-specific. For instance, tax-avoiding firms strategically deviate from mandatory disclosure requirements to obfuscate tax-related information. Still, they are more likely to issue supplemental (often qualitative) information to reduce complexity or legitimize their tax arrangements. This disclosure behavior is noteworthy and questions whether additional tax transparency regulations may be justifiable. Instead, the studies on subsidiary

---

<sup>32</sup> Banks are required to publish the audited report as an annex to the (consolidated) financial statements (Article 89 of the CRD IV; see also Section I.B of Table A.1 in the Appendix).

disclosures show that proper enforcement of existing reporting regulations is crucial. However, from an academic perspective, we still lack comprehensive empirical evidence on the relative importance of the different channels affecting disclosure decisions. In many studies, the single channels are only indirectly observable, or they are tested in isolation. Given the increasing number of disclosure requirements for firms, it might be promising to assess how the interaction between different disclosure rules affects public tax disclosure decisions.

## **5 Informativeness of tax disclosures**

Having examined the determinants of firms' voluntary and discretionary tax disclosure decisions, we next survey studies that empirically analyze the informativeness of the data disclosed. We define informativeness as the extent to which the respective disclosures increase the recipients' level of knowledge about the firm, its financial performance, and, importantly, its tax behavior. The degree of informativeness hinges on both the conceptual design of the underlying tax transparency rules and frameworks (including the leeway offered by explicit or implicit reporting choices) and on firms' disclosure decisions (which we take as given in this section). According to the type of information, we distinguish between studies on quantitative disclosures (Section 5.1) and research on qualitative disclosures (Section 5.2).

### **5.1 Quantitative tax disclosures**

#### **5.1.1 Tax disclosures in financial statements**

While our study is clearly focused on information about a firm's approach to tax and level of tax avoidance, tax disclosures in financial statements can as well contain economic information about firm performance, which has been investigated by several studies evolving in the 2000s. Hanlon and Heitzman (2010) and Graham et al. (2012) comprehensively review this stream of accounting research and summarize two main findings. First, since taxable income constitutes an alternative (often more cash-flow oriented) profit measure, tax disclosures comprise incremental information about a firm's current and future earnings. Extant evidence suggests that temporary BTDs are informative about earnings persistence and that total BTDs are positively associated with future earnings growth. Second, managers use the tax accounts in general – and in particular, the valuation allowance to deferred tax assets and permanently re-invested earnings – to manage earnings to meet or beat analysts' forecasts, but not to achieve other earnings targets. While the tax contingency reserve has also been employed for earnings management, there is conflicting evidence whether this still holds true after the introduction of FIN 48 (Cazier et al., 2015; Gupta et al., 2016).

Research on the informativeness regarding a firm's tax behavior started with two early studies discussing what the financial statements of US companies tell about US taxable income and actual US income tax payments. Hanlon (2003) conceptually explains how items like the tax contingency reserve or tax credits and different consolidation rules for book and tax purposes impede the calculation of US taxable income based on current tax expense. McGill and Outslay (2004) illustrate these difficulties in case studies. A first large-sample examination is provided by Lisowsky (2009). Combining confidential tax return data from the IRS with information from Compustat, he builds a model that infers a firm's US tax liability from all tax disclosures in its public financial statements. He documents a robust positive relationship between tax expense and actual tax payments indicated in the tax return. In particular, he finds that one dollar of current federal tax expense recorded in financial statements is associated with about 70 cents total tax reported to the IRS. Besides, Lisowsky (2009) identifies additional tax disclosure items which help (e.g., change in the tax contingency reserve, cash taxes paid) or do not help (e.g., deferred taxes) to estimate US total tax. In summary, as tax disclosures in financial statements are primarily designed to provide a fair presentation of a firm's tax burden from an accounting perspective, they do not facilitate a precise calculation of taxable income or tax liabilities in the home country (Hanlon, 2003). Nevertheless, they allow for a good approximation.

The growing interest in research on the tax planning behavior of MNEs has spurred the need for suitable measures of tax avoidance on firm-level. As the access to confidential tax authority data is rare, researchers have developed a series of measures based on the publicly available tax disclosures in consolidated financial statements. This includes different versions of the ETR (GAAP vs. cash ETR, annual vs. long-run), variations of BTD measures (temporary and total BTDs, abnormal BTDs, discretionary permanent BTDs), and the tax contingency reserve (especially after the introduction of FIN 48). Hanlon and Heitzman (2010) provide a detailed overview and illustrate for each measure which forms of tax avoidance it captures.<sup>33</sup> They also highlight the importance of selecting a proxy which fits the research question.

A handful of studies try to test the validity of specific proxies by using additional information on companies' tax avoidance behavior from other sources as a benchmark. An early

---

<sup>33</sup> As Hanlon and Heitzman (2010) note, it is important to consider the variety of tax planning activities. For example, conforming tax avoidance never results in a difference between financial and tax accounts, deferral strategies create temporary differences, and some other kinds of non-conforming tax avoidance give rise to permanent differences. Consequently, every measure includes only some forms of tax avoidance while excluding others.



analysis of Mills (1998) shows that temporary BTDs are associated with proposed IRS audit adjustments. Other authors rely on samples of US firms allegedly engaging in tax sheltering. The term “tax shelter” refers to a very aggressive form of transactions whose main benefit is reducing the tax burden. While complying with the letter of material tax law, the IRS – based on case law – may deny the legality if a transaction lacks economic substance. Such cases often end up in court, and Graham and Tucker (2006) use public tax court records and financial news to identify firms accused of engaging in tax shelters. Desai and Dharmapala (2009), Frank et al. (2009), and Wilson (2009) build upon this approach and document that their BTD measures are associated with the incidence of tax sheltering accusations. Lisowsky (2010) instead exploits confidential information on tax sheltering cases obtained by the IRS’ Office of Tax Shelter Analysis (OTSA).<sup>34</sup> He finds that total BTDs and the tax contingency reserve (prior to FIN 48) are related to tax shelter engagement, while the long-run cash ETR and Frank et al.’s (2009) measure of discretionary permanent BTDs are not. Finally, Lisowsky et al. (2013) again use a confidential OTSA dataset and show that the UTBs to be disclosed after the introduction of FIN 48 are a strong predictor of tax shelter participation and outperform all other conventional measures of tax avoidance.

Apart from their conflicting results, studies correlating different tax avoidance proxies with tax sheltering incidence need to be interpreted with caution. First, the tax shelter datasets suffer from selection bias, as they only include firms that were discovered or actively disclosed to the tax authorities (Hanlon & Heitzman, 2010). Second, as a transaction-based indicator, tax shelter participation is not necessarily informative about a firm’s overall level of tax avoidance. Firms with sufficient opportunities to engage in less risky tax planning strategies might abstain from aggressive tax shelters (Hanlon & Heitzman, 2010). Thus, a significant association with tax sheltering does not qualify a measure as a universal proxy for tax avoidance.

While UTBs have become a popular measure for (risky) tax avoidance due to their conception as reflecting controversial tax positions, a study of L. A. Robinson et al. (2016) casts some doubt on their informativeness. Firms appear to be over-reserved, as only 24% of the UTBs unwind due to settlements with tax authorities within three years. Using confidential IRS

---

<sup>34</sup> The sample used by Lisowsky (2010) comprises the years 2000-2004. In this period, the OTSA obtained its information on tax shelter participation through enforcement actions or voluntary disclosures by firms. In contrast, the OTSA dataset for the years 2006-2009 exploited by the subsequent study of Lisowsky et al. (2013) is based on firms’ mandatory disclosures of reportable transactions (Form 8886). See Section III.B of Table A.1 in the Appendix for more details on this private disclosure requirement.

data, L. A. Robinson et al. (2016) document that ETRs decrease in the periods of settlements, implying that the initial reserves exceed the actual amount of cash settlements. This tendency to overstate reserves may be inherent in the recognition and measurement criteria of FIN 48 since they require firms to assume that all relevant positions will be detected by a tax audit.<sup>35</sup> Consequently, although UTBs may serve to identify certain forms of tax avoidance, their informative value regarding future cash tax payments arising from risky positions seems to be restricted.

In summary, it has to be noted that all the different proxies for tax avoidance based on tax items in consolidated financial statements reflect only certain forms of tax avoidance while excluding others. Attempts to empirically validate these proxies can provide only limited evidence as tax planning decisions are unobservable. In addition, measures based on financial accounting numbers may be distorted by aggressive financial reporting decisions and by firms using tax accounts for earnings management purposes (Hanlon & Heitzman, 2010).

### **5.1.2 Country-by-country reporting**

While financial reporting standards are mainly designed to provide investors with information on firm performance, virtually all other types of tax disclosure rules under the scope of our review serve the primary goal of informing tax authorities or other stakeholders about corporate tax behavior. In recent years, we have seen a remarkably rapid growth in studies, which exploit the data resulting from different CbCR requirements. By construction, CbCRs shall enable their readers to assess whether the profits allocated to and taxes paid in each country by an MNE are in line with the distribution of economic activity. In other words, CbCRs are supposed to indicate international profit shifting, a particular (and very important) form of tax avoidance. To assess the incremental informativeness of CbCRs in this regard, we first provide a very brief summary of how prior research has studied profit shifting.<sup>36</sup>

Profit shifting denotes the artificial relocation of taxable profits from high-tax to low-tax countries, e.g., by transfer pricing, licensing of intangibles, or intra-group financing

---

<sup>35</sup> It has to be noted, though, that several studies document a systematic decrease of the UTB amounts recorded in firms' financial statements following the introduction of the related confidential disclosure requirements of Schedule UTP (see the review of this literature in Section 4.3). However, this finding does not necessarily imply that the newly disclosed amounts of UTBs are more informative compared to UTB amounts prior to Schedule UTP as the reduction seems to be driven by firms trying to minimize the positions they would need to explain in Schedule UTP.

<sup>36</sup> For a comprehensive review of the profit shifting literature, we refer the reader to Dharmapala (2014, 2020), Dyreng and Hanlon (2019), and Riedel (2018).

(Heckemeyer & Overesch, 2017). As the amount of shifted profits is not directly observable, researchers rely on indirect approaches to detect and measure profit shifting (Dyreng & Hanlon, 2019). A widely-used approach<sup>37</sup> developed by Hines and Rice (1994) models the pre-tax income reported by an affiliate of an MNE in a particular country as the sum of “true” profits (explained by economic input factors) and shifted profits (induced by tax incentives). The tax incentive is usually formalized as the difference between the host country's statutory tax rate and a group average.<sup>38</sup> In the standard log-linear regression specification, the coefficient on the tax incentive variable can be interpreted as the tax semi-elasticity of reported profits.

A multitude of different data sources have been employed so far to examine profit shifting. While virtually all studies suggest that MNEs engage in profit shifting to some extent (Dyreng & Hanlon, 2019), estimates of the size of this phenomenon vary considerably across different datasets. Several researchers rely on macro-level information, such as data on foreign operations of US firms from the Bureau of Economic Analysis (BEA) (Hines & Rice, 1994) or new datasets of international foreign affiliate statistics (Tørsløv et al., 2020). These studies typically find rather large amounts of profit shifting, with tax semi-elasticities around -3 (Clausing, 2016; Hines & Rice, 1994) or about 40% of MNEs’ foreign profits being shifted to tax havens (Tørsløv et al., 2020). In contrast, other authors exploit micro-level datasets, especially information from unconsolidated financial statements of subsidiaries provided by Bureau van Dijk (BvD) databases. Most micro-level studies document only modest results with tax semi-elasticities around -1 (Dharmapala & Riedel, 2013; Huizinga & Laeven, 2008).<sup>39</sup> Meta-regression analyses by Heckemeyer and Overesch (2017) and Beer et al. (2020) also confirm that the aggregate datasets tend to produce much stronger results. This finding has raised the question of how the discrepancy can be explained.

Critics of micro-level datasets point out that BvD data mostly lack observations from tax havens that are probably the most relevant locations for profit shifting (Clausing, 2020; Dyreng & Hanlon, 2019). In this vein, the findings of Dowd et al. (2017) suggest that MNEs’ tax responsiveness is non-linear and that elasticities are highest with regard to low-tax countries. Furthermore, micro-level studies usually treat each company observation equally, while only a

---

<sup>37</sup> Other approaches, for example, exploit earnings shocks (Dharmapala & Riedel, 2013) or compare reported labor productivities of MNEs with those of domestic firms (Tørsløv et al., 2020).

<sup>38</sup> The composite tax index developed by Huizinga and Laeven (2008) basically represents the difference between the host country tax rate and a weighted group average. Alternative tax incentive proxies include the host country statutory tax rate or measures of the ETR and ETR differences.

<sup>39</sup> However, a micro-level study on a sample of banks using Bankscope data documents a tax semi-elasticity of -2.4, suggesting that banks are more tax-sensitive than firms from other industries (Merz & Overesch, 2016).

few very large companies might be responsible for a vast majority of total profit shifting (Clausing, 2020). On the other hand, the aggregate structure of macro-level datasets does not allow to control for affiliate fixed effects, resulting in an over-estimation of profit shifting (as noted by Dharmapala, 2020). More importantly, a recent working paper of Blouin and Robinson (2020) claims that the aggregate BEA data, as used by prior research, suffer from a severe double counting and/or misallocation of profits. They propose a way to correct this error, which drastically reduces the estimates of profit shifting. Blouin and Robinson (2020) also discuss potential double counting and misallocation problems of several other data sources.

Considering all the drawbacks of conventional datasets, it seems appealing to examine whether new information from CbCRs may serve as a preferable source to investigate profit shifting (Dyreng & Hanlon, 2019). The first setting where CbCR data have become available for research is the public CbCR requirement for EU financial institutions, which was introduced for financial years 2014 onwards.<sup>40</sup> Several studies analyze hand-collected reports of different samples of European bank groups. Descriptive evidence suggests that tax havens play an important role for these firms, accounting for nearly one-fifth of their total worldwide profits (R. J. Brown et al., 2019; Dutt et al., 2019b; Janský, forthcoming). However, only certain tax havens (in particular, Luxembourg, Hong Kong, Ireland, and Singapore) are used frequently, while the presences and profits disclosed in some other haven countries are negligible (R. J. Brown et al., 2019; Dutt et al., 2019b; Janský, forthcoming). The CbCRs also reveal a considerable disconnect between reported profits and real activity. Relatedly, the profit per employee and the profit margin in tax havens is a multiple of the values in non-haven countries (R. J. Brown et al., 2019; Dutt et al., 2019b; Fatica & Gregori, 2020). Bouvatier et al. (2018) estimate a gravity model based on CbCR data to analyze the location decisions of EU bank groups. They find that tax havens attract about 200% additional turnover and nearly 160% additional employment beyond what can be explained by standard gravity factors, with German and UK-based bank groups exhibiting the most pronounced results.

Two studies apply the standard approach developed by Hines and Rice (1994) to banks' CbCR data (Dutt et al., 2019b; Fatica & Gregori, 2020). Both face the challenge that banks' CbCRs do not contain an appropriate control variable for capital input (such as tangible or total assets). Still, they differ in terms of sample selection, the primary tax incentive variable, country-level controls, and fixed effect structure. Fatica and Gregori (2020) find an average tax semi-elasticity of -2.5, which is close to the results of prior research on banks using BvD data (Merz

---

<sup>40</sup> See Section 2.2.1 and Section I.B of Table A.1 in the Appendix for further details.

& Overesch, 2016). However, consistent with Dowd et al. (2017), they also observe that the responsiveness is much stronger with respect to tax haven locations. In contrast, Dutt et al. (2019b) document that the absence of a control variable for capital input severely biases the estimates against finding evidence of profit shifting. Based on a simplified correction for the bias's presumed size, they arrive at an average tax semi-elasticity of -4.6.

In order to evaluate the incremental information revealed by the CbCR data, Dutt et al. (2019b) directly compare their dataset with the information contained in the BvD databases Orbis and Bank Focus for an identical sample of bank groups. They show that the commercial databases exhibit a good coverage of the group structure but lack financial statement information for a large fraction of subsidiaries (especially of those in tax havens). The CbCR data uncover this information. However, the advantage in terms of coverage is counteracted by the limited set of variables on economic activity to be reported in banks' CbCRs, casting doubt on whether this disclosure enables more precise estimations of the extent of profit shifting.

Although the CbCR framework proposed by the OECD stipulates only private disclosure to tax authorities,<sup>41</sup> the IRS has recently published the first aggregate data of US-based MNEs for 2016 and 2017.<sup>42</sup> This CbCR framework comprises more variables due to its confidential nature, including tangible assets as a potential proxy for capital input. A few studies use the first wave of data published by the IRS and examine their advantages and problems. In terms of coverage, these studies document that the IRS CbCRs are clearly superior to Orbis (Garcia-Bernardo et al., 2019) and even contain information on more than twice as many countries as the public BEA data series (Clausing, 2020; Garcia-Bernardo et al., 2019). Concerning the double-counting issue, CbCRs do not suffer from the problems inherent in the BEA data as the method of profit allocation differs (Blouin & Robinson, 2020). Researchers discuss some other potential sources of double counting due to intra-group dividends and the position of “stateless income”<sup>43</sup> in the US CbCRs. However, first quantitative analyses show that, after correcting for stateless income, aggregate profits from the IRS CbCR dataset only slightly exceed the

---

<sup>41</sup> See Section 2.2.2 and Section III.A of Table A.1 in the Appendix for more details.

<sup>42</sup> Available at <https://www.irs.gov/statistics/soi-tax-stats-country-by-country-report> (accessed on 15 June 2020). The data for 2016 are mainly based on voluntary reports, the data for 2017 represent the first full year of mandatory reports.

<sup>43</sup> Owing to the US tax system and the US CbCR implementation, the income of conduit entities such as partnerships needs to be disclosed as “stateless income”. When both a partnership and its partner have to file a CbCR, the income labelled as stateless is recorded twice in the aggregate CbCR dataset (Blouin & Robinson, 2020). To avoid this problem, Clausing (2020) eliminates the position of stateless income from the dataset.

benchmarks of corrected BEA profits and aggregate financial statements profits from Compustat (Blouin & Robinson, 2020; Clausing, 2020; Horst & Curatolo, 2020).

In light of these advantages, Clausing (2020) uses the IRS CbCR data for 2017 as an alternative source to quantify profit shifting of multinational firms headquartered in the US. Depending on the method applied, she estimates that the US has lost corporate tax revenues of USD 91-134 bn (i.e., about 30-45% of its total corporate income tax revenues) in 2017, which is in the range of the large amounts of profit shifting documented by prior studies using aggregate datasets. However, these results need to be interpreted with caution. Other researchers assess such numbers as implausibly high (Dyreng & Hanlon, 2019) and question the assumptions underlying the calculations (Blouin & Robinson, 2020). Besides, the IRS CbCR dataset is very new and, so far, offers only one full year of mandatory reports.

In summary, first evidence suggests that different kinds of CbCR datasets – which will increasingly become available in the future<sup>44</sup> – can provide additional information on MNEs' profit shifting behavior due to several advantageous features. If available on firm-level, CbCR disclosures contain disaggregated information, allowing researchers to control for group- and affiliate-specific factors. Simultaneously, CbCRs offer a more complete country coverage, including all tax havens, which is superior to unconsolidated financial statements from the BvD databases and more comprehensive than the public BEA data series. Finally, CbCRs are less prone (albeit not immune) to double counting or misallocation of profits than BEA data or international foreign affiliate statistics.

Nevertheless, several caveats should be noted when using CbCR information to examine profit shifting. First, companies do not have to report the data on the subsidiary level but on the country level, which already implies a certain degree of aggregation. Second, the multilateral CbCR regulations contain several explicit choices, and, in addition, their wording leaves a certain scope for interpretation. For example, the OECD (2015) framework allows for a wide range of sources to compile the CbCRs, including financial statements, regulatory filings, and even managerial accounting. Similarly, the EU requirement for banks lacks a clear definition of the items to be reported and the applicable consolidation scope. The resulting leeway likely causes differences in national implementation and companies' reporting practices, impeding the

---

<sup>44</sup> The OECD (2020) has just recently published aggregate international CbCR information, the IRS will probably publish further years of data, researchers might occasionally be granted access to tax authorities' confidential CbCR datasets, and the EU is still discussing about a general public CbCR requirement for large MNEs.

comparability of the data. Since extant studies have not addressed this issue, more research on potential heterogeneity within CbCR datasets is warranted.

Third, when relying on CbCR data, researchers are confined to a limited selection of variables. While this drawback is especially pronounced for the CbCRs of European banks (lacking a capital input proxy), even the OECD's confidential CbCR does neither include labor costs nor any direct indicators reflecting intra-group financing or licensing of intangibles. Forth, even if firms had to report all these items, it should be noted that information on the distribution of several economic input factors per se does not imply a universal formula or benchmark for a "fair" allocation of profits (Lagarden et al., 2020). Finally, since CbCRs are generally based on accounting information, the profits disclosed per country do not necessarily correspond to the international allocation of taxable income. A recent study of Bilicka (2019) shows that foreign MNEs increasingly report zero taxable income but, simultaneously, positive accounting profits in the UK (as a high-tax country). Like other accounting-based measures, CbCRs cannot capture such non-conforming tax planning activities. In light of these caveats, CbCR datasets likely constitute an additional piece in the puzzle, rather than revealing the whole picture of MNEs' profit shifting behavior.

## **5.2 Qualitative tax disclosures**

In light of the limitations of quantitative disclosures and due to the advance of textual analysis techniques, research has recently started examining qualitative tax disclosures as an additional source of information on tax behavior. For example, Campbell et al. (2019) analyze tax-related risk factor disclosures of public US firms. As of 2005, the SEC requires firms to discuss significant risk factors in their 10-K filings (Item 1A). Campbell et al. (2019) measure the extent of firms' tax-related risk factor disclosures and find a negative association with future cash tax payments. They conclude that the tax risks discussed by managers reflect positions of reasonable risk-taking (i.e., which are value-increasing as they result in positive future net cash flows).

The trend towards more tax transparency has also entailed new qualitative disclosures, such as the tax strategy reports to be published by certain firms with a presence in the UK.<sup>45</sup> This requirement appears to be particularly interesting from a research perspective. As opposed to financial statements and CbCR disclosures, it demands that firms state explicit information on their attitude towards tax planning. Bilicka et al. (2020) examine the content of about 260

---

<sup>45</sup> See Section 2.2.1 and Section I.C of Table A.1 in the Appendix for more information.

reports published by MNEs headquartered in the UK. They conduct natural language processing analyses based on plagiarism software to identify common phrases across the different documents. The results indicate a modest degree of overall resemblance, with an average value of the highest similarity level across reports of about 8%. Moreover, about 6% of the analyzed publications exhibit a similarity level exceeding 30%, which they label as “boilerplate” disclosures. In a study prepared for Tax Justice Network, Belnap (2019b) applies corresponding techniques to around 600 reports of US-based MNEs subject to UK regulation. In contrast to Bilicka et al. (2020), he finds an average similarity level of 30%. He also highlights a striking example of two very large US companies whose reports are 86% alike. Since the documented similarity is not driven by firms operating in the same industries, he infers that firms either copy from each other or external advisors jointly provide that standard phrases. While the overall results of Belnap (2019b) and Bilicka et al. (2020) differ, both studies indicate that the tax strategy reports of at least some firms may be rather uninformative about their tax planning behavior. Due to the qualitative nature of this disclosure type, firms have considerable leeway to influence its informativeness. The potential determinants of such disclosure decisions have been examined in Section 4.

### **5.3 Interim conclusion**

Research on how informative (public) disclosures are about a firm’s tax behavior is focused mainly on quantitative disclosures. A well-established strand of the literature develops and tests a group of tax avoidance measures calculated from financial statement items. More recently, authors have started to exploit the first available CbCR datasets and assess their information content regarding profit shifting. While all these studies provide an important basis for research on the factors associated with tax avoidance, they face the problem that tax planning decisions and profit shifting actions per se are unobservable. Thus, there is no reliable benchmark to validate the suitability of these measures and datasets. As a complementary source of information, researchers increasingly examine qualitative tax disclosures (such as risk factor disclosures and tax strategy reports). Still, the first results suggest that some firms might reduce the informativeness by using boilerplate language. Interestingly, although several authors investigate firms’ and stakeholders’ reactions to public tax return disclosure regimes, we lack studies that analyze the disclosed information itself. Considering the results of Bilicka (2019) and the restricted possibilities to access confidential tax authority data, it could be fruitful to combine and compare public tax return datasets with financial statement information.



## **6 Effects of tax disclosure**

### **6.1 Effects on firms and managers**

In this section, we survey studies on firm reactions to tax disclosure. The increase in a firm's level of tax transparency by introducing mandatory disclosure requirements or by third-party reporting alters the firm's information environment towards its stakeholders. If a firm expects the disclosure to be incrementally informative for adversarial recipients or to result in negative attention on its tax planning activities, the disclosure may induce changes in corporate outcomes. Theoretically, several corporate responses are conceivable (see Section 3.3.2). First, firms might attempt to prevent becoming subject to the disclosure requirement (Lenter et al., 2003). Second, firms might adjust their tax planning behavior if sustaining the current tax strategy becomes too costly upon disclosure. This firm response directly relates to the effectiveness of transparency regulations, which are designed to curb tax avoidance. However, to the extent that higher levels of tax transparency increase effective tax burdens, this may also change the marginal costs of investment opportunities, thereby distorting investment decisions.<sup>46</sup> More precisely, firms could respond by relocating their investments, which would be an unintended consequence from the perspective of policymakers.

For the next parts, we distinguish between studies that examine corporate reactions to tax disclosure regulations (Section 6.1.1) and studies on the effects of actual tax disclosure on firms and managers (Section 6.1.2). Following the classification outlined in Section 2.2, we first survey corporate responses to public tax disclosure regimes before we turn to the reactions to confidential tax reporting rules.

#### **6.1.1 Firm reactions to tax disclosure regulations**

##### **6.1.1.1 Public tax disclosure regimes**

Public tax disclosure regulations primarily aim to improve firms' accountability and compliance towards investors and other stakeholders. Nevertheless, tax authorities may also use the published information. Due to these various recipients, the potential effects of increased transparency on firms could be driven by different channels. For instance, firms might reduce their tax avoidance level in response to (expected) reputational risks or due to improved tax enforcement or both.

---

<sup>46</sup> Prior literature provides strong evidence that corporate investment decisions are tax-sensitive (e.g., Feld & Heckemeyer, 2011; Giroud & Rauh, 2019) and that a reduction in tax avoidance opportunities might negatively affect economic real activity in high-tax countries (e.g., Overesch, 2009; Suárez Serrato, 2019). See Section 3.3.2 for further explanations.

With the implementation of FIN 48 in 2007, the FASB intended to standardize the treatment of tax uncertainty in financial reporting, which was subject to substantial diversity before. US firms were now required to disclose their aggregated tax reserve amounts (UTBs). Given the comprehensive disclosure requirements in the notes, practitioners expressed concerns that this information would provide the IRS with a “roadmap” to identify and audit firms’ most controversial tax positions, resulting in higher tax payments (see Frischmann et al., 2008).

In general, extant research on FIN 48 indicates that the standard still allows for certain discretion, as evidenced, for example, by the substantial reduction of UTBs in connection with the introduction of Schedule UTP (Section 4.3).<sup>47</sup> Nevertheless, the disclosure of UTBs seems to involve risks concerning pending tax audits. For instance, Blouin et al. (2010) examine whether firms attempt to settle disputes due to the impending adoption of FIN 48. According to their findings, firms with higher IRS deficiencies were more likely to resolve disputes to avoid additional audit scrutiny. Relatedly, other studies consistently report that tax avoidance decreased in post-FIN 48 periods (Henry et al., 2016; Tomohara et al., 2012), suggesting that the tax reserves in financial statements are incrementally useful for assessing corporate tax positions.<sup>48</sup> Gupta et al. (2014) extend this finding by analyzing changes in state-level tax avoidance surrounding the adoption of FIN 48. Consistent with studies on the federal level, the authors document an increase in state ETRs in response to the financial reporting rule.

In sum, extant literature provides ample evidence that FIN 48 affected overall tax avoidance. Still, one limitation common to these studies is the lack of an appropriate control group since the regulation applies to all firms reporting under US GAAP. While the studies conduct several cross-sectional tests to mitigate concerns of confounding events, they cannot entirely rule out that other unobservable factors are driving the results.

As described in Section 2.2.1, two industry-specific CbCR frameworks have been introduced in the EU, allowing researchers to study the effects of public disclosure on firm outcomes in multinational settings. Extant literature mainly focuses on the public CbCR for European banks under the CRD IV, which became effective as of the financial year 2014. The content of these reports allows for insights into banks’ international activities and profitability, although

---

<sup>47</sup> Moreover, findings on earnings management through tax reserves following the adoption of FIN 48 are inconclusive (see Section 5.1.1).

<sup>48</sup> This is also consistent with the results of Bozanic et al. (2017), who show that the IRS increasingly downloaded firms’ 10-K filings after the introduction of FIN 48 (see Section 6.3.3).

fewer items have to be reported than under the OECD's confidential CbCR. Joshi et al. (forthcoming) formally test the impact of the CbCR introduction with archival data and provide some evidence consistent with decreased income shifting among bank affiliates in the post-adoption period.<sup>49</sup> However, the authors find no evidence for overall tax avoidance changes, suggesting that banks resort to alternative strategies to reduce their tax burden. This conclusion is partially questioned by Overesch and Wolff (2019). They show that the extent of the overall reduction in tax avoidance varies based on banks' exposure to public scrutiny (measured by their tax haven presences).

In a related study, Eberhartinger et al. (2020) assess whether global systemically important banks<sup>50</sup> headquartered in the EU decrease their tax haven presence in response to CbCR. Their results imply that banks strategically shut down subsidiaries that lack real economic activity. This finding is supported by Bouvatier et al. (2018), who show that the level of commercial activities in tax havens reported by the banks remains unchanged. In sum, extant evidence suggests that the public CbCR requirement for European banks led to tax planning adjustments. Still, it remains unclear which channels (stronger tax enforcement or reputational concerns) are the primary forces for the documented effects.

So far, only one study examines the effects of mandatory CbCR requirements imposed on extractive industries, which primarily focus on increasing transparency on the different kinds of payments between firms and governments. Exploiting the staggered introduction of such regimes in Europe and Canada, Rauter (2020) shows that disclosing companies increase their payments to host governments by roughly 12%. In cross-sectional tests, he finds the effects to be stronger among firms that face higher reputational risks, suggesting that the disclosure requirements imposed reputational costs on affected firms. In additional tests, the study provides strong evidence that the increased transparency led to a shift in investment activities from disclosing firms to non-disclosing firms, causing lower overall productivity. These findings relate to prior studies in CSR disclosure literature documenting that uneven disclosure requirements can distort investment decisions and capital allocation (Christensen et al., 2019). Clearly, the results may not generalize to other transparency rules, given the peculiarities of the extractive

---

<sup>49</sup> In contrast, a supplemental test of Dutt et al. (2019b) based on Bank Focus data suggests that the tax semi-elasticity of affected EU banks in the post-CbCR periods is similar to the one documented by Merz and Overesch (2016) for periods before the CbCR introduction.

<sup>50</sup> To assess EU banks' systematic riskiness, the European Banking Authority (EBA) compiles a yearly list of large EU banks that are identified as global systemically relevant banks in line with the Basel Committee recommendations.

sector (with controversies on exploitative characteristics and environmental impact). Nevertheless, they call the desirability of unevenly adopted transparency measures into question.

A small but instructive strand of literature examines the effects of public tax return disclosure by tax authorities on firm outcomes. The stated objective of public tax return policies is to encourage firms and individuals to comply with tax laws. So far, only a few countries (i.a., Norway, Japan, Australia) adopted such transparency measures.<sup>51</sup> Proponents argue that such disclosure regimes enhance tax enforcement and monitoring of firms by making actual tax payments accessible for the general public (Blank, 2014). From a firm perspective, the public disclosure of complex and sensitive information involves the risk of misinterpretation of the disclosed items and subsequent pressure (Lenter et al., 2003). Thus, such measures may provide incentives to avoid disclosure ex-ante. For instance, both the Japanese and Australian regulations contain(ed) a provision that the disclosure would only apply to taxpayers above a certain taxable income threshold (see Section II of Table A.1 in the Appendix).

In fact, empirical findings support the expectation that firms understate their taxable income to avoid disclosure (Hasegawa et al., 2013; Hoopes et al., 2018). Descriptive evidence by Hoopes et al. (2018) indicates that the excess mass below the threshold is higher for foreign-owned businesses and private firms, consistent with higher disclosure costs for these firms. Concerning actual tax payments, the authors report only limited evidence of firms increasing their tax payments under the disclosure regime. Similarly, S. Chen (2017) finds no evidence of changes in corporate tax avoidance by Australian firms in reaction to the public disclosure, consistent with corresponding findings by Hasegawa et al. (2013) in the Japanese setting.<sup>52</sup> In sum, firms seem to perceive the disclosure as costly and avoid it, but it remains unclear whether the measure effectively hinders aggressive tax planning.

Slemrod et al. (2020) are the first to provide valuable insights into how public appraisal regimes for large taxpayers affect corporate outcomes. The authors analyze taxpayers' responses to a social recognition and appraisal program in Pakistan (see Section II of Table A.1). The program publicly rewards the top 100 taxpaying corporations to promote tax compliance. According to early results, firms around the threshold manage their tax liability to become or remain eligible for the honor program. Hence, it seems that these firms attempt to monetize the

---

<sup>51</sup> Japan abolished the public disclosure of tax return information in 2004.

<sup>52</sup> Analyzing the public tax return disclosure for *individuals* in Norway, Bø et al. (2015) report a strong response in reported taxable income to increased transparency among business owners. In particular, the information was made accessible through the internet, which increased the salience of the disclosure. The authors conclude that business owners increased their reported income to avoid “public shaming” reactions among fellow citizens.

social recognition associated with the honor program. As the program's benefits are transferred to the responsible managers of these firms, the behavior may also involve the self-serving interests of the responsible managers. More research is needed to understand better whether such disclosure programs cause unintended consequences for shareholders.

#### **6.1.1.2 Confidential tax disclosure rules**

The primary purpose of confidential tax disclosure rules is to improve the amount or quality of information available to tax authorities, which are the only recipient of this disclosure. Thus, corporate responses are either attributable to improved tax enforcement or firms expecting the disclosure to update tax authorities' knowledge about corporate tax positions.

Regarding country-specific confidential tax reporting regimes, existing research mainly studies US regulations. One of the first settings that have been examined empirically is the adoption of Schedule M-3 in 2004. Under this regulation, firms with assets above USD 10 million have to provide a detailed reconciliation of their worldwide financial statement income to US taxable income. The regulation is intended to provide the IRS with additional information to assess the discrepancies between financial reporting and tax reporting (i.e., BTDs). To the extent that BTDs result from corporate tax planning strategies, increased detection risk may alter the net benefits of certain forms of tax avoidance. Consistent with this assertion, some studies find a decline in discretionary permanent BTDs (Donohoe & McGill, 2011) and total amounts of reported BTDs (Green & Plesko, 2016) around the implementation of Schedule M-3. These findings are partially challenged by Henry et al. (2016), who even document an increase in the level of tax avoidance after the introduction of the regime.<sup>53</sup> Moreover, this increase is stronger for domestic firms, suggesting that the regime is more informative about foreign operations (consistent with Hope et al., 2013).

Another frequently examined private disclosure regime is Schedule UTP, which supplements corporate tax returns. As discussed in Section 4.3, there is ample evidence that firms report lower tax reserves (UTBs) in their financial statement following Schedule UTP. Nevertheless, some studies conclude that firms continue to claim uncertain tax positions on corporate tax returns (Honaker & Sharma, 2017; Towery, 2017), as they fail to document effects on corporate tax avoidance. Other studies even indicate an increase across several tax avoidance

---

<sup>53</sup> The authors use a cash-based measure of tax avoidance developed by Henry and Sansing (2018). Unlike many conventional measures, their proxy is also defined for loss-years, which enables the authors to consider the entire population of profitable and loss-making firms across their sample period. Unfortunately, the study does not report robustness tests with conventional tax avoidance measures as dependent variable.

measures in subsequent periods (Green & Plesko, 2016; Henry et al., 2016). Overall, combined empirical evidence suggests that Schedule UTP was mostly ineffective in hindering corporate tax avoidance.

On an international level, the staggered introduction of a private CbCR by countries participating in the OECD BEPS project represents a significant regulatory shock to tax transparency from 2016 onwards. Large MNEs exceeding a certain revenue threshold are required to report a detailed geographic breakdown of their international activity and key financial items to the competent tax authority in their country of residence. The reports are subsequently shared with tax authorities in other jurisdictions. Proponents argue that the reports include previously unavailable information that may help tax authorities target audits more efficiently and detect aggressive tax planning schemes (OECD, 2015). For instance, the data can be used to assess the profitability across countries as well as taxes paid in each jurisdiction. While the aggregated nature of the data does not allow for direct inferences about corporate tax planning strategies, the disclosure might be sufficiently costly to affect corporate behavior.

So far, three concurrent studies examine the effect of the regulation on corporate outcomes. Early evidence supports the conjecture that the increased detection risk alters the net benefits of tax avoidance (Hugger, 2020; Joshi, 2020). The studies find that regulated firms exhibit a 1-2 percentage point increase in consolidated ETRs relative to firms not subject to CbCR. On the subsidiary level, Joshi (2020) provides some evidence of reduced profit shifting among affiliates beginning in 2018. This delayed response might be due to firms learning about how tax authorities utilize the information. Interestingly, the effects of the regulation seem to be more pronounced than those documented for the public CbCR for European banks.

De Simone and Olbert (2020) examine the immediate effect of the regulation on group structures and economic activity of European MNEs using a regression discontinuity design. The authors document that firms just above the reporting threshold reduce organizational complexity by closing affiliates at low hierarchical levels and affiliates located in tax havens. This evidence is consistent with a related study of Braun and Weichenrieder (2015), who show that German MNEs dissolve tax haven subsidiaries following the signing of bilateral TIEAs.<sup>54</sup> The respective tax haven affiliates presumably did not have sufficient economic substance to justify profit attribution during a tax audit. Additional tests by De Simone and Olbert (2020) suggest

---

<sup>54</sup> While the focus of TIEAs is rather on fighting tax evasion of wealthy individuals (see Section 2.2.2), the exchanged data may also reveal information on certain tax avoidance strategies of MNEs based on tax haven structures.

that MNEs reallocate economic activity to European countries with preferential tax regimes by increasing investments in tangible assets and employment in these locations. Thus, firms seem to adjust investment decisions in response to increased transparency. Overall, these studies provide robust evidence that increased transparency on corporate activities in low-tax jurisdictions affects businesses' location choices.

Apart from direct effects on corporate tax planning strategies, Hugger (2020) reports some evidence that MNEs manipulate their revenues downwards to avoid being subject to the CbCR obligation.<sup>55</sup> Cross-sectional tests show that the excess mass below the threshold is higher for private firms with fewer reporting requirements and more tax-aggressive firms. CbCR arguably invokes higher potential costs for these firms (both in terms of preparing the reports and of tax payments), which increases the incentive to manipulate the revenues below the threshold.

### **6.1.2 Firm reactions to actual disclosure of tax-related information**

Under most transparency regulations, companies enjoy some discretion regarding the data or information being disclosed. However, companies also encounter situations in which they have no control over the published information or the tonality, for example, in cases of information leakage or public campaigns. Such disclosures are typically characterized by a public shaming component for perceived corporate misbehavior (e.g., aggressive tax planning). As we have discussed in Section 4.2, public attention in the form of press articles or campaigns by NGOs on corporate tax behavior seems to be an important factor for firms' subsequent tax disclosure decisions.

Beyond disclosure choices, prior literature shows that media attention on corporate behavior can induce firm responses (e.g., Dyck et al., 2008). According to recent survey evidence, managers are increasingly concerned about reputational risks associated with corporate tax planning activities (Graham et al., 2014). Apart from reputational concerns, publicly revealed tax arrangements may also be informative for tax authorities. Thus, public revelations may provoke corporate responses, such as changes in tax avoidance. Of course, under rational decision

---

<sup>55</sup> Joshi (2020) and De Simone and Olbert (2020) also test for bunching behavior, which would cast doubts on the validity of their identification strategy, but do not find evidence for self-selection. Importantly, the result of Hugger (2020) is only significant for the last period in his sample (i.e., in 2018) while De Simone and Olbert (2020) observe data only until 2017. Apart from different sample periods, differences in sample composition may also explain the conflicting findings.

making, firms will only react if the actual costs resulting from increased transparency exceed the expected net savings from tax avoidance. This premise might explain why extant studies fail to find an association between public scrutiny and tax behavior upon media attention (S. Chen et al., 2019; Gallemore et al., 2014).<sup>56</sup> Gallemore et al. (2014) further investigate whether firms or their managers bear reputational costs upon the revelation of tax shelter activities. Across a series of tests, the authors find no evidence that the revelation led to changes in management turnover, sales, or marketing expenses relative to other firms. While external pressure due to perceived corporate misconduct can induce changes in corporate tax behavior (Dyreng et al., 2016), it remains unclear under which circumstances reputational costs materialize. In sum, the general effect of media coverage on firms' tax behavior seems somewhat limited.

In a recent study, O'Donovan et al. (2019) investigate the effects of the Panama Papers that revealed secret corporate offshore activities of multinational firms relating to bribery, tax evasion, and tax avoidance. Their analysis shows that affected firms were unable to sustain their level of tax avoidance following the leak. Since the information was mostly unknown to tax authorities, this effect likely stems from additional scrutiny rather than reputational costs. Interestingly, the authors also find a significant reduction in commercial activities reported in deemed corrupt countries, similar to the real effects documented by Rauter (2020).

While not directly related to the studies above, Kubick et al. (2016) find that firms increase reported (cash) ETRs after receiving a public tax-related comment letter from the SEC. This finding suggests that publicly visible regulatory pressure from the SEC decreases the expected benefits of tax avoidance and results in higher tax payments. Moreover, the authors show that peer firms in the same industry adjust their ETRs (regardless of having received a tax-related comment letter themselves), consistent with spillover effects within industries.

### **6.1.3 Interim conclusion**

In light of the policy developments worldwide, we observe an increasing number of studies examining the effects of transparency in multinational settings. We derive several conclusions from our survey above. First, existing studies provide some evidence that firms adjust their tax planning behavior in response to increased transparency. However, this effect is limited to certain regulations (e.g., FIN 48 or CbCR). Notably, the results indicate that firms are

---

<sup>56</sup> In particular, the results are insensitive to the tax topic covered in the articles and the intensity of media coverage.



often able to keep their overall level of tax avoidance constant, suggesting that they substitute scrutinized tax strategies. Second, an increasing number of studies respond to prior calls by Leuz and Wysocki (2016) for more research on real effects of disclosure regulations. These studies document that if tax disclosure rules affect corporate tax burdens, firms seem to change their investment decisions, which could have adverse consequences for countries adopting the regulation. Moreover, the results demonstrate that disclosure rules need to be carefully designed as firms might try to avoid falling under the regulation. Third, there is robust evidence that both types of CbCR – public and private – involve substantial costs for regulated firms, given the strong corporate responses. However, future research should assess the long-term effect of these regulations, especially regarding private CbCR. Fourth, public disclosure of tax return information (including actual tax payments) seems to be perceived as costly by affected firms. Fifth, we lack compelling large-sample evidence on whether and how reputational risks affect corporate tax policies within firms. Finally, we know little about how the introduction of qualitative tax disclosure requirements affects corporate behavior, despite the growing importance of such reporting regimes. One exception is the study by Bilicka et al. (2020), who find heterogeneous effects of mandatory tax strategy reports on corporate tax aggressiveness. While the level of tax avoidance remains unaffected on average, the authors document that previously tax-aggressive firms decrease their cash ETRs even further relative to non-tax-aggressive firms. Thus, the qualitative disclosure mandate seems to have had no effect on those firms that were specifically targeted.

## **6.2 Effects on equity investors**

Considering the multitude of potential benefits and costs discussed in Section 3.3, it is to be expected that equity investors respond to tax-related disclosure. For our review, we distinguish between studies that examine the capital market effects of (presumed) increases in tax transparency (Section 6.2.1) and studies that focus on reactions to the actual issuance of tax-related disclosures (Section 6.2.2).

### **6.2.1 Investor reactions to increases in tax transparency**

Increases in tax transparency, either through the introduction of mandatory reporting requirements or due to firms' voluntary commitment to enhanced disclosures, may affect several capital market outcomes. If a specific type of public disclosure reduces information asymmetry, it will mitigate adverse selection problems, such as investors trying to price-protect or exiting the market. Consequently, stock market liquidity increases. Financial accounting research provides profound theoretical support and ample empirical evidence on this positive effect on stock

liquidity (Beyer et al., 2010; Leuz & Wysocki, 2016). Moreover, some studies on financial reporting disclosures suggest that a reduction in information asymmetry can manifest in a lower cost of capital (Healy & Palepu, 2001; Leuz & Wysocki, 2016).

As tax-related disclosures contain financial information about a firm (see Section 5.1.1), their publication could, in principle, also result in such capital market benefits. However, we currently lack empirical evidence on the effect of tax transparency on stock liquidity or the cost of capital. In this vein, a recent working paper of Hutchens et al. (2020) examines the implementation of SFAS 109 in the 1990s. SFAS 109 reformed the accounting for income taxes under US GAAP and was, in particular, designed to increase the informativeness of financial reporting on deferred taxes. Exploiting the staggered adoption of the new standard, Hutchens et al. (2020) find that individual investors (relative to more sophisticated investors) subsequently increased their stockholdings in firms most affected by SFAS 109. This result indicates that the new standard reduced the informational disadvantages of less sophisticated investors.

Unlike stock liquidity and the cost of capital, a growing number of studies investigate the effect of increases in tax transparency on stock prices. It is important to note that stock price responses to the introduction of public tax-related disclosure requirements do not only reflect how investors evaluate the incremental informativeness of the disclosure. Instead, investors incorporate all the potential implications such regimes and the related reactions of firms and their stakeholders might have for the cost of capital and expected future cash flows. As described in Section 3.3.2, these implications include potential benefits from decreased information asymmetry and reduced possibilities of managers to hide expropriation activities and potential costs in the form of compliance costs, increased tax expense, proprietary costs, political costs, reputational risks, and adverse real effects. Consequently, the change in stock prices will only show the expected net effect of all these different channels.

Frischmann et al. (2008) investigate the introduction of FIN 48, which substantially increased the public disclosure requirements for UTBs in financial statements. They do not find significant abnormal stock returns for affected firms across a series of legislative events. However, investors reacted negatively when the Senate later started scrutinizing FIN 48 disclosures, suggesting that investors revised their initial beliefs regarding potential political costs. Johannesen and Larsen (2016) document a remarkable stock price decline of 5-10% around the introduction of a public CbCR regulation for EU extractive industries. In contrast, Dutt et al. (2019a) do not observe a significant capital market reaction to the political decision to adopt a public CbCR requirement for EU financial institutions. Two studies exploit the implementation

of a public tax return disclosure regime in Australia. Hoopes et al. (2018) focus on a central date when the application threshold and the relevant items were announced for the first time and find that affected firms exhibit negative abnormal returns.<sup>57</sup> S. Chen (2017) extends their analysis by three additional legislative events. Interestingly, she documents that the adverse capital market reaction to the first two events – including the date examined by Hoopes et al. (2018) – is offset by a positive response to the latter two events. Thus, she conjectures that investors re-evaluated their beliefs in the course of the legislative procedure and ultimately expected net benefits. Finally, albeit not related to a mandatory disclosure regime, O’Donovan et al. (2019) investigate the increase in tax transparency resulting from the so-called Panama Papers. This data leak provided public insights into the use of (previously secret) shell companies incorporated in offshore tax havens. Given the sheer number of leaked documents, investors were probably unable to process the detailed information about each firm on the day of the disclosure (i.e., the event day). Thus, the documented stock price decline for firms exposed to the leak of about 0.9% probably rather reflects investors' general expectations about the effects of the shock to transparency.

In summary, extant evidence on average stock price responses to upcoming increases in public tax-related disclosures is decidedly mixed. However, this can probably be explained by differences in the settings and the type of information published, resulting in different net balances of the related benefits and costs. For example, while the Panama Papers revelations about shell companies may be particularly useful for tax audits, public tax return disclosures cannot increase the information available to tax authorities (as they are the issuer). Conversely, the salience of publications made by tax authorities may be associated with higher reputational costs. Even the two public CbCR regimes in the EU exhibit heterogeneous capital market responses. While the disclosure requirement for banks is designed to assess whether they pay a “fair share” of taxes in each country, the obligation for the extractive industries primarily aims at fighting corruption in this sector. As the real effects documented by Rauter (2020) suggest, the large stock price drop for the extractive industries may be driven by investors’ expectation that reduced opportunities of corruption will render resource extraction costlier for the affected firms. This is also in line with O’Donovan et al. (2019), showing that firms exposed to corrupt countries experience more negative investor reactions to the Panama Papers. Nearly all studies provide consistent evidence across the different settings that more tax-aggressive firms

---

<sup>57</sup> While the interpretation of Hoopes et al. (2018) focuses on the incremental stock price reaction for firms presumed to be disclosed as paying zero taxes, their results also indicate a negative reaction for all firms expected to be subject to the disclosure regime.

experience more negative stock price responses (S. Chen, 2017; Dutt et al., 2019a; Frischmann et al., 2008; Hoopes et al., 2018; O'Donovan et al., 2019). Investors seem to anticipate that firms will adjust their tax planning activities in light of the new disclosures (see Section 6.1). Finally, sample splits indicate that the capital market generally reacts more favorably for firms with weaker governance structures, suggesting that investors expect the increase in transparency to reduce expropriation by managers (Dutt et al., 2019a; O'Donovan et al., 2019).

The second group of studies investigates stock price reactions to the introduction of private tax disclosure requirements. As the audience is restricted to tax authorities, confidential disclosures cannot decrease information asymmetry between firms and outside investors and do not imply proprietary and reputational costs. However, the remaining potential costs and benefits of public disclosures described above should apply accordingly.<sup>58</sup>

Concerning the US, Donohoe and McGill (2011) find small negative abnormal returns around legislative events leading up to the passage of Schedule M-3. Similarly, Abernathy et al. (2013) document stock price declines around the announcements of the initial proposals for Schedule UTP, and stock price increases due to the issuance of the final rule (which relaxed some of the most controversial issues included in the first drafts). Both studies show that the reactions are stronger for more tax-aggressive firms. In sum, the results indicate that investors predict net costs of increased transparency towards the IRS, probably in the form of compliance costs, potential back taxes for prior years, and reduced future tax planning opportunities. However, studies on the reaction of firms to these regulations do not suggest that firms reduced their overall tax avoidance in subsequent periods (as described in Section 6.1.1.2). In a multinational setting, Bennedsen and Zeume (2018) examine how investors evaluate the signing of bilateral TIEAs between high-tax headquarter countries and tax haven host countries. Interestingly, they find that the firm value of affected MNEs increased by about 2.5% after the signing. The increase was especially pronounced for firms with more complex tax haven structures and weaker governance. The authors conclude that investors expect the TIEAs to be beneficial on average as the improved monitoring by tax authorities reduces managers' opportunities to extract private benefits at the detriment of outside investors.

Considering the opposing results from the different private disclosure settings, investors seem to assume that expropriation activities are mainly based on complex international group

---

<sup>58</sup> Nevertheless, some effects might be a bit weaker compared to public disclosures. For example, improved monitoring by tax authorities due to confidential disclosures can reduce expropriation by managers, but the impact might be stronger if the public (and, in particular, investors) had access to the information as well.

structures, and the secrecy and opaqueness of tax havens. This result is also consistent with weakly-governed firms exhibiting more favorable stock price reactions to the Panama Papers and public CbCR introduction (Dutt et al., 2019a; O'Donovan et al., 2019), as these disclosures also provide information on group structures and tax haven presences. In contrast, Schedule M-3 and Schedule UTP rather focus on the domestic implications of tax planning. However, an alternative explanation could be that investors' assessment of tax transparency measures systematically differs across countries, causing the different findings in the US vs. international settings.

## **6.2.2 Investor reactions to actual disclosures of tax-related information**

Apart from the adoption of new tax transparency rules, research also examines how the capital market reacts to the issuance of public disclosures. It is important to note that stock price changes following actual tax-related disclosures reflect how investors evaluate the news contained in the publication (if any) and whether investors incorporate the news into share prices, rather than capturing the response to increased transparency per se (Christensen et al., 2019). We further distinguish between news about tax planning and news about firm performance.

### **6.2.2.1 Reactions to information about tax planning**

In theory, to the extent that tax minimization increases after-tax profits, shareholders should appreciate such activities. However, suppose potential risks from aggressive tax planning are revealed to stakeholders prevail or investors are afraid that certain tax planning structures facilitate managerial diversion. In that case, investors may view tax avoidance as value-decreasing. A group of studies examines the general association between several tax avoidance indicators from firms' financial statements and firm value measures. While most studies do not find a significant association on average (Brooks et al., 2016; Desai & Dharmapala, 2009), there is evidence that the relationship varies subject to a firm's strength of governance (Desai & Dharmapala, 2009; Wilson, 2009) and the type of tax planning (Inger, 2014). Furthermore, Inger et al. (2018) show that investors' tax avoidance assessment also depends on the informativeness of a firm's public disclosures. Although investors typically favor a high level of transparency, there are cases where they reward low readability of the tax footnotes, presumably to inhibit that tax authorities use the information to identify and challenge aggressive tax planning.

Relatedly, two recent studies conduct laboratory experiments to observe more directly how investors perceive corporate tax planning. Both A. B. Davis et al. (2017) and Jemilolo (2019) provide their "simulated" investors with background information on a hypothetical company and a neutral report stating the company's ETR in comparison to the industry average.

Jemiolo (2019) finds no significant effect of the relative ETR on stock prices, while A. B. Davis et al. (2017) document a positive relationship between tax planning and stock prices, but only if the company has a high CSR rating. The results of these experiments should be interpreted with caution, as external validity critically depends on how representative the test persons are of actual investors and on whether estimates of stock prices stated in a simplified laboratory setting are indicative of actual investment decisions. Nevertheless, we infer that studies based on different research methods do not provide conclusive evidence of an unequivocal overall relationship between tax avoidance and firm value. They rather suggest that investors' assessment of tax planning depends on different factors such as governance, CSR activity, and disclosure quality.

Assuming an efficient capital market, investors immediately incorporate all available information about a firm's level of tax planning into stock prices. Consequently, investors will only react to actual disclosure if it conveys new information (i.e., if it causes investors to revise their previous beliefs about a firm's tax avoidance). A few studies examine how stock prices respond to the issuance of tax-related disclosures in general-purpose financial reporting. Exploiting the news provided by the publication of the first-time UTB disclosures (after the adoption of FIN 48), Frischmann et al. (2008) find a positive association between abnormal returns and the part of the UTBs which would affect the ETR if tax authorities disregarded the underlying positions. L. A. Robinson and Schmidt (2013) observe such a positive reaction only for firms issuing low-quality UTB information, which is consistent with the finding of Inger et al. (2018) that investors sometimes reward opaque public disclosures of tax-avoiding firms due to reduced informativeness for tax authorities. However, considering how the subsequent introduction of the related private reporting requirement of Schedule UTP has affected firms' incentives regarding their public UTB disclosures,<sup>59</sup> it is highly probable that investors' perception has changed likewise. Focusing on the tendency of the FIN 48 rules to overstate UTB amounts (see Section 5.1.1), L. A. Robinson et al. (2016) document that investors are not able to identify firms which are particularly over-reserved and do not seem to incorporate this information in their stock price valuation.<sup>60</sup> Finally, Campbell et al. (2019) provide evidence that the extent of tax-related risk factor disclosures in a firm's 10-K filing is positively associated with contemporaneous stock returns. Taken together with the results on their informativeness about future

---

<sup>59</sup> As described in Section 4.3, evidence suggests that firms systematically reduced the UTB amounts recorded in their financial statements and simultaneously increased the qualitative UTB disclosures in the tax footnotes following the introduction of Schedule UTP.

<sup>60</sup> It has to be noted that the sample period of L. A. Robinson et al. (2016) is not long enough to observe whether this mispricing has changed after the introduction of Schedule UTP.

cash flows (see Section 5.2), it appears that investors correctly interpret and reward these qualitative disclosures as news about reasonable risk-taking.

Turning to public disclosures by third parties, S. Chen (2017) and Hoopes et al. (2018) additionally examine the capital market response to the first actual publication under the Australian public tax return disclosure regime. S. Chen (2017) observes a small negative stock price reaction on average for all firms contained in the ATO report, but no significant effect for the most salient cases (i.e., firms disclosed as paying zero taxes). However, focusing only on the information disclosed does not account for the beliefs investors have already formed prior to the publication. Hoopes et al. (2018) attempt to adequately model the news conveyed by the report and document that unexpected zero taxpayers (i.e., firms whose respective financial statements would have suggested positive tax payments) experience small stock price declines.<sup>61</sup> Kays (2019) defines the news component more neutrally as the difference between the amounts of taxable income and tax liability disclosed in the report and the amounts inferred from corresponding financial statements. She finds that abnormal returns around the publication are related to the absolute size of the difference. Still, the effect is mitigated if a firm issues additional voluntary disclosure explaining the difference. In summary, evidence suggests that the capital market reacts to news contained in the ATO's public tax return report and that investors view the surprise of being disclosed as zero taxpayer negatively.

Media articles constitute another source of third-party disclosures about tax avoidance. Firms usually cannot influence their occurrence and content, and they are often characterized by a negative wording, implying a shock in public scrutiny (see Section 6.1.2). Consequently, capital market reactions to media articles capture the response to news about tax avoidance and investors' expectations about potential consequences from this shock in public scrutiny.

Hanlon and Slemrod (2009) identify US firms alleged in media articles of engaging in tax shelters<sup>62</sup> and find average stock price declines of about -1.2% in a three-day event window around the publication. Gallemore et al. (2014) replicate this approach with a slightly increased sample and confirm the temporary effect, but they also show that the negative reaction completely reverses within 30 days. Brooks et al. (2016) construct a more recent sample of UK firms subject to media coverage on their tax reduction activities (including both tax avoidance

---

<sup>61</sup> In an additional test, S. Chen (2017) also focuses on the news conveyed by the report. She finds a negative stock market reaction for firms whose actual tax payments disclosed by the ATO exceeded the amounts expected based on available financial statement information, which suggests that investors are rather concerned about tax costs than about reputational costs for these firms.

<sup>62</sup> For a description of tax shelters, see Section 5.1.1.

and tax evasion). Their average results also indicate modest short-term stock price drops, which are at least partially reversed within a month. However, cross-sectional tests reveal more pronounced and more permanent negative investor reactions for smaller firms, consumer-facing firms, and articles about corporate inversions (i.e., a particular disreputable form of tax avoidance). These cross-sectional differences suggest that the stock price responses are driven by investors' expectations of reputational costs and consumer backlashes due to negative media attention rather than by new information about a firm's tax avoidance activities. Finally, Blaufus et al. (2019) examine a sample of media articles on large German firms. They find a short-term<sup>63</sup> stock price decline of about 1.4% around news about (illegal) tax evasion, but no significant response to news about (legal) tax avoidance, indicating that investors distinguish according to legality. Moreover, investors appear to react positively to news about tax avoidance if they expect a firm's overall tax risk to be low (Blaufus et al., 2019).

Instead of general press articles, Huesecken et al. (2018) exploit the publication of leaked information about hundreds of advance tax rulings between Luxembourg fiscal authorities and several large MNEs (known as Lux Leaks). This setting is distinctive as the tax planning structures revealed had been approved by the relevant tax authority. Interestingly, the authors find an average stock price increase for the affected firms around the publication of the documents. Consistent with the results of Campbell et al. (2019) and Blaufus et al. (2019), investors seem to reward news about tax avoidance activities associated with low (legal) risks. However, MNEs explicitly mentioned in media reports about Lux Leaks experience less favorable reactions, suggesting that the benefits can be neutralized by negative consequences of increased public scrutiny (in line with the cross-sectional findings of Brooks et al., 2016).

#### **6.2.2.2 Reactions to information about firm performance**

As illustrated in Section 5.1.1, accounting research has documented that tax disclosures in financial statements contain information about current and future earnings. Some of these studies suggest that investors use certain performance information comprised in BTDs for their stock valuation. However, evidence of associations between BTDs and future stock returns and

---

<sup>63</sup> Unfortunately, Blaufus et al. (2019) only examine short-term stock price reactions (i.e., within a three-day window around the publication of the respective news) and do not provide evidence on whether the observed effects are permanent or temporary.



the so-called tax expense anomaly<sup>64</sup> indicate that the pricing by the capital market is incomplete (see the review of Graham et al., 2012).

More recent studies examine whether additional tax disclosures (other than in financial statements) can help investors better process this information. Schwab (2009) provides some support that the mispricing of BTDs is weaker when firms voluntarily report on BTDs in their earnings announcements. He concludes that stating the information in a salient and straightforward manner improves investors' understanding. Baik et al. (2016) analyze the contribution of analysts as information intermediaries. They distinguish between cases where analysts only forecast a firm's after-tax earnings and cases where analysts additionally issue pre-tax income forecasts (which implies a forecast of the tax expense and the ETR). Results show that the tax expense anomaly is mostly eliminated by the presence of analysts' implicit tax expense forecasts, which suggests that these third-party disclosures draw investors' attention to tax expense and assist them in comprehending the implications for future earnings. Similarly, Mauler (2019) documents that stock price reactions to earnings announcements depend not only on whether a firm meets analysts' after-tax earnings forecast but also on whether it meets analysts' pre-tax income forecast. Consequently, investors seem to assess analysts' tax-related forecasts as value relevant.

Considering that taxable income constitutes an alternative profit measure, it seems plausible that tax return data may help the capital market assess its current and future performance. Two studies investigate settings where selected investors get access to confidential tax returns. Deméré (2018) exploits the features of the US syndicated loan market, where lenders frequently request tax returns when evaluating bank loan applications. He assumes that when a syndicated loan is traded on secondary markets and the loan syndicate includes institutional investors, the tax return information is disseminated to the equity market and can thus be incorporated into share prices. His findings confirm that the tax expense anomaly (and other common forms of tax-related mispricing) decreases after the issuance of syndicated loans involving institutional investors. Interestingly, the effect is stronger after the introduction of Schedule M-3, suggesting that its detailed book-tax reconciliation is informative with regard to tax planning and firm performance. Finally, Minnis and Sutherland (2017) focus on debt investors and document that banks as lenders regularly request tax return information when monitoring small borrowers,

---

<sup>64</sup> Thomas and Zhang (2011) document that tax expense surprise (defined as the difference between tax expense recorded in the current quarter and tax expense recorded in prior year's corresponding quarter) is positively related to future stock returns.

sometimes as complements to and sometimes even as substitutes of (typically unaudited) financial statements.

Altogether, recent evidence indicates that investors' mispricing of performance information in financial statements tax disclosures can be mitigated by additional disclosures (such as earnings announcements and analysts' tax expense forecasts). In particular, investors find tax return data incrementally informative over financial statements.

### **6.2.3 Interim conclusion**

So far, research has primarily focused on examining stock price reactions to (1) the introduction of tax transparency regimes and (2) the issuance of tax-related disclosures. While the former reflects investors' expectations about all costs and benefits (including potential firm and stakeholder reactions) associated with a new disclosure requirement, the latter incorporates both investors' evaluation of the news about tax planning and potential implications of a shock in public scrutiny (especially in case of third-party disclosures). Consequently, stock price changes only reveal the net aggregate effect, which explains the partially conflicting and often weak average results. Throughout the different settings, consistent cross-sectional evidence shows that investors expect the most tax-aggressive firms and firms susceptible to reputational risks to bear the highest costs of increased tax transparency. Investors reward tax avoidance associated with low (legal) risks and, in some cases, even prefer low-quality disclosures by firms to decrease the informativeness for tax authorities. Interestingly, results suggest that even confidential disclosures to tax authorities can benefit shareholders by reducing opportunities for managerial diversion. These beneficial effects are most pronounced when the disclosures contain data on international group structures and tax haven presences.

Apart from tax planning, tax-related disclosures convey information about firm performance, and recent studies show that increased transparency helps investors realize and price this information. Considering this potential role in mitigating information asymmetry, we encourage research on whether public tax disclosure regimes (e.g., public CbCR or public tax return disclosure) affect stock liquidity or the cost of capital. Furthermore, we currently lack evidence on how the capital market evaluates the introduction and issuance of new qualitative tax disclosures (e.g., tax strategy reports).

## 6.3 Effects on other stakeholders

### 6.3.1 Analysts

Accounting research has documented that financial analysts play a valuable role in enhancing the capital market's efficiency since their earnings forecasts and recommendations affect stock prices (Healy & Palepu, 2001). Thus, it is important to examine how analysts understand and process tax-related information and how an increase in tax transparency affects their role as intermediaries. In theory, the relationship between the volume of public corporate disclosure and financial analysts is ambiguous. On the one hand, an expansion of corporate disclosure reduces information acquisition costs, which potentially attracts analysts and improves the quality of their reports. On the other hand, an increase in publicly available information may diminish analysts' opportunities and incentives to gather private information, resulting in a reduction in analyst activity and forecast quality (Christensen et al., 2019; Healy & Palepu, 2001). Consistent with a complementary relationship, empirical evidence on financial reporting mainly suggests that a greater extent and higher quality of firms' financial disclosures are associated with increased analyst following, improved analyst forecast accuracy, and lower forecast dispersion (Leuz & Wysocki, 2016).<sup>65, 66</sup> Similarly, first studies on CSR disclosure indicate that firms issuing voluntary CSR reports exhibit higher analyst forecast accuracy and that financial intermediaries are among the primary users of mandatory CSR disclosures (Christensen et al., 2019).

Turning to tax-related information, research on accounting for income taxes has documented that analysts misinterpret certain tax disclosures in financial statements (K. Chen et al., 2003) and that their forecasts do not completely incorporate performance information contained in BTDs (Weber, 2009).<sup>67</sup> This failure may be a potential driver for investors' mispricing of BTD information (see Section 6.2.2.2). Schwab (2009) complements prior results and finds that the correlation between analyst earnings forecast errors and BTD amounts is weaker when firms voluntarily report on BTDs in their earnings announcements. He infers that the salience and conciseness of this voluntary disclosure enhance analysts' understanding.

---

<sup>65</sup> See in particular, tables 3.1 and 3.2 of the online appendix to Leuz and Wysocki (2016).

<sup>66</sup> In contrast, some studies suggest that the introduction of RegFD in the US reduced both the information production by analysts and the quality of their reports (Leuz & Wysocki, 2016). However, it is important to note that RegFD did not merely increase public disclosure but explicitly prohibited managers from confidentially providing relevant information to selected capital market participants (including analysts). As a result, RegFD considerably limited the possibilities of analysts to acquire superior information. In addition, several concurrent institutional changes make it difficult to distinguish whether the observed effects are due to the RegFD or to confounding factors (Beyer et al., 2010).

<sup>67</sup> See also the review of this literature in Graham et al. (2012).

Two recent studies exploit the particularities of interim reporting to investigate the information processing of analysts. Under US GAAP, firms are required to use the integral method to compute tax expense in their 10-Q filings (ASC 740-270). According to this method, quarterly tax expense is calculated based on year-to-date pre-tax income and an ETR estimate for the full year. Thus, the interim reports for the first three quarters of a financial year convey a de facto mandatory management forecast of the annual ETR. However, the effects of discrete items (e.g., tax rate and tax law changes, settlements with tax authorities) have to be fully recorded in the quarter in which they occur. Consequently, the incidence of discrete items distorts the mandatory ETR forecast and reduces its usefulness for analysts.

Bratten et al. (2017) find that 74% of analyst ETR forecasts<sup>68</sup> deviate meaningfully from management's mandatory ETR forecasts contained in the 10-Q filings and that analysts are about three times more likely to disagree in the presence of discrete items. Moreover, the deviating analyst forecasts are more accurate than management's mandatory forecasts, particularly if discrete items occur and if the general complexity of forecasting the ETR is higher. The authors interpret their results as evidence that analysts understand the complex tax environment and identify and correct the deficiencies of the integral method. N. Chen et al. (2019) additionally consider that many firms also provide voluntary forecasts of the ETR in the conference calls accompanying the release of the interim reports for the first three quarters of a financial year. Managers may use the flexibility of these voluntary ETR forecasts to overcome potential distortions inherent in the mandatory forecasts. N. Chen et al. (2019) document that analysts incorporate the news of both types of management forecast – compulsory and voluntary – when subsequently revising their own ETR forecast. However, analysts seem to find management's voluntary forecasts more informative, especially in the presence of discrete items and when analysts do not simply mimic the mandatory forecast. Overall, these results suggest that the superiority of analysts' deviating ETR forecasts found by Bratten et al. (2017) may be partially driven by analysts utilizing the public information in management's concurrent voluntary forecasts (rather than private information).

In contrast to quarterly ETR forecasts, Koutney (2019) focuses on annual forecasts issued at the beginning of a financial year. Managers often communicate a prediction of the following year's ETR in conference calls on fourth-quarter earnings announcements. Koutney (2019) finds that analysts' annual ETR forecasts are less accurate when they deviate from

---

<sup>68</sup> As explained in Section 6.2.2.2, analysts often forecast both after-tax earnings and pre-tax income, which implies a forecast of the ETR.

management's voluntary forecasts. He also observes that disagreeing analysts tend to have less experience and less access to private information. Consequently, analyst disagreement with voluntary forecasts seems to be driven by overconfidence rather than by superior knowledge.

In summary, extant evidence suggests that firms' voluntary tax-related disclosures (in the form of information on BTDS or management ETR forecasts) improve analysts' forecast accuracy. This finding is consistent with the favorable effects documented for financial and CSR disclosure. While analysts rightly deviate from distorted mandatory ETR forecasts in quarterly reports, they do not appear to be able to outperform management's voluntary ETR forecasts. Thus, analysts do not seem to have superior private information on the implications of income taxes on average. Against this backdrop, it is surprising that we lack any evidence on whether analysts use the information of new public tax-related disclosures (e.g., public CbCR, public tax return disclosure, tax strategy reports) and on whether the mandated increase in tax transparency affects analyst coverage, forecast accuracy, and forecast dispersion. Moreover, considering the emergence of studies on the relationship between a firm's tax aggressiveness and analyst activity (Allen et al., 2016; Balakrishnan et al., 2019; Francis et al., 2019; He et al., 2020), it would be interesting to examine how changes in tax transparency influence this relation.<sup>69</sup>

### **6.3.2 Consumers and the general public**

Consumers and, more broadly, the general public are relevant stakeholder groups because their perception of firms ultimately determines many firms' economic success (through purchase decisions). This applies in particular to businesses that offer products and services for private customers. The decision to enter into a transaction with a specific firm likely depends on whether the perceived corporate attributes match individual preferences and values. Prior evidence from CSR literature suggests that the congruence of personal views with corporate CSR activities positively affects consumer perceptions, resulting in a higher willingness to pay and increased brand loyalty (Christensen et al., 2019). From a societal perspective, tax payments contribute to public budgets, which are used to finance public goods and services. If consumers consider paying taxes a necessary obligation toward society, revelations about aggressive tax avoidance might negatively impact consumers' assessment of firms, or even actual

---

<sup>69</sup> As a first example in this context, Balakrishnan et al. (2019) investigate whether additional voluntary tax-related disclosures can mitigate the negative association between tax aggressiveness and analyst forecast accuracy, but do not find conclusive evidence.

purchase behavior (Middleton & Muttonen, 2020).<sup>70</sup> Given the evolving policy discussions and leakages featured in the media, the overall awareness on the role of taxation for public finance among consumers might have risen over the last years (Middleton & Muttonen, 2020). Against this background, examining the effects of corporate tax transparency on consumer behavior is particularly relevant.

Since the initial call by Hanlon and Heitzman (2010) for more research on the perception of tax avoidance by consumers one decade ago, several studies have attempted to address this question using laboratory experiments or surveys. Early experimental studies find that consumers react negatively to news about aggressive corporate tax strategies, which is reflected in lower reputation of the firms and reduced willingness to pay for a given product (Antonetti & Anesa, 2017; Asay et al., 2018; Hardeck & Hertl, 2014). At the same time, consumers are unwilling to accept a price premium for responsible tax behavior. Thus, the revelation of aggressive tax behavior seems to impose reputational damage on firms. Moreover, the relationship between tax avoidance and consumer reaction appears to be moderated by personal values and moral views on tax compliance, which is consistent with related findings of studies on consumer reactions to CSR activities (Christensen et al., 2019). Consumers' awareness of negative externalities of corporate tax avoidance likely constitutes an important factor for their reactions. However, the salience of news about corporate tax avoidance seems rather low. In a survey by Asay et al. (2018) conducted among US citizens, only 20% of respondents recall ever having read a media article about aggressive corporate tax behavior.

One major limitation of laboratory experiments and surveys is that they may suffer from social desirability bias, i.e., respondents choose the answer they perceive as socially acceptable. Specifically, the use of suggestive or judgmental language (e.g., “aggressive” vs. “responsible” tax practices) may induce certain responses. More recent studies attempt to overcome the problem by framing information about corporate tax practices in a more neutral way (Hoopes et al., 2018; Jemiolo, 2019)<sup>71</sup> or using incentive-aligned mechanisms to elicit consumers' actual willingness to pay (Hardeck et al., forthcoming). While Jemiolo (2019) fails to find an association between tax management and consumer behavior, Hoopes et al. (2018) document adverse consumer reactions in terms of purchase intentions and perceived ethicality to the partial tax return disclosure in Australia, but only for privately-owned domestic firms. The authors conclude

---

<sup>70</sup> We note that consumers' evaluation of corporate tax practices is likely not restricted to legal considerations of the case.

<sup>71</sup> In the setting of Hoopes et al. (2018), the Australian tax authority published the information on the tax return data in a neutrally worded report on its website.

that consumer sentiment for global and large brands is more resilient than consumer sentiment for domestic brands. In a recent study, Hardeck et al. (forthcoming) report a strong impact of corporate tax avoidance on consumers' attitudes toward the firm but only marginal effects on their willingness to pay. Importantly, these effects are fully mediated by CSR perceptions of the firm, which extends prior results documenting a direct impact of tax behavior on CSR perception or perceived ethicality (Antonetti & Anesa, 2017; Hoopes et al., 2018; Jemio, 2019). In sum, these findings confirm the expectation that consumers link observed tax behavior to CSR, suggesting that tax behavior and CSR are viewed as complements rather than substitutes (see Section 3.2). However, even though consumers care about corporate tax practices, they barely adjust their purchase behavior or willingness to pay (Asay et al., 2018; Hardeck et al., forthcoming). This finding might be one explanation of why other studies do not observe any measurable economic consequences on the corporate level following the revelation of corporate tax shelter activities (Gallemore et al., 2014).

We have seen several cases of consumer backlash caused by revealed corporate tax practices over the last years. A prominent example is Starbucks, which experienced intense public pressure and calls for a boycott due to its marginal tax payments in the UK. In contrast to selected anecdotal evidence, the surveyed studies provide mixed evidence on consumer reactions. While there is compelling evidence for effects on the perception of firms, the impact of corporate tax strategies on consumers' purchase decisions seems modest at best. Broadly speaking, firms' tax behavior could adversely affect consumers' attitudes towards the firm, but on average, firms are unlikely to incur actual costs due to adjusted purchase behavior. Still, this missing link does not mean that increased tax transparency has no effect on consumers. Future research should try to shed more light on the discrepancy between stated attitudes and real actions uncovered in prior literature. Moreover, upcoming studies should examine more cross-sectional differences, such as different moral norms and attitudes among consumers. For instance, reputational costs arguably vary across geographic regions (as suggested by Hardeck et al., 2019, and Wilde & Wilson, 2018). Thus, future studies should follow Hardeck et al. (forthcoming), who conduct their experiment with US and German participants to exploit the cultural differences in personal views on taxation.

### **6.3.3 Tax authorities**

As illustrated throughout Section 3, tax authorities play a particular role among the recipients of tax-related disclosures since they potentially use the reported information when assessing a firm's tax liability. If certain (public or private) disclosures help them detect and

challenge legally questionable forms of tax planning, tax revenues increase. However, the introduction of tax transparency regimes is often accompanied by debates on whether the new reporting requirements are truly informative to tax authorities.<sup>72</sup> To enrich these discussions, research on how and when tax authorities use different types of disclosures is necessary. Unfortunately, tax authorities' information processing is mostly unobservable for researchers, even if access to administrative data is granted.<sup>73</sup>

An innovative study of Bozanic et al. (2017) overcomes this problem. They exploit the fact that SEC server log files can track users accessing EDGAR, the central database of public financial disclosures made by SEC-registered US firms, and identify when IRS employees download a firm's 10-K filings. The authors document that larger companies and more tax-aggressive companies tend to attract more attention from the IRS. Examining the increase in public tax disclosures in financial statements mandated by the introduction of FIN 48, Bozanic et al. (2017) find that IRS' downloads of 10-K filings multiplied in the subsequent periods (relative to other EDGAR downloads made by the IRS). This result suggests that the IRS considered the UTB disclosures in financial statements as informative about tax planning, consistent with some evidence that firms reduced their tax aggressiveness and increased tax payments after the adoption of FIN 48 (see Section 6.1.1.1). Finally, Bozanic et al. (2017) also observe a subsequent decline in 10-K downloads as soon as the private disclosures under Schedule UTP became available to the IRS. The relative informativeness of the aggregate BTD amounts in public financial statements seems to have decreased now that the IRS confidentially receives a narrative description of the underlying positions.<sup>74</sup> Altogether, the findings indicate that the interaction of public and private disclosure requirements jointly affects tax authority behavior.

Following the insights of Bozanic et al. (2017), the more recent introduction of tax transparency regimes poses interesting research questions. For example, do tax authorities incorporate the information in MNEs' public segment reporting when evaluating profit shifting risks? If so, has its relevance changed since tax authorities receive confidential CbCRs? And do tax authorities access public CbCR data of EU financial institutions or public tax strategy reports of UK firms? Considering the multitude of public and private disclosures available to tax

---

<sup>72</sup> For more details, see Section 3.3.2.

<sup>73</sup> Administrative datasets may reflect audit frequencies and audit adjustments, but usually do not contain information on which disclosures tax authorities consider in their decision making.

<sup>74</sup> This result is also in line with firms voluntarily increasing their qualitative UTB disclosures after the informative value for the IRS had decreased due to Schedule UTP (see Section 4.3).



administration, policymakers should be particularly interested in evidence on whether tax authorities are able to recognize and assess all relevant information or whether they face problems of information overload. Finally, going beyond recording tax authority downloads of documents, it would be interesting to investigate how different types of disclosures affect tax audit decisions and audit efficiency. According to the OECD's (2020) first publication of aggregate CbCR data, national tax administrations stated that they employ CbCR information to help identify which MNEs to audit and to plan audits, but not as evidence of BEPS. Future studies could try to verify this statement, e.g., by surveying firms' tax executives on CbCR-related inquiries of tax authorities and resulting in international tax disputes. Confidential client data of large tax consultancies may constitute another potential source of information in this regard. Despite existing data restrictions, the particular role of tax authorities as the addressee of tax-related disclosure offers an interesting avenue for future research.

## **7 Conclusions and suggestions for future research**

This study provides a comprehensive review of the evolving research on corporate tax transparency. In this final section, we summarize and synthesize the main findings from our survey of the empirical literature (Sections 4-6), relate the results to the theoretical underpinnings (Section 3) and our classification of disclosures rules (Section 2), and offer several suggestions for future work in this area. Focusing on the different research questions, we arranged our review of empirical evidence, according to determinants, informativeness, and effects of tax-related disclosures (similar to Christensen et al., 2019). Figure 3 illustrates the number of studies examining each group of research questions. More than half of the studies investigate different kinds of effects (mainly on firms and investors), while determinants account for about one third.

Our review of the empirical literature on the determinants of tax disclosure decisions shows that the interpretation of firm characteristics and attributes is highly context-specific, with different channels often being tested in isolation. Research would undoubtedly benefit from a more comprehensive theoretical framework, which could help to reconcile conflicting empirical findings. To this end, our conceptual discussion of tax transparency in Section 3.3 may serve as a starting point. In line with its intuitive importance, the reporting firm's level of tax aggressiveness constitutes the most well-researched determinant. Evidence suggests an ambiguous relationship, reflecting a tradeoff that firms face: On the one hand, tax-aggressive firms are more inclined to reduce the quality of or even do not fully comply with hard-fact mandatory disclosures (e.g., UTBs, subsidiary list) to keep this sensitive information private. On the other

hand, tax-aggressive firms tend to issue more disclosures which involve a higher degree of leeway (i.e., voluntary and/or more qualitative publications). They may do so either to legitimize their tax arrangements (consistent with legitimacy theory) or to reduce information asymmetry resulting from the related complexity. Remarkably, we lack studies examining the role of managers in discretionary tax disclosure decisions. This is surprising, considering the ample evidence from financial disclosure research (Healy & Palepu, 2001) and the growing literature on the relationship between managerial characteristics and incentives and firms' tax planning (Dyreng & Hanlon, 2019; Wilde & Wilson, 2018). Thus, focusing on how managers – and tax executives – simultaneously decide about tax planning and tax disclosure can be a promising avenue for future research. Finally, we encourage more cross-country studies on disclosure determinants to shed light on the influence of political, institutional, and cultural differences.

Regarding the informativeness of tax-related disclosures, early literature has developed and applied several tax avoidance measures based on financial statement information. However, these measures are hard to validate, and they all capture only certain forms of tax avoidance (Hanlon & Heitzman, 2010). A very recent group of studies exploit first published CbCR data as a new source to estimate profit shifting. They document considerable advantages in terms of country coverage but also important limitations due to missing variables and limited comparability across reports. Voluntary CbCRs, according to the new GRI Standard 207, may offer additional opportunities for future studies. While we look forward to more research employing larger and longer-term CbCR datasets, it seems unlikely that this type of disclosure will end the longstanding academic discussion about the size of international profit shifting. Considering the difficulties in inferring taxable income and actual tax payments from financial statements, future contributions could be made by examining the incremental information content of publicly disclosed tax return data and linking it to financial statement information. More generally, we suggest that future studies combine and compare different types of disclosures to get a more complete picture and develop more nuanced tax aggressiveness measures.

As indicated in Figure 3, the effects of tax transparency on firms have received considerable attention among scholars. Empirical findings mainly suggest that firms perceive the introduction of tax disclosure regimes as costly. Several firms try to prevent falling under disclosure obligations (e.g., by bunching below applicable size thresholds). For firms subject to the respective requirement, there is some evidence that they close tax haven subsidiaries and adjust their tax planning behavior. However, the results for the overall effect on tax avoidance are mixed, potentially due to the substitution of more transparent forms of tax planning by less obvious or controversial strategies. Besides, several studies document real responses (e.g.,

changes in investments and employment) following mandated increases in tax transparency. The extent of the effects varies across the different settings, yet reactions are generally stronger for disclosures on international activities. Besides, it should be noted that several studies on recent tax-related disclosure requirements necessarily rely on relatively short post-introduction periods, leaving room for future research on the longer-term effects.

While the consequences of tax transparency for investors have attracted the largest number of studies, virtually all of them examine stock price reactions. Changes in stock prices following the introduction of a reporting requirement or the issuance of disclosure reflect the aggregate net effect of all costs, benefits, and reactions expected by investors. This makes it difficult to interpret the results and reconcile them with other findings (e.g., firm reactions). Nevertheless, cross-sectional evidence indicates that investors expect the most tax-aggressive firms to face the highest costs of disclosure, reward legal tax planning, and reasonable risk-taking, and, in some cases, accept low-quality disclosures to conceal tax avoidance from tax authorities. Some results also suggest that investors expect to benefit from improved monitoring. Yet, owing to the concentration on stock price responses, we largely lack empirical literature on whether and how investors actually utilize the disclosed information. In light of the robust findings that financial disclosures can mitigate information asymmetry, it also seems worthwhile to analyze whether increases in tax transparency affect stock liquidity and the cost of capital.

About a handful of studies examine the effects on analysts. These studies are essentially confined to certain voluntary tax-related disclosures in earnings announcements and conference calls and find that the issuance of this information improves forecast accuracy. Therefore, it is up to future research to investigate whether the introduction of tax-specific public disclosure regimes (e.g., CbCR, public tax returns) has influenced analyst activity and whether the respective disclosures help analysts enhance their forecasts.

Research on the responses of consumers and the general public to tax-related disclosures is primarily based on surveys and laboratory experiments. Extant findings suggest that revelations about a firm's tax aggressiveness negatively affect consumers' perception of the concerned firm. In contrast, empirical literature so far has not been able to provide conclusive evidence that such revelations lead to changes in consumers' purchase decisions. Future studies could thus try to shed more light on this discrepancy and on the mechanisms of how (stated) attitudes may or may not influence consumer behavior. Tax transparency research may draw on existing findings and research designs from other disciplines, such as behavioral marketing and business psychology, to further explore consumer reactions. The first step in this direction

is the study by Asay et al. (2018). They find that the perception of a firm's tax aggressiveness ranks very low among the factors which determine purchase decisions. In any case, it should be noted that the extent and importance of potential consumer reactions largely depend on a firm's business model and its reliance on private customers.

Despite their particular role as recipients, to date, only one study examines whether tax authorities use information from tax-related (public) disclosures. Although restricted data availability undoubtedly impedes research on this topic, academic literature would benefit from future studies on whether and how tax authorities process information from various public and private sources for planning tax audits and tax risk assessments. Surveys among tax executives or access to confidential client data of tax consultancies might help overcome data restrictions.

In general, our review shows that we know very little about how the recent increase in tax transparency affects the information processing of three important recipients – tax authorities, investors, and analysts. The following questions still need to be answered: Do the recipients access and use the information from the different tax-related disclosure requirements? How do they prioritize or compare if different disclosures with overlapping content are available? Do certain recipients (in particular: tax authorities) face problems of information overload? How do the disclosures affect the recipients' decision making and actions (e.g., audit decisions, stock purchases, and sales, forecasts)? While there is more evidence with respect to consumers, laboratory experiments probably cannot simulate the simultaneous availability of a multitude of different information. Thus, it remains open to what determines the visibility and salience of tax-related information from the consumers' perspective. Overall, the identified lack of evidence on the effects on recipients implies that it is still difficult to assess whether the proposed benefits of increased tax transparency for recipients actually materialize.

Concerning costs, evidence of tax-aggressive firms reducing the quality of (or even failing to comply with) mandatory disclosures and indications of firms trying to prevent falling under the reporting requirements suggest that firms perceive many disclosures as costly. However, it is not apparent which kind of costs are most prevalent. Compliance costs, double taxation or controversy costs, political and proprietary costs are often difficult to observe or quantify and have not been addressed directly by extant research. Reputational risks of tax planning apparently constitute a major concern of firms (Graham et al., 2014). Although consumers' perception of a firm seems to be sensitive to news about tax aggressiveness, empirical studies so far do not provide convincing evidence of reputational costs actually manifesting in consumers' purchase decisions or decreasing sales. While a reduction in tax avoidance is the ultimate

goal of many recently-introduced tax disclosure regimes, empirical findings on this effect are quite mixed. At the same time, studies document economic consequences (e.g., changes in investments) in response to increases in tax transparency. In summary, the mixed results regarding tax avoidance and the indications of unintended side effects such as bunching behavior and relocation of real investments call into questions whether tax transparency regimes efficiently fulfill their purpose.

Considering the vast diversity among tax-related disclosures, we also aim to provide researchers and policymakers with a summary of the empirical evidence on the effectiveness of selected disclosure types. Figure 4 depicts the number of studies included in our survey according to the different kinds of disclosure. The structure follows our classification illustrated in Figure 2 and explained in Section 2.2. Unsurprisingly, more than 80% of studies focus on public disclosures, probably due to data availability. Tax disclosures in general-purpose financial reporting account for about 45% of the empirical literature.

Several early studies investigate deferred tax and BTB disclosures in financial statements, and the results are relatively mixed. Research does neither find consistent evidence on how tax aggressiveness affects BTB reporting decisions nor an unequivocal relationship between BTB-based measures of tax avoidance and firm value. Moreover, analysts seem unable to understand the information contained in BTBs completely. A potential explanation for these inconclusive findings is that BTBs simultaneously reflect both tax avoidance and financial earnings management.

UTB information in the tax footnote constitutes the most well-studied public disclosure issued by firms. The results consistently suggest that UTBs are informative about tax avoidance since tax-aggressive firms issue lower-quality UTB disclosures. Moreover, tax avoidance decreases after the introduction of FIN 48, and tax authorities seem to download public UTB information (at least before the implementation of Schedule UTP).

The empirical findings for segment reporting and subsidiary lists are concentrated on determinants and indicate that tax-aggressive firms issue less transparent and less comprehensive disclosures. Apparently, information on the geographic distribution of MNEs' activities is meaningful with regard to tax avoidance.

Among the more specific tax-related disclosures, most studies focus on the different CbCRs. While the public CbCR regulation for extractive industries appears to be effective in fighting corruption and increases the extraction payments of affected firms, these consequences are not directly related to tax transparency. Regarding the public CbCR requirement for banks

in the EU, evidence on reactions is only modest. Studies document that banks reduce profit shifting and close tax haven subsidiaries, but the results on overall tax avoidance are inconclusive. Stock prices do not exhibit a significant investor response to the adoption of the rule. Surprisingly, the effects are more pronounced for the implementation of the OECD's *confidential* CbCR, with consistent findings of a reduction in profit shifting and overall tax avoidance as well as real effects, namely the relocation of investments and employment. Due to the more comprehensive list of reportable items, the OECD's CbCR might be more informative for tax authorities than banks' disclosures. Alternatively, industry-specific particularities among financial institutions may explain the results.

Turning to qualitative publications by firms, first analyses of tax strategy reports suggest that the reports of some firms could be rather uninformative owing to the use of boilerplate language. While a few studies investigate the determinants of voluntary tax disclosures in CSR reports, there is virtually no evidence on whether these disclosures are informative and whether recipients find them valuable. In this context, the recent issuance of a separate standard on taxes within the most widely adopted framework for sustainability reporting (GRI 207) may spur upcoming research. Similarly, the informativeness and utilization of other tax-related qualitative disclosures (e.g., in MD&A and risk factor reports) offers opportunities for future research exploiting textual analysis techniques.

Studies exploiting settings of public tax return disclosure regimes provide mixed results on the effects. Firms obviously anticipate impending costs and try to prevent being subject to the rules. However, they do not seem to change their tax avoidance behavior. Investor reactions are rather weak and inconclusive, and negative impacts on consumer perception are limited to certain groups of firms. It has to be noted, though, that the respective studies are necessarily confined to single-country settings. Considering the institutional differences, it is difficult to compare the results from different countries.

Third-party disclosures in press articles or by NGOs and leaks constitute a distinctive type of public tax-related disclosure, as firms usually cannot influence their occurrence and content. They often exhibit a negative wording ("shaming") and entail a shock in public scrutiny. Due to these features, such settings are appealing to examine the effects of increased attention to a firm's tax behavior. However, as summarized above, empirical evidence does not suggest that potential reputational damages influence the demand for a firm's products or services. Accordingly, extant studies mostly fail to find notable overall responses of firms and investors to disclosures in press articles or by NGOs and leaks.

A few studies investigate the introduction of private disclosures requirements to tax authorities in the US settings of Schedule M-3 and Schedule UTP. Their results do not provide support for the effectiveness of these rules, as they indicate only small adverse investor reactions and no reduction in the overall level of tax avoidance. Nevertheless, both settings – especially Schedule UTP – are interesting as the information to be privately reported to tax authorities is closely linked to items publicly disclosed in financial statements. Several studies document that different disclosure requirements interact, e.g., the introduction of Schedule UTP changes firms’ disclosure behavior with regard to UTBs in financial statements.

In this vein, we look forward to research on interaction effects in other regulatory settings, e.g., whether the introduction of a confidential CbCR requirement affects MNEs’ public segment reporting or subsidiary disclosure. Similarly, future studies could further examine whether the adoption of mandatory reporting rules influences voluntary disclosure behavior and, if so, whether mandatory and voluntary disclosures act as complements or substitutes. We note that tax accounting researchers should have comparative advantages in this area due to their knowledge of the institutional backgrounds.

Finally, when comparing the empirical findings by disclosure type with the classification outlined in Section 2.2, it is striking that we lack research on the effects of regimes requiring the private disclosure of certain tax planning arrangements to tax authorities. This is surprising in light of the considerable number of countries which have implemented such a rule within the last two decades.<sup>75</sup> Future research may investigate how firms and investors react to these regimes (and, conditional on data availability, how tax authorities use the information). It could also be interesting to shed light on how the typical promoters of tax planning arrangements – tax advisors and financial intermediaries – are affected. The recent introduction of DAC 6 in the EU member states offers a promising cross-country setting to examine these questions.

Despite the rapidly growing number of studies, our review has demonstrated that we are still only at the beginning of empirical research on tax transparency. Many open questions remain. To conclude, we briefly list the directions that we have identified as particularly interesting for future research: (1) The development of a comprehensive theoretical framework incorporating the different incentives which influence tax disclosure decisions; (2) the role of managers and tax executives in corporate decisions on tax transparency and the interrelation with simultaneous tax planning decisions; (3) interaction effects between public and private

---

<sup>75</sup> See Section III.B of Table A.1 in the Appendix for an overview.

disclosure requirements or between mandatory and voluntary disclosures; (4) the informativeness and reception of qualitative tax-related disclosures (e.g., in CSR reports according to the GRI framework or tax strategy reports); (5) combinations and comparisons of the different information about tax behavior contained in various types of (quantitative and qualitative) disclosures and development of more nuanced measures of tax avoidance; (6) the effects of the introduction of regimes requiring the private disclosure of tax planning arrangements; and (7) the processing of the available tax-related information by investors, analysts, consumers, and tax authorities, including the impact on their decision making and actions.



## References

- Abernathy, J. L., Davenport, S. A., & Rapley, E. T. (2013). Schedule UTP: Stock Price Reaction and Economic Consequences. *The Journal of the American Taxation Association*, 35(1), 25–48.
- Akamah, H., Hope, O.-K., & Thomas, W. B. (2018). Tax havens and disclosure aggregation. *Journal of International Business Studies*, 49(1), 49–69.
- Akerlof, G. A. (1970). The Market for “Lemons”: Quality Uncertainty and the Market Mechanism. *The Quarterly Journal of Economics*, 84(3), 488–500.
- Allen, A., Francis, B. B., Wu, Q., & Zhao, Y. (2016). Analyst coverage and corporate tax aggressiveness. *Journal of Banking & Finance*, 73, 84–98.
- Antonetti, P., & Anesa, M. (2017). Consumer reactions to corporate tax strategies: The role of political ideology. *Journal of Business Research*, 74, 1–10.
- Asay, H. S., Hoopes, J. L., Thornock, J. R., & Wilde, J. H. (2018). *Consumer Responses to Corporate Tax Planning* (Kenan Institute of Private Enterprise Research Paper No. 18-19, July 2018). Retrieved from <http://dx.doi.org/10.2139/ssrn.3224670> (accessed on 26 June 2020).
- Atwood, T. J., & Lewellen, C. (2019). The Complementarity between Tax Avoidance and Manager Diversion: Evidence from Tax Haven Firms. *Contemporary Accounting Research*, 36(1), 259–294.
- Ayers, B. C., Schwab, C. M., & Utke, S. (2015). Noncompliance with Mandatory Disclosure Requirements: The Magnitude and Determinants of Undisclosed Permanently Reinvested Earnings. *The Accounting Review*, 90(1), 59–93.
- Baik, B., Kim, K., Morton, R., & Roh, Y. (2016). Analysts’ pre-tax income forecasts and the tax expense anomaly. *Review of Accounting Studies*, 21(2), 559–595.
- Balakrishnan, K., Blouin, J. L., & Guay, W. R. (2019). Tax Aggressiveness and Corporate Transparency. *The Accounting Review*, 94(1), 45–69.
- Başaran Yavaşlar, F., & Hey, J. (Eds.). (2019). *Tax transparency: 2018 EATLP Congress Zurich, 7-9 June 2018*. IBFD.
- Beer, S., Mooij, R., & Liu, L. (2020). International Corporate Tax Avoidance: A Review of the Channels, Magnitudes, and Blind Spots. *Journal of Economic Surveys*, 34(3), 660–688.
- Belnap, A. (2019a). *The Effect of Public Scrutiny on Mandatory and Voluntary Disclosure: Evidence from a Randomized Field Experiment* (Working Paper).
- Belnap, A. (2019b). *Brass necks and boilerplate: How US multinationals treat UK requirements for tax strategy disclosure*. Tax Justice Network. Retrieved from <https://www.taxjustice.net/wp-content/uploads/2019/02/Brassneck%20and%20boilerplate%20-%20Tax%20Justice%20Network%20-%202019.pdf> (accessed on 28 July 2020).
- Bennedsen, M., & Zeume, S. (2018). Corporate Tax Havens and Transparency. *The Review of Financial Studies*, 31(4), 1221–1264.
- Beyer, A., Cohen, D. A., Lys, T. Z., & Walther, B. R. (2010). The financial reporting environment: Review of the recent literature. *Journal of Accounting and Economics*, 50(2–3), 296–343.
- Bilicka, K. A. (2019). Comparing UK Tax Returns of Foreign Multinationals to Matched Domestic Firms. *American Economic Review*, 109(8), 2921–2953.

- Bilicka, K. A., Casi, E., Seregini, C., & Stage, B. (2020). *Qualitative Information Disclosure and Tax Aggressiveness: Is Mandating Additional Information Disclosure Useful?* (Working Paper, August 2020).
- Blank, J. D. (2014). Reconsidering corporate tax privacy. *N.Y.U. Journal of Law & Business*, 11(1), 31–121.
- Blaufus, K., Möhlmann, A., & Schwäbe, A. N. (2019). Stock price reactions to news about corporate tax avoidance and evasion. *Journal of Economic Psychology*, 72, 278–292.
- Blouin, J. L., Gleason, C. A., Mills, L. F., & Sikes, S. A. (2010). Pre-Emptying Disclosure? Firms' Decisions Prior to FIN No. 48. *The Accounting Review*, 85(3), 791–815.
- Blouin, J. L., & Krull, L. K. (2018). *Does Tax Planning Affect Organizational Complexity: Evidence from Check-the-Box* (Working Paper, February 2018). Retrieved from <https://www.stern.nyu.edu/sites/default/files/assets/documents/Jennifer%20Blouin%20-%20Does%20Tax%20Planning%20Affect%20Organizational%20Complexity%20Evidence%20from%20Check-the-Box.pdf> (accessed on 22 June 2020).
- Blouin, J. L., & Robinson, L. (2020). *Double Counting Accounting: How Much Profit of Multinational Enterprises Is Really in Tax Havens?* (SSRN Working Paper, May 2020). Retrieved from <https://dx.doi.org/10.2139/ssrn.3491451> (accessed on 03 July 2020).
- Blouin, J. L., & Robinson, L. A. (2014). Insights from Academic Participation in the FAF's Initial PIR: The PIR of FIN 48. *Accounting Horizons*, 28(3), 479–500.
- Bø, E. E., Slemrod, J., & Thoresen, T. O. (2015). Taxes on the Internet: Deterrence Effects of Public Disclosure. *American Economic Journal: Economic Policy*, 7(1), 36–62.
- Bouvatier, V., Capelle-Blancard, G., & Delatte, A.-L. (2018). *Banks Defy Gravity in Tax Havens* (SSRN Working Paper, June 2018). Retrieved from <http://dx.doi.org/10.2139/ssrn.3190602> (accessed on 24 June 2020).
- Bozanic, Z., Hoopes, J. L., Thornock, J. R., & Williams, B. M. (2017). IRS Attention. *Journal of Accounting Research*, 55(1), 79–114.
- Bratten, B., Gleason, C. A., Larocque, S. A., & Mills, L. F. (2017). Forecasting Taxes: New Evidence from Analysts. *The Accounting Review*, 92(3), 1–29.
- Braun, J., & Weichenrieder, A. (2015). *Does Exchange of Information between Tax Authorities Influence Multinationals' Use of Tax Havens?* (ZEW Centre for European Economic Research Discussion Paper No. 15-015, February 2015). Retrieved from <http://ftp.zew.de/pub/zew-docs/dp/dp15015.pdf> (accessed on 25 June 2020).
- Brooks, C., Godfrey, C., Hillenbrand, C., & Money, K. (2016). Do investors care about corporate taxes? *Journal of Corporate Finance*, 38, 218–248.
- Brown, R. J., Jorgensen, B. N., & Pope, P. F. (2019). The interplay between mandatory country-by-country reporting, geographic segment reporting, and tax havens: Evidence from the European Union. *Journal of Accounting and Public Policy*, 38(2), 106–129.
- Brown, S. V., Tian, X. S., & Tucker, J. W. (2018). The Spillover Effect of SEC Comment Letters on Qualitative Corporate Disclosure: Evidence from the Risk Factor Disclosure. *Contemporary Accounting Research*, 35(2), 622–656.
- Brühne, A. I., & Jacob, M. (2019). *Corporate Tax Avoidance and the Real Effects of Taxation: A Review* (SSRN Working Paper, November 2019). Retrieved from [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3495496](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3495496) (accessed on 27 July 2020).

- Campbell, J. L., Cecchini, M., Cianci, A. M., Ehinger, A. C., & Werner, E. M. (2019). Tax-related mandatory risk factor disclosures, future profitability, and stock returns. *Review of Accounting Studies*, 24(1), 264–308.
- Cazier, R., Rego, S., Tian, X. S., & Wilson, R. (2015). The impact of increased disclosure requirements and the standardization of accounting practices on earnings management through the reserve for income taxes. *Review of Accounting Studies*, 20(1), 436–469.
- Chen, K. C. W., Danielson, M. G., & Schoderbek, M. P. (2003). Analysts' Interpretation of Transitory Earnings Components: Evidence from Forecast Revisions after Disclosure of the 1993 Deferred Tax Adjustment. *Journal of Accounting, Auditing & Finance*, 18(3), 333–353.
- Chen, N., Chi, S., & Shevlin, T. J. (2019). *A Tale of Two Forecasts: An Analysis of Mandatory and Voluntary Effective Tax Rate Forecasts* (SSRN Working Paper, April 2019). Retrieved from <http://dx.doi.org/10.2139/ssrn.3271837> (accessed on 28 June 2020).
- Chen, S. (2017). *Do Investors Value Corporate Tax Return Information? Evidence from Australia* (Dissertation – The University of Texas at Austin). Retrieved from <https://repositories.lib.utexas.edu/bitstream/handle/2152/63281/CHEN-DISSERTATION-2017.pdf?sequence=1&isAllowed=y> (accessed on 31 August 2020).
- Chen, S., Schuchard, K., & Stomberg, B. (2019). Media Coverage of Corporate Taxes. *The Accounting Review*, 94(5), 83–116.
- Christensen, H. B., Hail, L., & Leuz, C. (2019). *Adoption of CSR and Sustainability Reporting Standards: Economic Analysis and Review* (European Corporate Governance Institute-Finance Working Paper No. 623/2019, August 2019). Retrieved from [http://ssrn.com/abstract\\_id=3427748](http://ssrn.com/abstract_id=3427748) (accessed on 23 June 2020).
- Clausing, K. A. (2016). The Effect of Profit Shifting on the Corporate Tax Base in the United States and Beyond. *National Tax Journal*, 69(4), 905–934.
- Clausing, K. A. (2020). *Profit Shifting Before and After the Tax Cuts and Jobs Act* (SSRN Working Paper, June 2020). Retrieved from <https://dx.doi.org/10.2139/ssrn.3274827> (accessed on 03 July 2020).
- Clifford, S. (2019). Taxing multinationals beyond borders: Financial and locational responses to CFC rules. *Journal of Public Economics*, 173, 44–71.
- Cockfield, A. J., & MacArthur, C. D. (2015). Country-by-Country Reporting and Commercial Confidentiality. *Canadian Tax Journal*, 63(3), 627–660.
- Davis, A. B., Moore, R., & Rupert, T. (2017). *The Effect of Tax Expense Management and CSR Ratings on Investor Perceptions of Firm Value and CSR Performance* (Northeastern U. D'Amore-McKim School of Business Research Paper No. 2767615, July 2017). Retrieved from <http://dx.doi.org/10.2139/ssrn.2767615> (accessed on 30 June 2020).
- Davis, A. K., Guenther, D. A., Krull, L. K., & Williams, B. M. (2016). Do Socially Responsible Firms Pay More Taxes? *The Accounting Review*, 91(1), 47–68.
- De Mooij, R., & Ederveen, S. (2003). Taxation and Foreign Direct Investment: A Synthesis of Empirical Research. *International Tax and Public Finance*, 10(6), 673–693.
- De Simone, L., & Olbert, M. (2020). *Real Effects of Private Country-by-Country Disclosure* (SSRN Working Paper, June 2020). Retrieved from <https://dx.doi.org/10.2139/ssrn.3398116> (accessed on 03 July 2020).
- Deegan, C. (2002). The legitimising effect of social and environmental disclosures – A theoretical foundation. *Accounting, Auditing & Accountability Journal*, 15(3), 282–311.

- Demeré, P. (2018). *Is Tax Return Information Useful to Equity Investors?* (SSRN Working Paper, January 2018). Retrieved from <https://dx.doi.org/10.2139/ssrn.3110199> (accessed on 28 June 2020).
- Desai, M. A., & Dharmapala, D. (2006). Corporate tax avoidance and high-powered incentives. *Journal of Financial Economics*, 79(1), 145–179.
- Desai, M. A., & Dharmapala, D. (2009). Corporate Tax Avoidance and Firm Value. *The Review of Economics and Statistics*, 91(3), 537–546.
- Desai, M. A., Dyck, A., & Zingales, L. (2007). Theft and taxes. *Journal of Financial Economics*, 84(3), 591–623.
- Devereux, M., Bennett, M., Freedman, J., Hearson, M., Lenon, C., Loutzenhiser, G., McNair, D., Morris, W., Parry, R., Shackelford, D., Symons, S., & Schatan, R. (2011). *Transparency in reporting financial data by multinational corporations* (Report of a group chaired by Michael Devereux, July 2011). Oxford University Centre for Business Taxation. Retrieved from [http://eureka.sbs.ox.ac.uk/7341/1/Transparency\\_reporting\\_multinationals\\_july2011.pdf](http://eureka.sbs.ox.ac.uk/7341/1/Transparency_reporting_multinationals_july2011.pdf) (accessed on 01 July 2020).
- Dharmapala, D. (2014). What Do We Know about Base Erosion and Profit Shifting? A Review of the Empirical Literature. *Fiscal Studies*, 35(4), 421–448.
- Dharmapala, D. (Ed.). (2017). *The Economics of Tax Avoidance and Evasion*. Edward Elgar Publishing.
- Dharmapala, D. (2020). *Do Multinational Firms Use Tax Havens to the Detriment of Other Countries?* (CESifo Working Paper No. 8275, May 2020). Retrieved from [https://www.cesifo.org/DocDL/cesifo1\\_wp8275.pdf](https://www.cesifo.org/DocDL/cesifo1_wp8275.pdf) (accessed on 25 June 2020).
- Dharmapala, D., & Riedel, N. (2013). Earnings shocks and tax-motivated income-shifting: Evidence from European multinationals. *Journal of Public Economics*, 97, 95–107.
- Donohoe, M. P., & McGill, G. A. (2011). The Effects of Increased Book-Tax Difference Tax Return Disclosures on Firm Valuation and Behavior. *The Journal of the American Taxation Association*, 33(2), 35–65.
- Dowd, T., Landefeld, P., & Moore, A. (2017). Profit shifting of U.S. multinationals. *Journal of Public Economics*, 148, 1–13.
- Dutt, V. K., Ludwig, C. A., Nicolay, K., Vay, H., & Voget, J. (2019a). Increasing tax transparency: Investor reactions to the country-by-country reporting requirement for EU financial institutions. *International Tax and Public Finance*, 26(6), 1259–1290.
- Dutt, V. K., Nicolay, K., Vay, H., & Voget, J. (2019b). *Can European Banks' Country-by-Country Reports Reveal Profit Shifting? An Analysis of the Information Content of EU Banks' Disclosures* (ZEW Centre for European Economic Research Discussion Paper No. 19-042, October 2019). Retrieved from <http://ftp.zew.de/pub/zew-docs/dp/dp19042.pdf> (accessed on 24 June 2020).
- Dyck, A., Volchkova, N., & Zingales, L. (2008). The Corporate Governance Role of the Media: Evidence from Russia. *Journal of Finance*, 63(3), 1093–1135.
- Dye, R. A. (1986). Proprietary and Nonproprietary Disclosures. *The Journal of Business*, 59(2), 331–366.
- Dyreng, S. D., & Hanlon, M. (2019). *Tax Avoidance and Multinational Firm Behavior* (Working Paper, December 2019). Retrieved from <https://www.brookings.edu/wp-content/uploads/2019/12/Dyreng-Hanlon-12.14.19.pdf> (accessed on 22 June 2020).

- Dyreng, S. D., Hoopes, J. L., Langetieg, P., & Wilde, J. H. (2020). Strategic Subsidiary Disclosure. *Journal of Accounting Research*, 58(3), 643–692.
- Dyreng, S. D., Hoopes, J. L., & Wilde, J. H. (2016). Public Pressure and Corporate Tax Behavior. *Journal of Accounting Research*, 54(1), 147–186.
- Eberhartinger, E., Speitmann, R., & Sureth-Sloane, C. (2020). *Real Effects of Public Country-by-Country Reporting and the Firm Structure of European Banks* (WU International Taxation Research Paper Series No. 2020-01, March 2020). Retrieved from <https://dx.doi.org/10.2139/ssrn.3523909> (accessed on 30 June 2020).
- Ehinger, A. C., Lee, J. A., Stomberg, B., & Towery, E. M. (2020). *The Relative Importance of Tax Reporting Complexity and IRS Scrutiny in Voluntary Tax Disclosure Decisions* (SSRN Working Paper, June 2020). Retrieved from <http://dx.doi.org/10.2139/ssrn.3009390> (accessed on 18 June 2020).
- Evers, M. T., Finke, K., Matenaer, S., Meier, I., & Zinn, B. (2014). *Evidence on Book-Tax Differences and Disclosure Quality Based on the Notes to the Financial Statements* (ZEW Centre for European Economic Research Discussion Paper No. 14-047, July 2014). Retrieved from <http://ftp.zew.de/pub/zew-docs/dp/dp14047.pdf> (accessed on 19 June 2020).
- Evers, M. T., Meier, I., & Spengel, C. (2016). *Country-by-Country Reporting: Tension between Transparency and Tax Planning* (ZEW Centre for European Economic Research Discussion Paper No. 17-008, November 2016). Retrieved from <http://ftp.zew.de/pub/zew-docs/dp/dp17008.pdf> (accessed on 24 June 2020).
- Fatica, S., & Gregori, W. D. (2020). How much profit shifting do European banks do? *Economic Modelling*, 90, 536–551.
- Feld, L. P., & Heckemeyer, J. H. (2011). FDI and Taxation: A Meta-Study. *Journal of Economic Surveys*, 25(2), 233–272.
- Flagmeier, V., & Mueller, J. (2017). *Tax Loss Carryforward Disclosure and Uncertainty* (arqus Discussion Paper No. 208, May 2017). Retrieved from <https://dx.doi.org/10.2139/ssrn.2982321> (accessed on 30 June 2020).
- Forstater, M. (2017). *Beneficial openness? Weighing the costs and benefits of financial transparency* (CMI Working Paper No. 3, March 2017). Retrieved from <https://www.cmi.no/publications/file/6201-beneficial-openness.pdf> (accessed on 24 June 2020).
- Francis, J. R., Neuman, S. S., & Newton, N. J. (2019). Does Tax Planning Affect Analysts' Forecast Accuracy? *Contemporary Accounting Research*, 36(4), 2663–2694.
- Frank, M. M., Lynch, L. J., & Rego, S. O. (2009). Tax Reporting Aggressiveness and Its Relation to Aggressive Financial Reporting. *The Accounting Review*, 84(2), 467–496.
- Frischmann, P. J., Shevlin, T., & Wilson, R. (2008). Economic consequences of increasing the conformity in accounting for uncertain tax benefits. *Journal of Accounting and Economics*, 46(2–3), 261–278.
- Gallemore, J., Maydew, E. L., & Thornock, J. R. (2014). The Reputational Costs of Tax Avoidance. *Contemporary Accounting Research*, 31(4), 1103–1133.
- Garcia-Bernardo, J., Janský, P., & Tørsløv, T. (2019). *Multinational Corporations and Tax Havens: Evidence from Country-by-Country Reporting* (IES Working Paper 31/2019, October 2019). <http://ies.fsv.cuni.cz/sci/publication/show/id/6150/lang/cs> (accessed on 27 July 2020).

- Giroud, X., & Rauh, J. (2019). State Taxation and the Reallocation of Business Activity: Evidence from Establishment-Level Data. *Journal of Political Economy*, 127(3), 1262–1316.
- Gleason, C. A., & Mills, L. F. (2002). Materiality and Contingent Tax Liability Reporting. *The Accounting Review*, 77(2), 317–342.
- Graham, J. R., Hanlon, M., Shevlin, T., & Shroff, N. (2014). Incentives for Tax Planning and Avoidance: Evidence from the Field. *The Accounting Review*, 89(3), 991–1023.
- Graham, J. R., Harvey, C. R., & Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of Accounting and Economics*, 40(1–3), 3–73.
- Graham, J. R., Raedy, J. S., & Shackelford, D. A. (2012). Research in accounting for income taxes. *Journal of Accounting and Economics*, 53(1–2), 412–434.
- Graham, J. R., & Tucker, A. L. (2006). Tax shelters and corporate debt policy. *Journal of Financial Economics*, 81(3), 563–594.
- Gramlich, J., & Whiteaker-Poe, J. (2013). *Disappearing Subsidiaries: The Cases of Google and Oracle* (SSRN Working Paper, March 2013). Retrieved from <https://dx.doi.org/10.2139/ssrn.2229576> (accessed on 28 June 2020).
- Gravelle, J. G. (2009). Tax Havens: International Tax Avoidance and Evasion (2009). *National Tax Journal*, 62(4), 727–753.
- Gravelle, J. G. (2015). *Tax Havens: International Tax Avoidance and Evasion* (Congressional Research Service Report No. 40623, January 2015). Retrieved from <https://fas.org/sgp/crs/misc/R40623.pdf> (accessed on 04 April 2020).
- Green, D. H., & Plesko, G. A. (2016). The Relation Between Book and Taxable Income Since the Introduction of the Schedule M-3. *National Tax Journal*, 69(4), 763–784.
- GRI. (2019). *GRI Standard 207: TAX*. Global Reporting Initiative. Retrieved from <https://www.globalreporting.org/standards/work-program-and-standards-review/development-of-gri-207-tax-2019/> (accessed on 28 July 2020).
- Grossman, S. J., & Hart, O. D. (1980). Disclosure Laws and Takeover Bids. *The Journal of Finance*, 35(2), 323–334.
- Grossmann, S. J. (1981). The Informational Role of Warranties and Private Disclosure About Product Quality. *The Journal of Law and Economics*, 24(3), 461–483.
- Guay, W., Samuels, D., & Taylor, D. (2016). Guiding through the Fog: Financial statement complexity and voluntary disclosure. *Journal of Accounting and Economics*, 62(2–3), 234–269.
- Gupta, S., Laux, R. C., & Lynch, D. P. (2016). Do Firms Use Tax Reserves to Meet Analysts’ Forecasts? Evidence from the Pre- and Post-FIN 48 Periods. *Contemporary Accounting Research*, 33(3), 1044–1074.
- Gupta, S., Mills, L. F., & Towery, E. M. (2014). The Effect of Mandatory Financial Statement Disclosures of Tax Uncertainty on Tax Reporting and Collections: The Case of FIN 48 and Multistate Tax Avoidance. *The Journal of the American Taxation Association*, 36(2), 203–229.
- Hanlon, M. (2003). What Can We Infer About a Firm’s Taxable Income from Its Financial Statements? *National Tax Journal*, 56(4), 831–863.
- Hanlon, M. (2018). Country-by-Country Reporting and the International Allocation of Taxing Rights. *Bulletin for International Taxation*, 72(4/5), 209–217.

- Hanlon, M., & Heitzman, S. (2010). A review of tax research. *Journal of Accounting and Economics*, 50(2–3), 127–178.
- Hanlon, M., Hoopes, J. L., & Shroff, N. (2014). The Effect of Tax Authority Monitoring and Enforcement on Financial Reporting Quality. *Journal of the American Taxation Association*, 36(2), 137–170.
- Hanlon, M., & Slemrod, J. (2009). What does tax aggressiveness signal? Evidence from stock price reactions to news about tax shelter involvement. *Journal of Public Economics*, 93(1–2), 126–141.
- Hardeck, I., Harden, J. W., & Upton, D. R. (forthcoming). Consumer Reactions to Tax Avoidance: Evidence from the United States and Germany. *Journal of Business Ethics*, 1–22.
- Hardeck, I., & Hertl, R. (2014). Consumer Reactions to Corporate Tax Strategies: Effects on Corporate Reputation and Purchasing Behavior. *Journal of Business Ethics*, 123(2), 309–326.
- Hardeck, I., Inger, K. K., Moore, R. D., & Schneider, J. (2019). *Cross-Cultural Evidence on Tax Disclosures in CSR Reports – A Textual Analysis Approach* (SSRN Working Paper, June 2019). Retrieved from <https://ssrn.com/abstract=3308467> (accessed on 22 June 2020).
- Hardeck, I., & Kirn, T. (2016). Taboo or technical issue? An empirical assessment of taxation in sustainability reports. *Journal of Cleaner Production*, 133, 1337–1351.
- Hasegawa, M., Hoopes, J. L., Ishida, R., & Slemrod, J. (2013). The Effect of Public Disclosure on Reported Taxable Income: Evidence from Individuals and Corporations in Japan. *National Tax Journal*, 66(3),
- He, G., Ren, H. M., & Taffler, R. (2020). The impact of corporate tax avoidance on analyst coverage and forecasts. *Review of Quantitative Finance and Accounting*, 54(2), 447–477.
- Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics*, 31(1–3), 405–440.
- Heckemeyer, J. H., & Overesch, M. (2017). Multinationals’ profit response to tax differentials: Effect size and shifting channels. *Canadian Journal of Economics*, 50(4), 965–994.
- Henry, E., Massel, N., & Towery, E. M. (2016). Increased Tax Disclosures and Corporate Tax Avoidance. *National Tax Journal*, 69(4), 809–830.
- Henry, E., & Sansing, R. (2018). Corporate tax avoidance: Data truncation and loss firms. *Review of Accounting Studies*, 23(3), 1042–1070.
- Hines, J. R., & Rice, E. M. (1994). Fiscal Paradise: Foreign Tax Havens and American Business. *The Quarterly Journal of Economics*, 109(1), 149–182.
- Hoi, C. K., Wu, Q., & Zhang, H. (2013). Is Corporate Social Responsibility (CSR) Associated with Tax Avoidance? Evidence from Irresponsible CSR Activities. *The Accounting Review*, 88(6), 2025–2059.
- Honaker, K., & Sharma, D. S. (2017). Does Schedule UTP Have Uniform Long-Run Effects on Corporate Tax Planning? *The Journal of the American Taxation Association*, 39(2), 63–79.
- Hoopes, J. L., Robinson, L., & Slemrod, J. (2018). Public tax-return disclosure. *Journal of Accounting and Economics*, 66(1), 142–162.

- Hope, O.-K., Ma, M. S., & Thomas, W. B. (2013). Tax avoidance and geographic earnings disclosure. *Journal of Accounting and Economics*, 56(2–3), 170–189.
- Horst, T., & Curatolo, A. (2020). Assessing the Double Count of Pretax Profit In the IRS Summary of CbC Data for Fiscal 2017. *Tax Notes International*, 98(4), 427–432.
- Huesecken, B., Overesch, M., & Tassius, A. (2018). *Effects of Disclosing Tax Avoidance: Capital Market Reaction to LuxLeaks* (SSRN Working Paper, February 2018). Retrieved from <http://dx.doi.org/10.2139/ssrn.2848757> (accessed on 28 June 2020).
- Hugger, F. (2020). *The Impact of Country-by-Country Reporting on Corporate Tax Avoidance* (ifo Working Paper No. 304, May 2020). Retrieved from <https://www.ifo.de/DocDL/wp-2019-304-hugger-corporate-tax-avoidance.pdf> (accessed on 22 June 2020).
- Huizinga, H., & Laeven, L. (2008). International profit shifting within multinationals: A multi-country perspective. *Journal of Public Economics*, 92(5–6), 1164–1182.
- Hutchens, M., Rego, S. O., & Williams, B. (2020). *The Impact of Standard Setting on Individual Investors: Evidence From SFAS 109* (Kelley School of Business Research Paper No. 18-13, February 2020). Retrieved from <https://dx.doi.org/10.2139/ssrn.3114265> (accessed on 03 July 2020).
- Inger, K. K. (2014). Relative Valuation of Alternative Methods of Tax Avoidance. *Journal of the American Taxation Association*, 36(1), 27–55.
- Inger, K. K., Meckfessel, M. D., Zhou, M. J., & Fan, W. P. (2018). An Examination of the Impact of Tax Avoidance on the Readability of Tax Footnotes. *The Journal of the American Taxation Association*, 40(1), 1–29.
- Janský, P. (forthcoming). European banks and tax havens: Evidence from country-by-country reporting. *Applied Economics*, 1–19.
- Jemiole, S. V. (2019). *The Impact of Tax Management, Voluntary Disclosure, and Economic Development on CSR Perceptions* (Working Paper).
- Jensen, M. C. (1979). Toward a Theory of the Press. In K. Brunner (Ed.), *Economics & Social Institutions: Insights from the Conferences on Analysis & Ideology* (pp. 267–287). Martinus Nijhoff Publishers.
- Johannessen, N., & Larsen, D. T. (2016). The power of financial transparency: An event study of country-by-country reporting standards. *Economics Letters*, 145, 120–122.
- Joshi, P. (2020). Does Private Country-by-Country Reporting Deter Tax Avoidance and Income Shifting? Evidence from BEPS Action Item 13. *Journal of Accounting Research*, 58(2), 333–381.
- Joshi, P., Outslay, E., & Persson, A. (Forthcoming). Does Public Country-by-Country Reporting Deter Tax Avoidance and Income Shifting? Evidence from the European Banking Industry. *Contemporary Accounting Research*.
- Kao, W.-C. (2019). *The Relation between Tax Avoidance and Voluntary Disclosures of Taxation in United Kingdom* (Working Paper, August 2019). Retrieved from [https://scholarpace.manoa.hawaii.edu/bitstream/10125/64859/HARC\\_2020\\_paper\\_147.pdf](https://scholarpace.manoa.hawaii.edu/bitstream/10125/64859/HARC_2020_paper_147.pdf) (accessed on 01 July 2020).
- Kays, A. (2019). *Voluntary Disclosure Responses to Mandated Disclosure: Evidence from Australian Corporate Tax Transparency* (Working Paper, 2019).



- Koutney, C. Q. (2019). *Analyst Forecast Disagreement with Management Voluntary ETR Forecasts* (SSRN Working Paper, December 2019). Retrieved from <https://dx.doi.org/10.2139/ssrn.3259579> (accessed on 28 June 2020).
- Krapat, T., Olligs, P., & Overesch, M. (2016). *Public Disclosure of Foreign Subsidiaries and International Tax Avoidance* (SSRN Working Paper, October 2016). Retrieved from <http://dx.doi.org/10.2139/ssrn.2640552> (accessed on 30 June 2020).
- Kubick, T. R., Lynch, D. P., Mayberry, M. A., & Omer, T. C. (2016). The Effects of Regulatory Scrutiny on Tax Avoidance: An Examination of SEC Comment Letters. *The Accounting Review*, 91(6), 1751–1780.
- Lagarden, M., Schreiber, U., Simons, D., & Sureth-Sloane, C. (2020). Country-by-Country Reporting Goes Public – Cui Bono? *International Transfer Pricing Journal*, 27(2), 91–97.
- Lanis, R., & Richardson, G. (2012). Corporate social responsibility and tax aggressiveness: An empirical analysis. *Journal of Accounting and Public Policy*, 31(1), 86–108.
- Lanis, R., & Richardson, G. (2013). Corporate social responsibility and tax aggressiveness: A test of legitimacy theory. *Accounting, Auditing & Accountability Journal*, 26(1), 75–100.
- Lehavy, R., Li, F., & Merkley, K. (2011). The Effect of Annual Report Readability on Analyst Following and the Properties of Their Earnings Forecasts. *The Accounting Review*, 86(3), 1087–1115.
- Lenter, D., Slemrod, J., & Shackelford, D. (2003). Public Disclosure of Corporate Tax Return Information: Accounting, Economics, and Legal Perspectives. *National Tax Journal*, 56(4), 803–830.
- Leuz, C., & Wysocki, P. (2008). *Economic Consequences of Financial Reporting and Disclosure Regulation: A Review and Suggestions for Future Research* (SSRN Working Paper, March 2008). Retrieved from <https://dx.doi.org/10.2139/ssrn.1105398> (accessed on 28 June 2020).
- Leuz, C., & Wysocki, P. D. (2016). The Economics of Disclosure and Financial Reporting Regulation: Evidence and Suggestions for Future Research. *Journal of Accounting Research*, 54(2), 525–622.
- Lewellen, K., & Robinson, L. (2014). *Internal Ownership Structures of U.S. Multinational Firms* (Working Paper, September 2014). Retrieved from [http://faculty.tuck.dartmouth.edu/images/uploads/faculty/katharina-lewellen/LR\\_Multinationals.pdf](http://faculty.tuck.dartmouth.edu/images/uploads/faculty/katharina-lewellen/LR_Multinationals.pdf) (accessed on 22 June 2020).
- Lisowsky, P. (2009). Inferring U.S. Tax Liability from Financial Statement Information. *The Journal of the American Taxation Association*, 31(1), 29–63.
- Lisowsky, P. (2010). Seeking Shelter: Empirically Modeling Tax Shelters Using Financial Statement Information. *The Accounting Review*, 85(5), 1693–1720.
- Lisowsky, P., Robinson, L., & Schmidt, A. (2013). Do Publicly Disclosed Tax Reserves Tell Us About Privately Disclosed Tax Shelter Activity? *Journal of Accounting Research*, 51(3), 583–629.
- Mauler, L. M. (2019). The Effect of Analysts' Disaggregated Forecasts on Investors and Managers: Evidence Using Pre-Tax Forecasts. *The Accounting Review*, 94(3), 279–302.
- McGill, G. A., & Outslay, E. (2004). Lost in Translation: Detecting Tax Shelter Activity in Financial Statements. *National Tax Journal*, 57(3), 739–756.

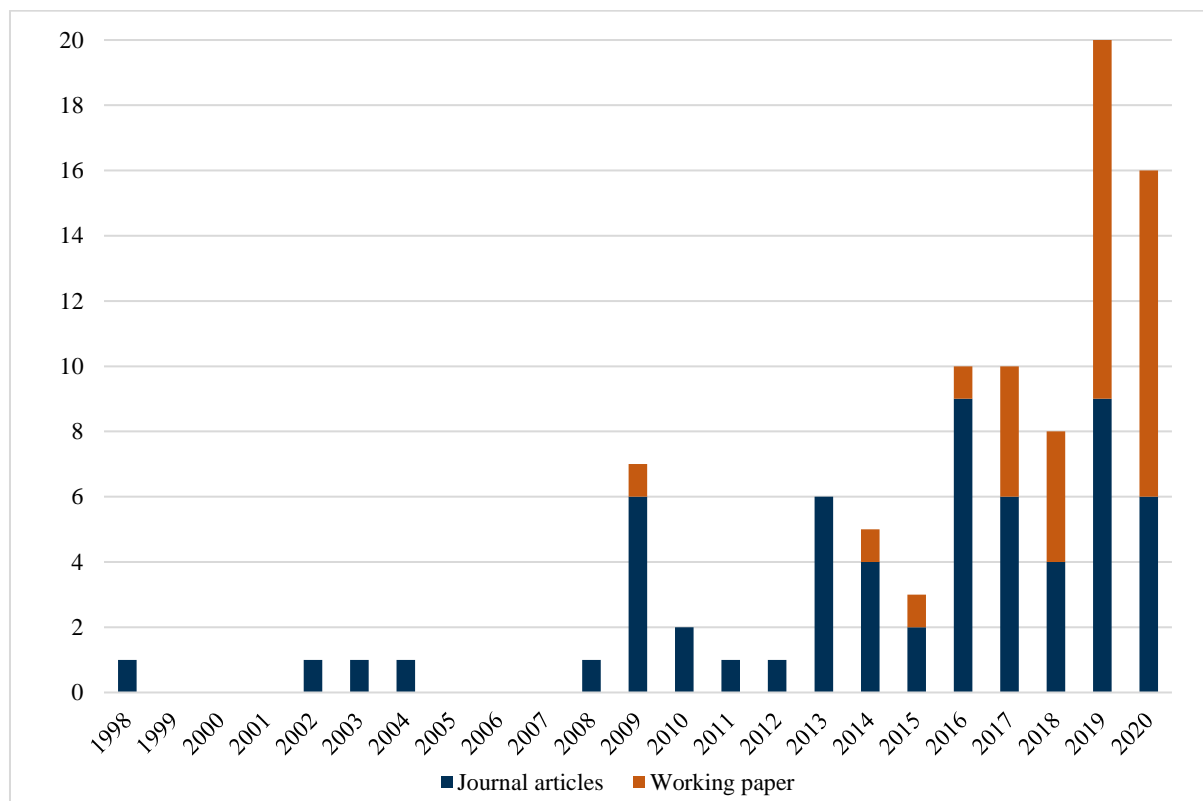
- Merz, J., & Overesch, M. (2016). Profit shifting and tax response of multinational banks. *Journal of Banking & Finance*, 68, 57–68.
- Middleton, A., & Muttonen, J. (2020). *Multinational Enterprises and Transparent Tax Reporting* (1st ed.). Routledge.
- Milgrom, P. R. (1981). Good News and Bad News: Representation Theorems and Applications. *The Bell Journal of Economics*, 12(2), 380–391.
- Miller, B. P. (2015). The Effects of Reporting Complexity on Small and Large Investor Trading. *The Accounting Review*, 85(6), 2107–2143.
- Mills, L. F. (1998). Book-Tax Differences and Internal Revenue Service Adjustments. *Journal of Accounting Research*, 36(2), 343–356.
- Minnis, M., & Sutherland, A. (2017). Financial Statements as Monitoring Mechanisms: Evidence from Small Commercial Loans. *Journal of Accounting Research*, 55(1), 197–233.
- Morris, D. (2015). A Case for Company-Specific Public Disclosure of Corporate Tax Returns. *Accounting and the Public Interest*, 15(1), 1–21.
- Murphy, R. (2003). *Reporting Turnover and Tax by Location – A Proposed International Accounting Standard* (Tax Justice Network). Retrieved from [https://www.taxjustice.net/cms/upload/pdf/new\\_int.\\_Account\\_Standard.pdf](https://www.taxjustice.net/cms/upload/pdf/new_int._Account_Standard.pdf) (accessed on 23 June 2020).
- Oats, L., & Tuck, P. (2019). Corporate tax avoidance: Is tax transparency the solution? *Accounting and Business Research*, 49(5), 565–583.
- O'Donovan, J., Wagner, H. F., & Zeume, S. (2019). The Value of Offshore Secrets: Evidence from the Panama Papers. *The Review of Financial Studies*, 32(11), 4117–4155.
- OECD. (2015). *Transfer Pricing Documentation and Country-by-Country Reporting, Action 13 – 2015 Final Report* (OECD/G20 Base Erosion and Profit Shifting Project). OECD. Retrieved from <https://www.oecd-ilibrary.org/docserver/9789264241480-en.pdf?expires=1595924297&id=id&accname=ocid41023547&checksum=595E67D73B6C1AC783EAE76CACBE58DE> (accessed on 28 July 2020).
- OECD. (2017). *Background Brief – Inclusive Framework on BEPS* (OECD Background Brief, January 2017). OECD. Retrieved from <http://www.oecd.org/tax/beps/background-brief-inclusive-framework-on-beps.pdf> (accessed on 24 June 2020).
- OECD. (2020). *Corporate Tax Statistics* (Second Edition). OECD. Retrieved from <https://www.oecd.org/tax/tax-policy/corporate-tax-statistics-second-edition.pdf> (accessed on 28 July 2020).
- Overesch, M. (2009). The Effects of Multinationals' Profit Shifting Activities on Real Investments. *National Tax Journal*, 62(1), 5–23.
- Overesch, M., & Wolff, H. (2019). *Financial Transparency to the Rescue: Effects of Country-by-Country Reporting in the EU Banking Sector on Tax Avoidance* (SSRN Working Paper, February 2019). Retrieved from <https://dx.doi.org/10.2139/ssrn.3075784> (accessed on 28 June 2020).
- Rauter, T. (2020). *The Effect of Mandatory Extraction Payment Disclosures on Corporate Payment and Investment Policies Abroad* (SSRN Working Paper, May 2020). Retrieved from <https://dx.doi.org/10.2139/ssrn.3049941> (accessed on 11 July 2020).
- Riedel, N. (2018). Quantifying International Tax Avoidance: A Review of the Academic Literature. *Review of Economics*, 69(2), 169–181.

- Robinson, J. R., Xue, Y., & Yu, Y. (2011). Determinants of Disclosure Noncompliance and the Effect of the SEC Review: Evidence from the 2006 Mandated Compensation Disclosure Regulations. *The Accounting Review*, 86(4), 1415–1444.
- Robinson, L. A., & Schmidt, A. P. (2013). Firm and Investor Responses to Uncertain Tax Benefit Disclosure Requirements. *The Journal of the American Taxation Association*, 35(2), 85–120.
- Robinson, L. A., Stomberg, B., & Towery, E. M. (2016). One Size Does Not Fit All: How the Uniform Rules of FIN 48 Affect the Relevance of Income Tax Accounting. *The Accounting Review*, 91(4), 1195–1217.
- Schwab, C. M. (2009). *The Determinants and Effects of Voluntary Book-Tax Difference Disclosures: Evidence from Earnings Press Releases* (Dissertation – The University of Texas at Austin). Retrieved from <https://repositories.lib.utexas.edu/bitstream/handle/2152/6603/schwabc82012.pdf?sequence=2&isAllowed=y> (accessed on 30 June 2020).
- Sikka, P. (2010). Smoke and Mirrors: Corporate Social Responsibility and Tax Avoidance. *Accounting Forum*, 34(3–4), 153–168.
- Slemrod, J., Rehman, O. U., & Waseem, M. (2020). *How Do Taxpayers Respond to Public Disclosure and Social Recognition Programs? Evidence from Pakistan* (CESifo Working Paper No. 8152, March 2020). Retrieved from [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3552392](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3552392) (accessed on 17 July 2020).
- Slemrod, J., & Yitzhaki, S. (2002). Tax Avoidance, Evasion, and Administration. In A. J. Auerbach & M. Feldstein (Eds.), *Handbook of Public Economics* (Vol. 3, pp. 1423–1470). Elsevier.
- Spengel, C. (2018). Country-by-Country Reporting and the International Allocation of Taxing Rights: Comments to Michelle Hanlon. *Bulletin for International Taxation*, 72(4/5), 218–219.
- Suárez Serrato, J. C. (2019). *Unintended Consequences of Eliminating Tax Havens* (NBER Working Paper No. 24850, December 2019). Retrieved from <https://www.nber.org/papers/w24850.pdf> (accessed on 28 July 2020).
- Thomas, J., & Zhang, F. (2011). Tax Expense Momentum. *Journal of Accounting Research*, 49(3), 791–821.
- Tomohara, A., Lee, H. J., & Lee, S. (2012). Did FIN 48 increase companies' tax payments? Trade-off between disclosure and tax burdens. *Applied Economics*, 44(32), 4239–4248.
- Tørsløv, T. R., Wier, L. S., & Zucman, G. (2020). *The Missing Profits of Nations* (NBER Working Paper No. 24701, April 2020). Retrieved from <https://doi.org/10.3386/w24701> (accessed on 22 June 2020).
- Towery, E. M. (2017). Unintended Consequences of Linking Tax Return Disclosures to Financial Reporting for Income Taxes: Evidence from Schedule UTP. *The Accounting Review*, 92(5), 201–226.
- Verrecchia, R. E. (2001). Essays on disclosure. *Journal of Accounting and Economics*, 32(1–3), 97–180.
- Watson, A., Shrives, P., & Marston, C. (2002). Voluntary Disclosure of Accounting Ratios in the UK. *The British Accounting Review*, 34(4), 289–313.
- Watson, L. (2015). Corporate Social Responsibility, Tax Avoidance, and Earnings Performance. *The Journal of the American Taxation Association*, 37(2), 1–21.

- Watts, R. L., & Zimmerman, J. L. (1978). Towards a Positive Theory of the Determination of Accounting Standards. *The Accounting Review*, 53(1), 112–134.
- Weber, D. P. (2009). Do Analysts and Investors Fully Appreciate the Implications of Book-Tax Differences for Future Earnings? *Contemporary Accounting Research*, 26(4), 1175–1206.
- Wilde, J. H., & Wilson, R. J. (2018). Perspectives on Corporate Tax Planning: Observations from the Past Decade. *The Journal of the American Taxation Association*, 40(2), 63–81.
- Wilson, R. J. (2009). An Examination of Corporate Tax Shelter Participants. *The Accounting Review*, 84(3), 969–999.
- Ylönen, M., & Laine, M. (2015). For logistical reasons only? A case study of tax planning and corporate social responsibility reporting. *Critical Perspectives on Accounting*, 33, 5–23.
- You, H., & Zhang, X. (2009). Financial reporting complexity and investor underreaction to 10-K information. *Review of Accounting Studies*, 14(4), 559–586.

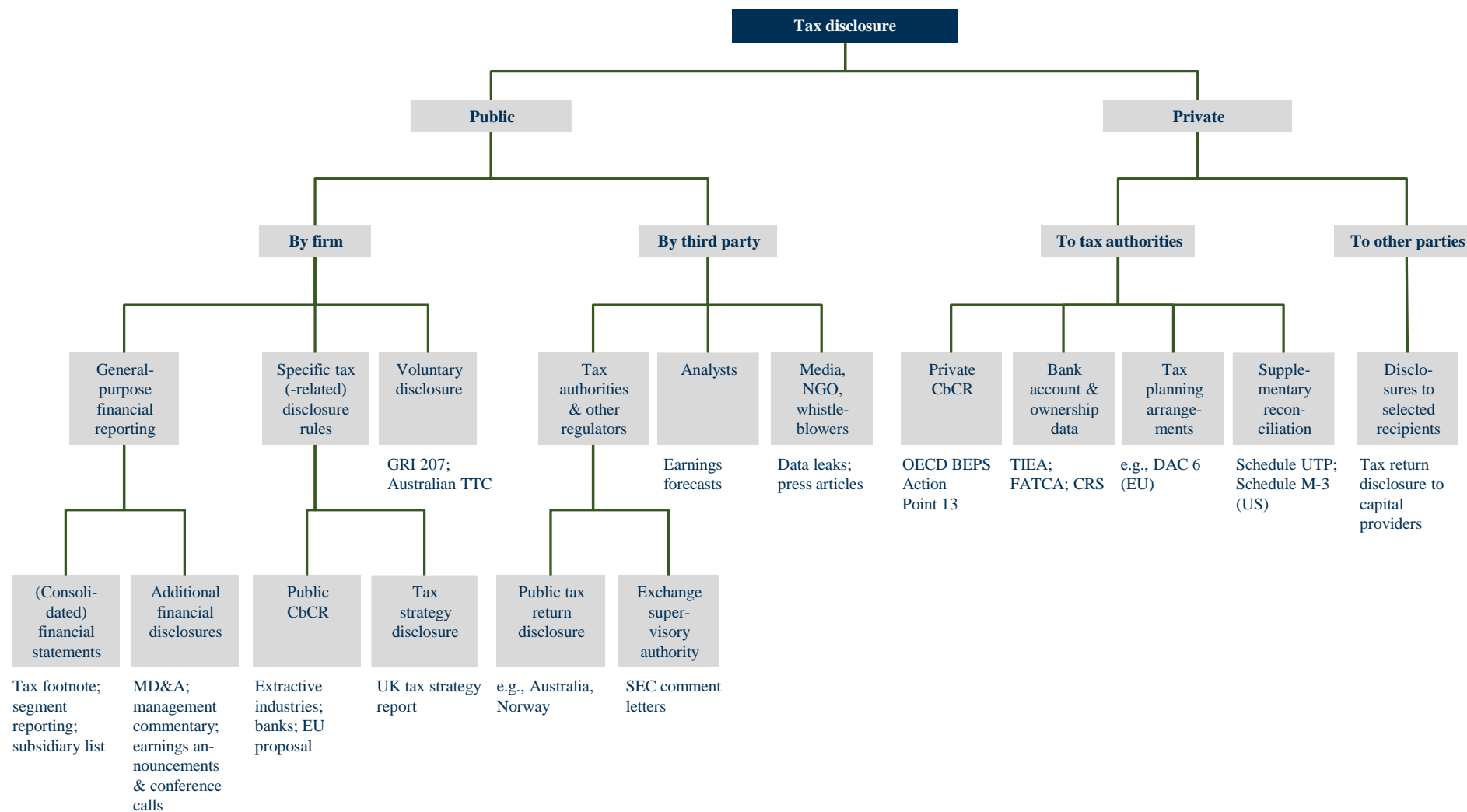
## Figures

**Figure 1: Number of empirical studies on tax transparency by year and publication status**

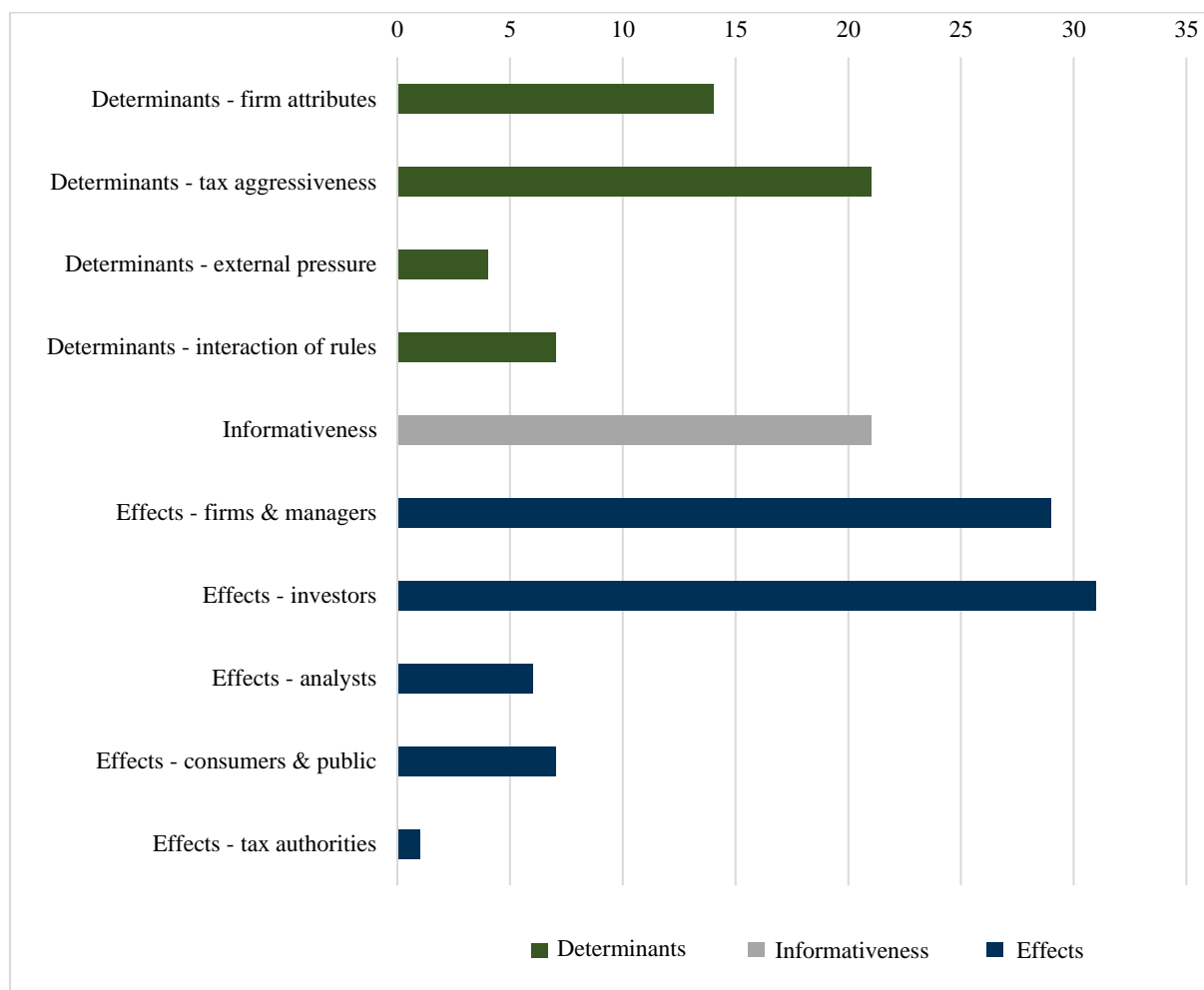


**Notes:** This graph depicts the number of empirical studies on tax transparency by year and publication status. We include all studies on tax transparency which we refer to in our review of the empirical literature (Sections 4-6) and/or which are summarized in Table A.2 in the Appendix. Studies investigating multiple research questions and/or disclosure type are counted only once. The “working paper” category also includes two dissertations. The total number of studies is 94.

**Figure 2: Classification of tax disclosure rules**

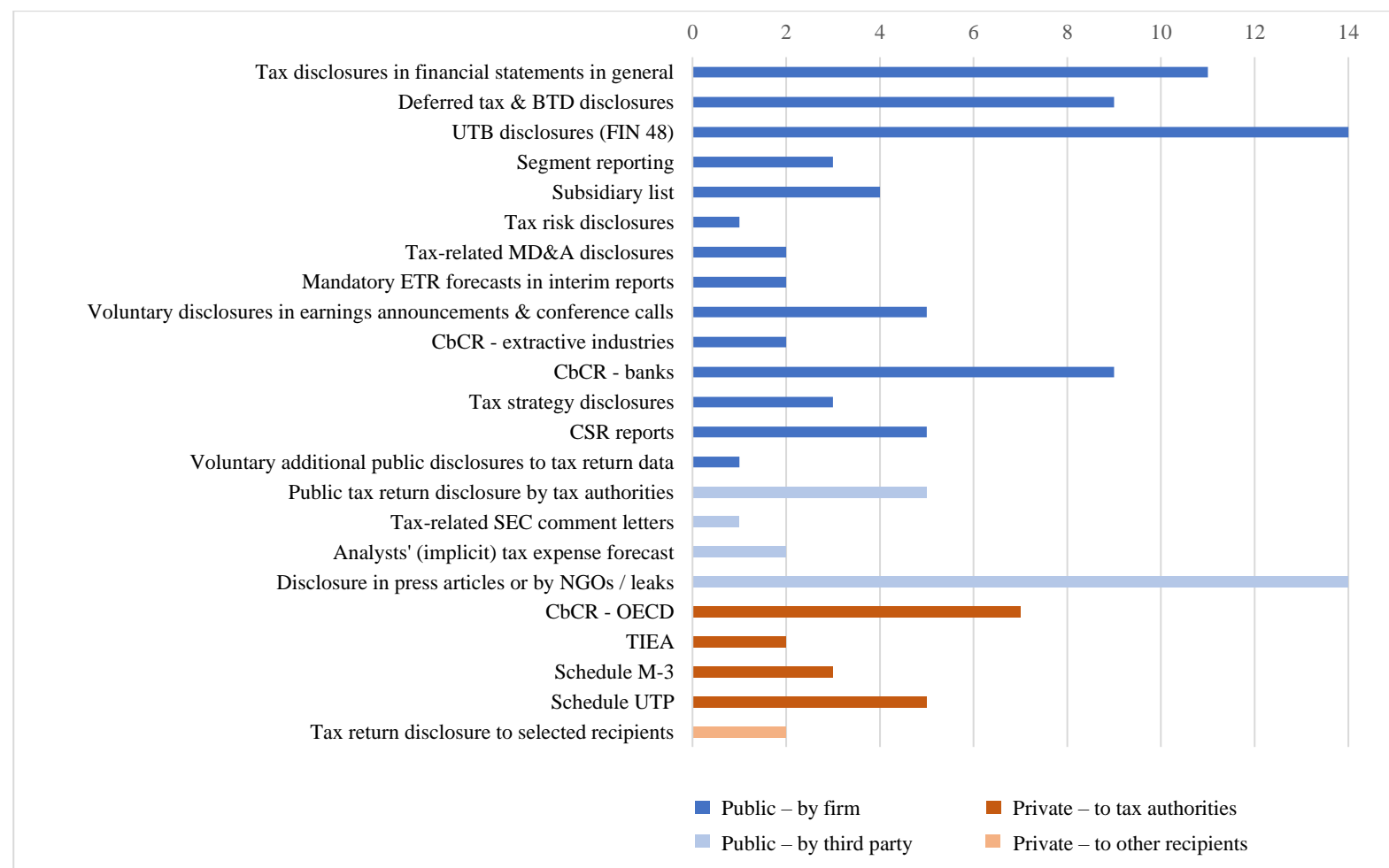


**Figure 3: Number of empirical studies on tax transparency by research question**



**Notes:** This graph depicts the number of empirical studies on tax transparency by research question. We include all studies on tax transparency which we refer to in our review of the empirical literature (Sections 4-6) and/or which are summarized in Table A.2 in the Appendix. Studies investigating multiple research questions are counted multiple times.

**Figure 4: Number of empirical studies on tax transparency by disclosure type**



**Notes:** This graph depicts the number of empirical studies on tax transparency by disclosure type. We include all studies on tax transparency which we refer to in our review of the empirical literature (Sections 4-6) and/or which are summarized in Table A.2 in the Appendix. Studies investigating multiple disclosure types are counted multiple times.



## Appendix

**Table A.1: Overview of selected tax disclosure rules and frameworks**

### I. Public disclosures issued by firms

#### A. Financial reporting

Topic / type of disclosure	Relevant standards	Content of disclosure (only selected items)	Place of disclosure
Breakdown of tax expense and of pre-tax income	US GAAP: 17 CFR § 210.4-08(h)	<ul style="list-style-type: none"> <li>• Components of income (loss) before income tax expense as either <ul style="list-style-type: none"> <li>○ Domestic</li> <li>○ Foreign</li> </ul> </li> <li>• Components of income tax expense; amounts applicable to the following items shall be stated separately for each major component: <ul style="list-style-type: none"> <li>○ US federal income taxes</li> <li>○ Foreign income taxes</li> <li>○ Other income taxes</li> </ul> </li> </ul> <p>Amounts applicable to foreign income (loss) and amounts applicable to foreign or other income taxes which are less than five percent of the total of income before taxes or the component of tax expense, respectively, need not be separately disclosed.</p>	Statement of comprehensive income or notes to (consolidated) financial statements
	IFRS	Not required under IFRS (but several companies voluntarily disclose a breakdown of tax expense into domestic and foreign).	
Tax reconciliation	US GAAP: ASC 740-10-50-12 and -13; 17 CFR § 210.4-08	<ul style="list-style-type: none"> <li>• Reconciliation of the reported amount of income tax expense attributable to continuing operations for the year to the amount of income tax expense that would result from applying domestic federal statutory tax rates to pre-tax income from continuing operations (using either percentages or dollar amounts)</li> <li>• Estimated amount and nature of each significant reconciling item. Reconciling items that are individually less than five percent of the expected tax expense may be aggregated.</li> </ul> <p>If no individual reconciling item amounts to more than five percent of the expected tax expense and the total difference to be reconciled is less than five percent, no reconciliation needs to be provided.</p>	Notes to (consolidated) financial statements
	IFRS: IAS 12.81(c), 84-86	<ul style="list-style-type: none"> <li>• Explanation of the relationship between tax expense (income) and accounting profit in either or both of the following forms: <ul style="list-style-type: none"> <li>○ A numerical reconciliation between tax expense (income) and the product of accounting profit multiplied by the applicable tax rate(s), disclosing also the basis on which the applicable tax rate(s) is (are) computed</li> <li>○ A numerical reconciliation between the average effective tax rate and the applicable tax rate, disclosing also the basis on which the applicable tax rate is computed</li> </ul> </li> </ul>	

Topic / type of disclosure	Relevant standards	Content of disclosure (only selected items)	Place of disclosure
Deferred taxes	US GAAP: ASC 740-10-50-2, -3, -6, -9; ASC 740-30-50-2; 17 CFR § 210.4-08	<ul style="list-style-type: none"> <li>• Significant components of income tax expense, especially: <ul style="list-style-type: none"> <li>○ Current tax expense (or benefit)</li> <li>○ Deferred tax expense (or benefit)</li> </ul> </li> <li>• Components of the net deferred tax liability or asset recognized in an entity's statement of financial position: <ul style="list-style-type: none"> <li>○ Total of all deferred tax liabilities</li> <li>○ Total of all deferred tax assets</li> <li>○ Total valuation allowance recognized for deferred tax assets</li> <li>○ Net change during the year in the total valuation allowance</li> </ul> </li> <li>• Amounts and expiration dates of operating loss and tax credit carryforwards for tax purposes</li> <li>• Approximate tax effect of each type of temporary difference and carryforward that gives rise to a significant portion of deferred tax liabilities and deferred tax assets</li> <li>• When a deferred tax liability is not recognized because of the exceptions to comprehensive recognition of deferred taxes: <ul style="list-style-type: none"> <li>○ A description of the types of temporary differences for which a deferred tax liability has not been recognized and the types of events that would cause those temporary differences to become taxable</li> <li>○ The cumulative amount of each type of temporary difference</li> <li>○ The amount of the unrecognized deferred tax liability for temporary differences related to investments in foreign subsidiaries and foreign corporate joint ventures that are essentially permanent in duration if determination of that liability is practicable (or a statement that determination is not practicable)</li> </ul> </li> </ul>	Notes to (consolidated) financial statements
	IFRS: IAS 12.79-82, 87	<ul style="list-style-type: none"> <li>• Major Components of tax expense (or income). These components may include (i.a.): <ul style="list-style-type: none"> <li>○ Current tax expense (or income)</li> <li>○ The amount of deferred tax expense (or income) relating to the origination and reversal of temporary differences</li> <li>○ The amount of deferred tax expense (or income) relating to changes in tax rates or the imposition of new taxes</li> <li>○ Deferred tax expense arising from the write-down, or reversal of a previous write-down, of a deferred tax asset</li> </ul> </li> <li>• In respect of each type of temporary difference, unused tax losses, and unused tax credits: <ul style="list-style-type: none"> <li>○ The amount of the deferred tax assets and liabilities recognized in the statement of financial position for each period presented</li> <li>○ The amount of the deferred tax income or expense recognized in profit or loss</li> </ul> </li> <li>• The amount of a deferred tax asset and the nature of the evidence supporting its recognition, when: <ul style="list-style-type: none"> <li>○ The utilization of the deferred tax asset is dependent on future taxable profits in excess of the profits arising from the reversal of existing taxable temporary differences; and</li> <li>○ The entity has suffered a loss in either the current or preceding period in the tax jurisdiction to which the deferred tax asset relates</li> </ul> </li> <li>• The amount (and expiry date, if any) of deductible temporary differences, unused tax losses, and unused tax credits for which no deferred tax asset is recognized in the statement of financial position</li> <li>• The aggregate amount of temporary differences associated with investments in subsidiaries, branches, and associates and interests in joint arrangements for which deferred tax liabilities have not been recognized (i.e., if the parent is able to control the timing of the reversal and it is probable that the temporary difference will not reverse in the foreseeable future)</li> </ul>	Notes to (consolidated) financial statements

Topic / type of disclosure	Relevant standards	Content of disclosure (only selected items)	Place of disclosure
Uncertain tax benefits	US GAAP: ASC 740-10-50-15A (codification of FIN 48)	<ul style="list-style-type: none"> <li>• Tabular reconciliation of the total amounts of unrecognized tax benefits (UTBs) at the beginning and end of the period, including at a minimum: <ul style="list-style-type: none"> <li>○ Gross amounts of the increases / decreases in UTBs as a result of tax positions taken during a prior period</li> <li>○ Gross amounts of the increases / decreases in UTBs as a result of tax positions taken during the current period</li> <li>○ Amounts of decreases in the unrecognized tax benefits relating to settlements with taxing authorities</li> <li>○ Reductions to UTBs as a result of a lapse of the applicable statute of limitations</li> </ul> </li> <li>• The total amount of UTBs that, if recognized, would affect the effective tax rate</li> <li>• For positions for which it is reasonably possible that the total amounts of UTBs will significantly increase or decrease within 12 months of the reporting date: <ul style="list-style-type: none"> <li>○ The nature of the uncertainty</li> <li>○ The nature of the event that could occur in the next 12 months that would cause the change</li> <li>○ An estimate of the range of the reasonably possible change or a statement that an estimate of the range cannot be made</li> </ul> </li> </ul>	Notes to (consolidated) financial statements
	IFRS: IAS 12.88; IFRIC 23.A4-A5	<ul style="list-style-type: none"> <li>• When there is uncertainty over income tax treatments, an entity shall determine whether to disclose: <ul style="list-style-type: none"> <li>○ Judgments made in determining taxable profit (tax loss), tax bases, unused tax losses, unused tax credits, and tax rates; and</li> <li>○ Information about the assumptions and estimates made in determining taxable profit (tax loss), tax bases, unused tax losses, unused tax credits, and tax rates</li> </ul> </li> <li>• If an entity concludes it is probable that a tax authority will accept an uncertain tax treatment, the entity shall determine whether to disclose the potential effect of the uncertainty as a tax-related contingency</li> </ul>	Notes to (consolidated) financial statements
Geographic segment disclosures	US GAAP: ASC 280-10-50-41	Companies have to disclose several financial figures separately for each operating segment. The disaggregation into operating segments is based on the way management organizes segments internally to make operating decisions and assess performance (“management approach”). Financial information can therefore be segmented in several ways (e.g., by products and services, by geography, by legal entity, or by type of customer).	Notes to (consolidated) financial statements
	IFRS: IFRS 8.33	<p>If a company does not define its segments by geography, at least the following geographic information has to be disclosed (if practicable):</p> <ul style="list-style-type: none"> <li>• Revenues from external customers from the country of domicile and foreign countries in total</li> <li>• Material revenue from one country individually</li> <li>• Basis for attributing revenues from external customers to individual entities</li> <li>• Long-lived assets (US GAAP) / non-current assets (IFRS)</li> <li>• Material assets in an individual foreign country individually</li> </ul> <p>Besides, a geographic breakdown of tax expense and of pre-tax income is required for SEC-registered US firms by 17 CFR § 210.4-08 (as described in the first row of this table section).</p>	

Topic / type of disclosure	Relevant standards	Content of disclosure (only selected items)	Place of disclosure
List of subsidiaries	US GAAP: 17 CFR § 229.601(b)(21)	<ul style="list-style-type: none"> <li>List of the subsidiaries of the registrant, containing: <ul style="list-style-type: none"> <li>State or other jurisdiction of incorporation or organization</li> <li>Names under which such subsidiaries do business</li> </ul> </li> </ul> <p>Subsidiaries may be omitted if the unnamed subsidiaries, considered in the aggregate as a single subsidiary, would not constitute a significant subsidiary as of the end of the year covered by this report.</p>	Exhibit 21 to the 10-K filing
	IFRS: IFRS 12.10(a)(i); Art. 28 para. 2 (a) of the EU Accounting Directive (2013/34/EU)	<p>The IFRS only require disclosing information that enables users of its consolidated financial statements to understand the composition of the group.</p> <p>However, the EU Accounting Directive obliges EU firms to disclose (i.a.):</p> <ul style="list-style-type: none"> <li>In relation to undertakings included in the consolidation (or excluded from a consolidation on the grounds of immateriality): <ul style="list-style-type: none"> <li>The names and registered offices of those undertakings</li> <li>The proportion of the capital held in those undertakings</li> </ul> </li> <li>The names and registered offices of associated undertakings included according to the equity method</li> </ul>	Notes to (consolidated) financial statements

*B. Mandatory public CbCR*

Country / Region	Law / source of the rule	Content / items of disclosure	Medium / place of disclosure	Who is affected?	Entry into force
Canada	Extractive Sector Transparency Measures Act (ESTMA), S.C. 2014, c. 39, s. 376	<p>Reporting businesses have to report certain types of payments to all levels of government in Canada or abroad if these payments exceed CAD 100,000.</p> <p>Payments within the scope of the ESTMA are:</p> <ul style="list-style-type: none"> <li>• Taxes, other than consumption or personal income taxes</li> <li>• Royalties</li> <li>• Fees and regulatory charges as well as considerations for licenses, permits or, concessions</li> <li>• Production entitlements</li> <li>• Bonuses, including signature, discovery, and production bonuses</li> <li>• Dividends</li> <li>• Infrastructure improvement payments</li> </ul> <p>Payments shall be disclosed at project level, when possible. “Project” refers to operational activities that are governed by contract(s) and form the basis of payment liabilities with a government. Taxes can be reported on jurisdictional/country level.</p>	<p>Reports have to made available by entities on a publicly accessible website. The Government of Canada publishes a list of links to the reports on a public website:</p> <p><a href="https://www.nrcan.gc.ca/our-natural-resources/minerals-mining/mining-resources/extractive-sector-transparency-m/links-estma-reports/18198">https://www.nrcan.gc.ca/our-natural-resources/minerals-mining/mining-resources/extractive-sector-transparency-m/links-estma-reports/18198</a></p>	<p>Entities (i.e., firms) engaged in the commercial development of oil, gas, or minerals. The reporting obligation includes firms that control entities engaged in these activities.</p> <p>An entity is required to report if it meets one of the following two criteria:</p> <ul style="list-style-type: none"> <li>• The entity is listed on a stock exchange in Canada</li> <li>• Non-listed entities are within the scope if they meet two of the following size-related criteria in one of the two most recent financial years: <ul style="list-style-type: none"> <li>○ At least CAD 20 million in total assets</li> <li>○ At least CAD 40 million in revenues</li> <li>○ At least 250 employees on average</li> </ul> </li> </ul>	<p>The ESTMA was enacted in December 2014 and came into force on 1 June 2015. Applicable for fiscal years starting on or after 1 June 2015.</p>

Country / Region	Law / source of the rule	Content / items of disclosure	Medium / place of disclosure	Who is affected?	Entry into force
EU and EEA member states	Chapter 10 of the EU Accounting Directive (2013/34/EU), Art. 1 of the EU Transparency Directive (2013/50/EU)	<p>Disclosures to be made on a per-country basis:</p> <ul style="list-style-type: none"> <li>• Total amount of payments made to each government</li> <li>• Amount per type of payment made to each government, separately for <ul style="list-style-type: none"> <li>○ Production entitlements</li> <li>○ Taxes levied on the income, production, or profits of companies</li> <li>○ Royalties</li> <li>○ Dividends</li> <li>○ Signature, discovery, and production bonuses</li> <li>○ License fees, rental fees, entry fees, and other considerations for licenses and/or concessions</li> <li>○ Payments for infrastructure improvements</li> </ul> </li> <li>• Where those payments have been attributed to a specific project, the total amount per type of payment made for each such project and the total amount of payments for each such project</li> </ul> <p>The disclosures pertain to payments made to any governments resulting from extractive operations (i.e., exploration, prospection, discovery, development, and extraction of minerals, oil, natural gas deposits, or other materials) and/or operations relating to the logging of primary forests. Payments below EUR 100,000 within a financial year are exempt from disclosure.</p>	Reports have to be filed with and published in the national commercial register. Most affected firms also publish the report on their website.	<ul style="list-style-type: none"> <li>• Large EU/EEA undertakings and all EU/EEA public-interest entities active in the extractive industry or the logging of primary forests</li> <li>• Undertakings active in the extractive or logging of primary forest industries which are listed at an EU/EEA stock exchange</li> </ul> <p>Parent undertakings which are required to prepare consolidated financial statements have to disclose a consolidated report on payments (comprising the parent entity and all subsidiaries under its control).</p> <p>Large undertakings according to the EU Accounting Directive are defined as undertakings which on their balance sheet dates exceed at least two of the three following criteria:</p> <ul style="list-style-type: none"> <li>• Balance sheet total of EUR 20 million</li> <li>• Net turnover of EUR 40 million</li> <li>• Average number of employees during the financial year of 250</li> </ul>	Fiscal years starting on or after 1 January 2016 (earlier application in a few member states).

Country / Region	Law / source of the rule	Content / items of disclosure	Medium / place of disclosure	Who is affected?	Entry into force
United States	Sec. 1504 of the Dodd-Frank Wall Street Reform and Consumer Protection Act; Sec. 13(q) of the Securities Exchange Act (15 U.S.C. § 78m(q))	<p>Disclosures to be made both per government/country and per project:</p> <ul style="list-style-type: none"> <li>• Total amounts of payments made to any government, broken down by category: <ul style="list-style-type: none"> <li>○ Taxes</li> <li>○ Royalties</li> <li>○ Fees (including license fees)</li> <li>○ Production entitlements</li> <li>○ Bonuses</li> <li>○ Other material benefits</li> </ul> </li> <li>• Currency used to make the payments</li> <li>• Financial period in which the payments were made</li> <li>• Business segment that made the payments</li> </ul> <p>The disclosures comprise any payment by the listed company (or a subsidiary or entity under its control) to any government for the purpose of the commercial development of oil, natural gas, or minerals. The SEC is allowed to set a de minimis rule so that payments under a certain threshold are exempt from disclosure.</p>	Disclosures have to be filed with the SEC, publicly available through EDGAR.	SEC-registered companies engaging in the commercial development of oil, natural gas, or minerals	The Dodd-Frank Act was enacted on 21 July 2010. Sec. 1504 directed the SEC to issue final rules that require the disclosure. The SEC adopted such rules in 2012, but they were vacated by court decision in 2013. In 2016, the SEC adopted a modified version, which was revoked by the Congress via a joint resolution of disapproval in 2017. As of December 2019, the SEC has proposed a third version of the rule (which is currently in the comment period).
EU and EEA member states	Art. 89 of the EU Capital Requirements Directive (2013/36/EU)	<p>Disclosures to be made on a per-country basis:</p> <ul style="list-style-type: none"> <li>• Turnover</li> <li>• Number of employees on a full-time equivalent basis</li> <li>• Profit or loss before tax</li> <li>• Tax on profit or loss</li> <li>• Public subsidies received</li> <li>• List of all the subsidiaries and permanent establishments maintained in the respective country, containing <ul style="list-style-type: none"> <li>○ Name(s)</li> <li>○ Nature of activities</li> <li>○ Geographical location</li> </ul> </li> </ul>	The report has to be audited and published as an annex to the (consolidated) financial statements.	EU financial institutions	Fiscal years starting on or after 1 January 2014 (limited disclosures already for the preceding year). Later implementation dates in the EEA countries Iceland, Liechtenstein, and Norway.

Country / Region	Law / source of the rule	Content / items of disclosure	Medium / place of disclosure	Who is affected?	Entry into force
EU member states	Proposal for a General Public CbCR. The information is based on the compromise proposal of the Presidency of the Council of the EU as of 13 November 2019 (14038/19) and on the resolution of the European Parliament of 27 March 2019 (P8_TA-PROV(2019)0309).	<p>The compromise proposal of the Presidency requires the following disclosures:</p> <ul style="list-style-type: none"> <li>• The name of the ultimate parent undertaking or the standalone undertaking</li> <li>• Financial year concerned</li> <li>• Currency used</li> <li>• The following items on a per-country basis for each EU member state and each tax jurisdiction contained in the EU list of non-cooperative jurisdictions and on an aggregate basis for all other jurisdictions: <ul style="list-style-type: none"> <li>○ Brief description of the nature of the activities</li> <li>○ Number of employees</li> <li>○ Revenues</li> <li>○ Profit or loss before income tax</li> <li>○ Income tax accrued during the relevant financial year</li> <li>○ Income tax paid on cash basis</li> <li>○ Accumulated earnings at the end of the relevant financial year</li> </ul> </li> </ul> <p>The European Parliament demands a per-country disclosure for all jurisdictions worldwide and proposes several additional items:</p> <ul style="list-style-type: none"> <li>• List of all subsidiaries, a brief description of the nature of their activities and their respective geographical location</li> <li>• Fixed assets other than cash or cash equivalents</li> <li>• Distinction between the revenues made with related parties and with unrelated parties</li> <li>• Stated capital</li> <li>• Details of public subsidies received and any donations made to politicians, political organizations, or political foundations</li> <li>• Whether undertakings, subsidiaries or branches benefit from preferential tax treatment, from a patent box, or equivalent regimes</li> </ul>	<p>Reports have to be filed with and published in the national commercial register. In addition, the report shall be published on the website of the reporting entity.</p> <p>Instead of the filing with the national commercial register, the European Parliament proposes the publication according to a common template in a central registry managed by the European Commission.</p>	<ul style="list-style-type: none"> <li>• Ultimate parent undertakings or standalone undertakings domiciled in the EU which on their balance sheet date exceeded for each of the last two consecutive financial years a total (consolidated) revenue of EUR 750 million</li> <li>• Medium-sized and large EU subsidiaries and branches controlled by an ultimate parent undertaking domiciled outside the EU which on its balance sheet date exceeded for each of the last two consecutive financial years a total consolidated revenue of EUR 750 million (even in this case, the disclosures shall comprise the whole group)</li> </ul> <p>The scope of affected undertakings proposed by the European Parliament is slightly more comprehensive (e.g., no restriction to medium-sized and large EU subsidiaries; exceeding of the revenue threshold in the immediately preceding financial year sufficient).</p>	Open / implementation still under debate.



*C. Mandatory tax strategy disclosure*

Country / Region	Law / source of the rule	Content / items of disclosure	Medium / place of disclosure	Who is affected?	Entry into force
United Kingdom	Schedule 19 of the Finance Act 2016 (s. 24), Sec. 161	<p>The tax strategy report must contain:</p> <ul style="list-style-type: none"> <li>• The approach to risk management and governance arrangements in relation to UK taxation</li> <li>• The attitude towards tax planning (so far as affecting UK taxation)</li> <li>• The level of risk in relation to UK taxation that the business is prepared to accept</li> <li>• The approach of the business towards its dealings with HMRC</li> <li>• Details of the paragraph of the legislation the report complies with</li> </ul> <p>The group tax strategy may include:</p> <ul style="list-style-type: none"> <li>• Any other information relating to taxation (whether UK taxation or otherwise)</li> </ul>	The tax strategy report must be published on an annual basis on the internet and be available free of charge. The report may be published as a separate document or as a self-contained part of a wider document.	<ul style="list-style-type: none"> <li>• UK groups, sub-groups, companies, or partnerships that exceeded at least one of the following thresholds in the previous financial year: <ul style="list-style-type: none"> <li>○ A turnover of GBP 200 million</li> <li>○ A balance sheet total of GBP 2 billion</li> </ul> </li> <li>• UK companies or groups that are part of an MNE group that meets the OECD's CbCR framework threshold of global turnover over EUR 750 million</li> </ul> <p>A company or sub-group only has to publish its own tax strategy if it's not covered by a published strategy at a higher level.</p>	Effective for financial years starting after 15 September 2016.

#### D. Voluntary disclosure frameworks

Country / Region	Name and source of the framework	Content / items of disclosure	Medium / place of disclosure	Target group	Entry into force
Australia	Voluntary tax transparency code (TTC) (part of the 2016-17 Federal Budget)	<p>The Tax Transparency Code (TTC) is a set of principles and minimum standards to guide medium and large businesses on public disclosure of tax information. Information disclosed under the TTC is divided between Part A and Part B content.</p> <p>Part A contains:</p> <ul style="list-style-type: none"> <li>• A reconciliation of accounting profit to tax expense and to income tax paid or income tax payable</li> <li>• Identification of material temporary and non-temporary differences</li> <li>• Accounting effective company tax rates for Australian and global operations</li> </ul> <p>Part B contains:</p> <ul style="list-style-type: none"> <li>• Approach to tax strategy and governance</li> <li>• Tax contribution summary for corporate taxes paid</li> <li>• Information about international related party dealings</li> </ul>	<p>Businesses can elect to satisfy the minimum standards of the TTC by publishing the corresponding information</p> <ul style="list-style-type: none"> <li>• In their general-purpose financial statements,</li> <li>• In a Taxes Paid Report, or</li> <li>• In another document</li> </ul> <p>Businesses can notify the Australian Taxation Office (ATO) once they have made their TTC report publicly available on their website and provide the ATO with the current URL link to the published report.</p> <p>The ATO facilitates the centralized hosting of the published TTC reports provided by the businesses that adopt the TTC. These reports are hosted at <a href="https://data.gov.au/dataset/ds-dga-f71709a8-2eeb-4592-ad1f-443f7f520186/details">https://data.gov.au/dataset/ds-dga-f71709a8-2eeb-4592-ad1f-443f7f520186/details</a>. The ATO does not review or provide any assurance on the accuracy of the information contained in these reports.</p>	<p>Companies (including entities treated as companies for Australian tax purposes) that are medium or large businesses are encouraged to adopt the TTC. This includes Australian-headquartered businesses and foreign multinationals that have operations in Australia.</p> <p>It is recommended that medium businesses adopt Part A of the TTC and large businesses adopt both Part A and Part B of the TTC.</p> <p>Medium and large businesses are defined by the following thresholds:</p> <ul style="list-style-type: none"> <li>• Medium businesses are businesses with aggregated Australian turnover of at least AUD 100 million but less than AUD 500 million</li> <li>• Large businesses are businesses with aggregated Australian turnover of AUD 500 million or more</li> </ul>	<p>The Board of Taxation recommended the TTC be adopted for financial years ending after the release of the Board's final report on 3 May 2016.</p>

Country / Region	Name and source of the framework	Content / items of disclosure	Medium / place of disclosure	Target group	Entry into force
International	GRI 207: TAX (2019)	<p>Management approach disclosures:</p> <ul style="list-style-type: none"> <li>• Approach to tax (207-1) <ul style="list-style-type: none"> <li>○ Tax strategy of the company</li> <li>○ Governance body that formally reviews and approves the tax strategy</li> <li>○ Approach to regulatory compliance</li> <li>○ Link between the approach to tax and the business and sustainable development strategies</li> </ul> </li> <li>• Tax governance, control, and risk management (207-2) <ul style="list-style-type: none"> <li>○ Description of the tax governance and control framework</li> <li>○ Description of the mechanisms for reporting concerns about unethical or unlawful behavior and the integrity in relation to tax</li> <li>○ Description of the assurance process for disclosures on tax and reference to the assurance report</li> </ul> </li> <li>• Stakeholder engagement and management of concerns w.r.t. to tax disclosure (207-3) <ul style="list-style-type: none"> <li>○ Approach to engagement with tax authorities</li> <li>○ Approach to public policy advocacy on tax</li> <li>○ Processes for collecting and considering the views and concerns of stakeholders</li> </ul> </li> </ul> <p>CbCR disclosures (207-4):</p> <ul style="list-style-type: none"> <li>• Mandatory disclosures for each tax jurisdiction where the entities included in the consolidated financial statements are resident for tax purposes: <ul style="list-style-type: none"> <li>○ Names of the resident entities</li> <li>○ Primary activities of the organization</li> <li>○ Number of employees (and the basis of calculation of this number)</li> <li>○ Revenues from third-party sales</li> </ul> </li> </ul>	The GRI Standards are designed to be used by organizations to report about their impacts on the economy, the environment, and society. A report in accordance with the GRI Standards can be produced as a stand-alone sustainability report or can reference information disclosed in a variety of locations and formats.	<p>In general, the GRI Standards are applicable for every organization preparing a sustainability report. There are two basic approaches for applying the Standards:</p> <ul style="list-style-type: none"> <li>• The GRI Standards can be used as a set to prepare a sustainability report that is in accordance with the Standards</li> <li>• Selected GRI Standards, or parts of their content, can also be used to report specific information without preparing a report in accordance with the Standards</li> </ul>	The Standard is effective for reports or other materials published on or after 1 January 2021. However, earlier adoption is encouraged.

Country / Region	Name and source of the framework	Content / items of disclosure	Medium / place of disclosure	Target group	Entry into force
		<ul style="list-style-type: none"> <li>○ Revenues from intra-group transactions with other jurisdictions</li> <li>○ Profit/loss before tax</li> <li>○ Tangible assets other than cash and cash equivalents</li> <li>○ Corporate income tax paid on a cash basis</li> <li>○ Corporate income tax accrued on profit/loss (without deferred taxes)</li> <li>○ Reasons for the difference between corporate income tax accrued on profit/loss and the tax due if the statutory tax rate is applied to profit/loss before tax</li> <li>● Reconciliation of the sums of reported third-party revenues, profit/loss, tangible assets, and corporate income tax paid with the data stated in the consolidated financial statements</li> </ul>			

## II. Public disclosures by tax authorities – tax return disclosure

Country	Law / source of the rule	Content / items of disclosure	Medium / place of disclosure	Who is affected?	Entry into force
Australia	Sec. 3C-3E of the Taxation Administration Act 1953	<ul style="list-style-type: none"> <li>• Company name and business identification number (ABN)</li> <li>• Total income</li> <li>• Taxable income</li> <li>• Income tax payable</li> </ul>	<p>Disclosure on the website of the Australian Taxation Office (ATO):</p> <p><a href="https://data.gov.au/dataset/ds-dga-c2524c87-cea4-4636-acac-599a82048a26/details">https://data.gov.au/dataset/ds-dga-c2524c87-cea4-4636-acac-599a82048a26/details</a></p>	<ul style="list-style-type: none"> <li>• Australian public and foreign-owned corporate tax entities with total income of AUD 100 million or more</li> <li>• Australian-owned resident private companies with total income of AUD 200 million or more</li> <li>• Entities that have an amount of petroleum resource rent tax (PRRT) payable</li> </ul>	Effective as of tax year 2013/2014.
Denmark	Sec. 17 of the Skatteforvaltningsloven (SFL)	<ul style="list-style-type: none"> <li>• Identity of the taxpayer</li> <li>• Taxable income</li> <li>• Utilized losses carried forward</li> <li>• Amount of payable taxes</li> </ul>	Online database by the tax administration (SKAT).	<ul style="list-style-type: none"> <li>• Entities that are liable to corporate tax in Denmark</li> </ul>	Effective as of tax year 2011.
Finland	Sec. 5 of the Act on the Public Disclosure and Confidentiality of Tax Information No 1346/1999	<ul style="list-style-type: none"> <li>• Name of the corporation</li> <li>• Municipality of domicile</li> <li>• Corporate code</li> <li>• Taxable income and property</li> <li>• Total amount of taxes imposed</li> <li>• Total amount of withholding tax</li> <li>• Amount to be levied or refunded in the course of tax collection</li> </ul>	Information can be obtained at customer terminals in the local tax offices. The publication of the data comes along with considerable media coverage.	<ul style="list-style-type: none"> <li>• Entities that are liable to corporate tax in Finland</li> </ul>	Effective as of 1 January 2000.
Japan	(abolished)	<ul style="list-style-type: none"> <li>• Corporate name</li> <li>• Taxable income</li> <li>• Tax office to which the tax was remitted</li> <li>• Name of company's president</li> <li>• Beginning and ending day of the accounting year</li> </ul>	Information was posted publicly at the tax office within three months after a company had submitted its tax return, and was public for at least one month. This information was often collected and centrally published by private publishing companies.	<ul style="list-style-type: none"> <li>• Corporations whose taxable income exceeded the threshold of JPY 40 million (about 69,000-84,000 companies)</li> </ul>	Introduced in 1950, abolished in 2005 (i.e., the last disclosure occurred in 2006 for the tax year 2005).

Country	Law / source of the rule	Content / items of disclosure	Medium / place of disclosure	Who is affected?	Entry into force
Norway	Sec. 8-8 of the Ligningsloven	<ul style="list-style-type: none"> <li>Name of the corporation</li> <li>Organization number</li> <li>Postcode and postal town</li> <li>Municipality</li> <li>Net income</li> <li>Net wealth</li> <li>Tax</li> </ul>	Tax lists are published on the website of the Norwegian tax authority (skatteetaten.no). Users have to create an account to get access to the lists.	<ul style="list-style-type: none"> <li>Corporations who received a tax assessment notice</li> </ul>	Public tax return disclosures in Norway date back to the middle of the 19 <sup>th</sup> century.
Pakistan	Sec. 181B and Sec. 216 (5) of the Income Tax Ordinance 2001	<p>Disclosures in the taxpayer's directory:</p> <ul style="list-style-type: none"> <li>Name of the company</li> <li>Identification number</li> <li>Amount of income tax paid</li> </ul> <p>In addition, under the Taxpayer Privileges and Honor Card Program (TPHC), the Federal Board of Revenue announces annually the top 100 taxpayers of four categories, including corporations and partnerships. Besides, these top taxpayers receive material benefits and privileges.</p>	<p>Website of the Federal Board of Revenue Pakistan:</p> <p><a href="https://fbr.gov.pk/Categ/income-tax-directory/742">https://fbr.gov.pk/Categ/income-tax-directory/742</a></p>	<ul style="list-style-type: none"> <li>All corporations domiciled in Pakistan</li> <li>All partnerships ("associations of persons") domiciled in Pakistan</li> </ul>	Effective as of tax year 2012/2013.
Poland	Art. 27b of the Corporate Income Tax Act	<ul style="list-style-type: none"> <li>Company name</li> <li>Taxpayer identification number (NIP)</li> <li>Revenues</li> <li>Tax deductible costs</li> <li>Income or incurred loss</li> <li>Tax base</li> <li>Tax due</li> <li>(Effective tax rate)</li> </ul>	Publication on the Ministry's website (in the Public Information Bulletin)	<ul style="list-style-type: none"> <li>All "tax capital groups" (regardless of the amount of revenues), which are formally recognized groups of wholly or majority-owned companies consolidating their taxes under a single Polish entity</li> <li>Corporate taxpayers other than tax capital groups, whose income in the tax year exceeds the amount of EUR 50 million</li> </ul>	Effective as of 1 January 2018, disclosures for tax years 2012 and onwards.
Turkey	Art. 5 III of the Vergi Usul Kanunu (VUK)	<ul style="list-style-type: none"> <li>Name of the corporation</li> <li>Activity type</li> <li>Amount of tax paid</li> <li>Location</li> <li>Affiliated tax office</li> </ul>	<p>Website of the Turkish Revenue Administration:</p> <p><a href="https://www.gib.gov.tr/sites/default/files/fileadmin/user_upload/VI/2018_KurumlarVergisi.htm">https://www.gib.gov.tr/sites/default/files/fileadmin/user_upload/VI/2018_KurumlarVergisi.htm</a></p>	<ul style="list-style-type: none"> <li>The top 100 highest-paying taxpayers (regarding corporate income tax)</li> <li>Taxpayers who do not want their names to be revealed are not included in the list</li> </ul>	No information.

### III. Private disclosures to tax authorities

#### A. Private CbCR

Country / Region	Law / source of the rule	Content / items of disclosure	Medium of disclosure and exchange of information	Who is affected?	Entry into force
More than 80 countries worldwide	OECD BEPS Action Plan – Action Point 13; Council Directive (EU) 2016/881	<p>Disclosures to be made on a per-country basis:</p> <ul style="list-style-type: none"> <li>• Revenues, broken down into related party and unrelated party</li> <li>• Profit (loss) before income tax</li> <li>• Income tax paid (on cash basis)</li> <li>• Income tax accrued – current year</li> <li>• Stated capital</li> <li>• Accumulated earnings</li> <li>• Number of employees</li> <li>• Tangible assets other than cash and cash equivalents</li> <li>• List of all the constituent entities of the MNE group included in each aggregation per tax jurisdiction, containing <ul style="list-style-type: none"> <li>○ Name(s)</li> <li>○ Main activity(ies)</li> </ul> </li> </ul> <p>In combination with the “local file” and the “master file”, the CbCR is part of the OECD’s three-tiered approach to transfer pricing documentation.</p>	Affected companies disclose the reports to the national tax authorities. The reports are exchanged between the tax authorities of the affected countries based on the Multilateral Competent Authority Agreement (CbC MCAA) or, alternatively, based on bilateral agreements (i.a., with the US). The OECD has developed a standardized XML format for the filing and exchange of the reports.	<ul style="list-style-type: none"> <li>• The ultimate parent entity of an MNE group that is resident for tax purposes in a participating country if the consolidated group revenue in the preceding financial year was equal to or exceeded EUR 750 million (or an equivalent in local currency)</li> <li>• A resident constituent entity which is not the ultimate parent entity of an MNE group which exceeds the above-mentioned revenue threshold if the ultimate parent entity does not have to file a report in its jurisdiction of residence or if this jurisdiction does not take part in the exchange of the reports</li> </ul>	A first wave of countries (including the EU member states) adopted the rules for fiscal years starting on or after 1 January 2016. Several countries followed later on.

*B. Disclosure of tax planning arrangements*

Country	Law / source of the rule	What has to be disclosed? Definition of the reportable transactions	Medium of disclosure and exchange of information	Who has to disclose?	Entry into force / in effect for
Canada	Disclosure of reportable transactions (Sec. 237.3 of the Canadian Income Tax Act)	<p>A reportable transaction is an “avoidance transaction”, as defined for purposes of Canada’s general anti-avoidance rule, that is entered into by a taxpayer and meets at least two of the following three criteria:</p> <ul style="list-style-type: none"> <li>• The promoter or advisor for the transaction is entitled to a fee that is based on <ul style="list-style-type: none"> <li>○ The amount of the tax benefit</li> <li>○ Getting the tax benefit</li> <li>○ The number of people participating, or who have been provided access to advice from the promoter or advisor about the tax consequences</li> </ul> </li> <li>• The promoter or advisor for the transaction obtains “confidential protection,” (i.e., any arrangement that prohibits him from disclosing the details or structure of the transaction to any person)</li> <li>• The taxpayer, the person who entered into the transaction on the taxpayer’s behalf, or the promoter or advisor have or had “contractual protection” (i.e., any form of protection against failure of the transaction)</li> </ul>	An information return (Form RC312) has to be filed with the Canadian Revenue Agency (CRA) on or before 30 June of the calendar year following the calendar year in which the transaction first became a reportable transaction.	<ul style="list-style-type: none"> <li>• Every taxpayer for whom a tax benefit results (or would result) from the reportable transaction</li> <li>• Every person who has entered into a reportable transaction for the benefit of another person</li> <li>• Every advisor or promoter in respect of the reportable transaction who is or was entitled to a fee in respect of this transaction</li> <li>• Every person who is not dealing at arm’s length with an advisor or promoter in respect of the reportable transaction and who is or was entitled to a fee in respect of this transaction</li> </ul>	Reportable transactions entered into after 31 December 2010.



Country	Law / source of the rule	What has to be disclosed? Definition of the reportable transactions	Medium of disclosure and exchange of information	Who has to disclose?	Entry into force / in effect for
EU member states	DAC 6 (Council Directive (EU) 2018/822 of 25 May 2018)	<p>Disclosure of reportable cross-border arrangements, i.e., arrangements which</p> <ul style="list-style-type: none"> <li>Concern either more than one member state or a member state and a third country (“cross-border”) and</li> <li>Contain at least one of certain “hallmarks”</li> </ul> <p>A hallmark is a characteristic or feature of a cross-border arrangement that presents an indication of a potential risk of tax avoidance. Annex IV of the Directive contains a detailed list of hallmarks, including (i.a.):</p> <ul style="list-style-type: none"> <li>The use of substantially standardized structures</li> <li>Deductible cross-border payments to associated companies where the recipient benefits from certain tax advantages</li> <li>Transfer pricing arrangements involving the use of unilateral safe harbor rules</li> <li>Arrangements designed to circumvent automatic exchange of information and beneficial ownership</li> </ul> <p>Certain hallmarks are subject to a “main benefit test”, which is satisfied if the main benefit (or one of the main benefits) a person may reasonably expect to derive from an arrangement is obtaining a tax advantage.</p>	<p>The disclosure has to be made to the competent tax authority of the member state within 30 days of certain trigger events. If more than one member state is concerned, the Directive contains an unambiguous provision to which member state the information has to be reported.</p> <p>The information will be automatically exchanged each quarter by the competent authorities of each member state.</p>	<ul style="list-style-type: none"> <li>Primarily the intermediaries, i.e., any person that designs, markets, organizes, or makes available for implementation or manages the implementation of a reportable cross-border arrangement, or that provides aid, assistance, or advice with regard to the arrangement</li> <li>In the following cases the taxpayer has to disclose: <ul style="list-style-type: none"> <li>The intermediary has no EU nexus</li> <li>The intermediary cannot make the disclosure due to legal professional privilege</li> </ul> </li> <li>The taxpayer has developed the arrangement in-house</li> </ul>	The Directive applies as of 1 July 2020. However, reportable arrangements the first step of which was implemented between 25 June 2018 and 1 July 2020 have to be disclosed by 31 August 2020.

Country	Law / source of the rule	What has to be disclosed? Definition of the reportable transactions	Medium of disclosure and exchange of information	Who has to disclose?	Entry into force / in effect for
Ireland	Mandatory disclosure regime (Sec. 817D-817R of the Taxes Consolidation Act 1997)	<p>A disclosable transaction is any transaction, or proposal for a transaction, that meets all of the following criteria:</p> <ul style="list-style-type: none"> <li>• It may enable a person to obtain a tax advantage</li> <li>• The tax advantage is, or might be expected to be, one of the main benefits of the transaction</li> <li>• It matches any one of the specified descriptions (i.e., classes of transaction) set out in the legislation</li> </ul>	Disclosures have to be made to the central Mandatory Disclosure Unit within 5 working days (30 working days for “in-house” schemes), using specific forms (Forms MD1-MD7).	<ul style="list-style-type: none"> <li>• Primarily the promoters of the schemes (e.g., accountants, solicitors, banks and financial institutions, along with small firms of specialist promoters)</li> <li>• However, in the following cases the client/user has to disclose: <ul style="list-style-type: none"> <li>◦ Where the promoter is outside Ireland</li> <li>◦ Where there is no promoter and the scheme is specific to a certain group or for their own use (“in-house” scheme)</li> <li>◦ Where the promoter cannot make a disclosure due to legal professional privilege</li> </ul> </li> </ul>	Introduced as of January 2011, major amendments to the rule in 2015.
Portugal	Decree-Law No 29/2008 of 25 February 2008	<p>Obligation to report operations and transactions whose sole or principal objective is to obtain tax benefits (tax planning structures). The tax planning schemes or dealings which fall under this regime are those which involve</p> <ul style="list-style-type: none"> <li>• An entity subject to a more favorable tax regime</li> <li>• An entity totally or partially exempt from taxation</li> <li>• Financial or insurance operations that may lead to a recharacterization of income or to a change of beneficiary</li> <li>• The use of tax losses</li> <li>• Promoters whose liability is excluded or limited, irrespective of whether the situation falls under one of the previous cases</li> </ul>	Disclosure to the Portuguese tax authorities via official forms within 20 days following the end of the month in which the scheme or action has been conceived, proposed, or adopted for the first time (promoter) or until the end of the month following its adoption (user), respectively. The tax authorities organize a database which will include tax planning schemes. This database is made available to tax inspectors in case of tax audits.	<ul style="list-style-type: none"> <li>• Primarily the promoters of reportable operations and transactions (if resident in Portugal)</li> <li>• Users of reportable operations and transactions (if the promoter is a non-resident entity or the scheme has not been proposed by a promoter)</li> </ul>	Effective as of 15 May 2008. However, the regime is supposed to be abolished in the course of the national implementation of the EU DAC 6 (see above).

Country	Law / source of the rule	What has to be disclosed? Definition of the reportable transactions	Medium of disclosure and exchange of information	Who has to disclose?	Entry into force / in effect for
South Africa	Reportable Arrangements Legislation (§ 34-39 of the Tax Administration Act of 2011)	<p>Disclosure of reportable arrangements. These are arrangements which are either contained in a specific list published by the Commissioner or where a tax benefit is or will be derived or is assumed to be derived by any participant and which additionally</p> <ul style="list-style-type: none"> <li>• Provide for interest, fees, etc. that are partly or wholly dependent on the assumptions relating to the tax treatment of that arrangement;</li> <li>• Have characteristics which are substantially similar to the indicators of a lack of commercial substance in terms of the general anti-avoidance rule;</li> <li>• Give rise to an amount that is or will be disclosed by any participant as <ul style="list-style-type: none"> <li>○ A deduction for purposes of the Income Tax Act but not as an expense for purposes of financial reporting standards or</li> <li>○ Revenue for purposes of financial reporting standards but not as gross income for purposes of the Income Tax Act</li> </ul> </li> <li>• Do not result in a reasonable expectation of a pre-tax profit for any participant; or</li> <li>• Result in a reasonable expectation of a pre-tax profit for any participant that is less than the value of that tax benefit to that participant if both are discounted to a present value</li> </ul> <p>Certain arrangements are explicitly excluded from the disclosure obligation.</p>	The arrangement must be disclosed to the South African Revenue Service (SARS) within 45 business days after an amount is first received by or has accrued to a participant or is first paid or actually incurred by a participant in terms of the arrangement. After receipt of the information, the SARS issues a reportable arrangement reference number to each participant for administrative purposes.	<ul style="list-style-type: none"> <li>• Primarily the promoter of the reportable arrangement</li> <li>• All other participants of the reportable transaction, if <ul style="list-style-type: none"> <li>○ There is no promoter in relation to the arrangement, or</li> <li>○ The promoter is not a resident</li> </ul> </li> <li>• However, a participant need not disclose the information if the participant obtains a written statement that the promoter or any other participant has already made the disclosure</li> </ul>	The initial version of the rule was enacted as of 2005. Major reforms have occurred in 2008 and 2011.
UK	Disclosure of Tax Avoidance Schemes (DOTAS) (Part 7 of the Finance Act 2004)	<p>Disclosure of “notifiable arrangements” and proposals of such arrangements. A scheme qualifies as a notifiable arrangement if</p> <ul style="list-style-type: none"> <li>• It will, or might be expected to, enable any person to obtain a tax advantage,</li> <li>• That tax advantage is, or might be expected to be, the main benefit or one of the main benefits of the arrangement, and</li> </ul>	Notifiable arrangements and proposals must be disclosed to the HMRC using Forms AAG1, AAG2 or AAG3. Disclosure has to be made within 5 days of certain trigger events (or within 30 days of the scheme being implemented if there is no promoter).	<ul style="list-style-type: none"> <li>• Primarily the promoters of notifiable arrangements</li> <li>• In the following cases the users of notifiable arrangements have to disclose: <ul style="list-style-type: none"> <li>○ The promoter is based outside the UK</li> <li>○ The promoter is a lawyer and legal</li> </ul> </li> </ul>	Applies from 1 August 2004 to proposals notifiable on or after 18 March 2004 whenever implemented and arrangements entered into on or after 23 April 2003.

Country	Law / source of the rule	What has to be disclosed? Definition of the reportable transactions	Medium of disclosure and exchange of information	Who has to disclose?	Entry into force / in effect for
		<ul style="list-style-type: none"> <li>The scheme falls within one of a number of descriptions contained in the regulations (so-called “hallmarks”)</li> </ul> <p>The current regulations comprise schemes relating to:</p> <ul style="list-style-type: none"> <li>Financial products</li> <li>Standardized tax products</li> <li>Loss schemes</li> <li>Certain plant or machinery leasing arrangements</li> <li>Certain pension arrangements</li> </ul>		<p>professional privilege prevents him or her from providing all or part of the prescribed information</p> <ul style="list-style-type: none"> <li>There is no promoter, such as when a person designs and implements their own scheme</li> </ul>	
US	Reportable Transaction Disclosure (26 CFR § 1.6011-4; 26 CFR § 301.6112-1; 26 U.S. Code § 6111)	<p>Disclosure of the participation in a “reportable transaction”, which includes</p> <ul style="list-style-type: none"> <li>Listed transactions (i.e., contained in a list of tax avoidance transaction determined by the IRS)</li> <li>Confidential transactions (i.e., offered to a taxpayer under conditions of confidentiality and for a fee)</li> <li>Transactions with contractual protection (i.e., the taxpayer has the right to a refund of fees if intended tax consequences are not sustained)</li> <li>Loss transactions (i.e., any transaction resulting in the taxpayer claiming a certain loss)</li> <li>Transactions of interest (as identified by the IRS)</li> </ul>	<p>Taxpayers must attach Form 8886 to the respective tax return for each tax year in which the business participated in a reportable transaction. A copy of the disclosure statement must be sent to the Office of Tax Shelter Analysis (OTSA) at the same time that any disclosure statement is first filed by the taxpayer.</p> <p>Material advisors must file Form 8918 with the OTSA by the last day of the month that follows the end of the calendar quarter in which the advisor became a material advisor with respect to the reportable transaction or in which circumstances occur to require an amended disclosure statement. Besides, material advisors must prepare and maintain a list for each (type of) reportable transaction and furnish such list to the IRS upon request.</p>	<ul style="list-style-type: none"> <li>Taxpayers participating in reportable transactions</li> <li>Material advisors with respect to any reportable transaction (i.e., persons who provide any material aid, assistance, or advice with respect to organizing, managing, promoting, selling, implementing, insuring, or carrying out any reportable transaction, and who derive a certain amount of gross income for such aid, assistance, or advice)</li> </ul>	The initial version of the rule was applicable to transactions entered into after 28 February 2003. The categories of reportable transactions have been amended as of 3 August 2007.

*C. Supplementary reconciliation provided to tax authorities*

Country / Region	Law / source of the rule	Content / items of disclosure	Medium of disclosure	Who is affected?	Entry into force
United States	Schedule M-3: Net Income (Loss) Reconciliation (final version issued by the Treasury and the IRS as of 7 July 2004)	<p>Part I:</p> <ul style="list-style-type: none"> <li>Certain questions about the firm's financial statements</li> <li>Reconciliation of financial statement net income (loss) for the firm (or consolidated financial statement group, if applicable) to net income (loss) of includable corporations for US income tax purposes</li> </ul> <p>Part II and III:</p> <ul style="list-style-type: none"> <li>Reconciliation of the net income (loss) of includable corporations to US taxable income</li> <li>Categorization of every book-tax difference item (regardless of size) according to permanent and/or temporary (timing) components</li> </ul>	Schedule M-3 has to be filed with the IRS as a part of the annual US corporate income tax return (Form 1120), US income tax return for an S corporation (Form 1120-S), or US return of partnership income (Form 1065).	<ul style="list-style-type: none"> <li>US corporations or groups of corporations who are required to file a US corporate income tax return (Form 1120) or a US income tax return for an S corporation (Form 1120-S) and whose total assets at the end of the tax year are equal to or exceed USD 10 million</li> <li>US partnerships who are required to file a US return of partnership income (Form 1065) if any of the following applies: <ul style="list-style-type: none"> <li>Total assets at the end of the tax year equal to or exceeding USD 10 million</li> <li>Total receipts for the tax year equal to or exceeding USD 35 million</li> <li>An entity that owns at least 50% of the partnership is required to file Schedule M-3 itself</li> </ul> </li> </ul>	Schedule M-3 is effective for tax years ending on or after 31 December 2004 (for corporations) / tax years ending on or after 31 December 2006 (for S corporations and partnerships).

United States	Schedule UTP: Uncertain tax positions (26 CFR § 1.6012-2(a)(4); IRS Announcement 2010-75, I.R.B. 2010-41)	<p>Disclosure of income tax positions for which the two following conditions are satisfied:</p> <ul style="list-style-type: none"> <li>• The corporation has taken a tax position on its US federal income tax return for the current tax year or for a prior tax year</li> <li>• Either the corporation or a related party has recorded a reserve with respect to that tax position for US federal income tax in audited financial statements, or the corporation or related party did not record a reserve for that tax position because the corporation expects to litigate the position</li> </ul> <p>The following information has to be reported for each relevant tax position for the current tax year and for prior tax years:</p> <ul style="list-style-type: none"> <li>• Primary Internal Revenue Code (IRC) sections and subsections relating to the tax position</li> <li>• Indication whether the tax position creates temporary or permanent book-tax differences (or both)</li> <li>• Identification number of a pass-through entity involved in the tax position</li> <li>• Indication whether the tax position qualifies as a major position (i.e., if its relative size is at least 10% of all positions)</li> <li>• Ranking of the tax position according to its size (relative to the other positions)</li> <li>• Concise description of the position</li> </ul>	The disclosure is made using IRS Schedule UTP (Uncertain Tax Position Statement), which is filed as an attachment to the corporate income tax return, i.e., Form 1120 or Form 1120-F.	<p>US corporations required to file a US corporate income tax return (Form 1120) and foreign corporations required to file a US income tax return of a foreign corporation (Form 1120-F) if all of the following criteria are fulfilled:</p> <ul style="list-style-type: none"> <li>• The corporation has assets that equal or exceed USD 10 million</li> <li>• The corporation or a related party issued audited financial statements reporting all or a portion of the corporation's operations for all or a portion of the corporation's tax year</li> <li>• The corporation has one or more tax positions that must be reported on Schedule UTP</li> </ul> <p>The relevant asset threshold was phased in over a five-year period (USD 100 million for tax years 2010-2011, USD 50 million for 2012-2013 and USD 10 million for 2014 and all subsequent years).</p>	Effective for tax years beginning on or after 1 January 2010.
---------------	---	--	---	--	---

**Notes:** This table provides a detailed overview of selected tax-related disclosure rules and frameworks applicable (or under discussion) in several countries around the world. The information presented is compiled from the respective legal sources and standards indicated in the table, from additional administrative instructions of the respective tax authorities and standard setters, from the national reports on tax transparency for 29 countries contained in Başaran Yavaşlar and Hey (2019), from the institutional descriptions of empirical studies examining the respective settings, and from additional complementary sources. The information represents the status as of March 2020.

**Table A.2: Structured overview of empirical literature on tax transparency****Panel A: Studies on determinants – generic firm attributes and characteristics (Section 4.1.1)**

References	Disclosure type	Determinants
Akamah et al. (2018)	Segment reporting	– Size – Industry
Ayers et al. (2015)	Deferred tax & BTB disclosures	– Size – Institutional ownership – Analyst coverage – Industry
Balakrishnan et al. (2019)	Voluntary disclosures in earnings announcements & conference calls	– Analyst coverage
Belnap (2019a)	Tax strategy disclosures	– Size
Bilicka et al. (2020)	Tax strategy disclosures	– Industry
N. Chen et al. (2019)	Voluntary disclosures in earnings announcements & conference calls	– Size – Institutional ownership – Analyst coverage
Dyreng et al. (2020)	Subsidiary list	– Size – Analyst coverage
Ehinger et al. (2020)	Voluntary disclosures in earnings announcements & conference calls	– Size – Analyst coverage
Evers et al. (2014)	Deferred tax & BTB disclosures	– Size
Gleason & Mills (2002)	UTB disclosures (FIN 48)	– Industry
Hardeck et al. (forthcoming)	CSR reports	– Size
Krapat et al. (2016)	Subsidiary list	– Size
Mauler (2019)	Tax disclosures in financial statements in general	– Analyst coverage
L. A. Robinson & Schmidt (2013)	UTB disclosures (FIN 48)	– Size

**Panel B: Studies on determinants – tax aggressiveness (Section 4.1.2)**

References	Disclosure type	Determinants
Akamah et al. (2018)	Segment reporting	– Tax aggressiveness
Ayers et al. (2015)	Deferred tax & BTB disclosures	– Tax aggressiveness
Balakrishnan et al. (2019)	Tax-related MD&A disclosure	– Tax aggressiveness
	Voluntary disclosures in earnings announcements & conference calls	– Tax aggressiveness
Belnap (2019a)	Tax strategy disclosures	– Tax aggressiveness
N. Chen et al. (2019)	Voluntary disclosures in earnings announcements & conference calls	– Tax (reporting) complexity / uncertainty
Dyreng et al. (2020)	Subsidiary list	– Tax aggressiveness
Ehinger et al. (2020)	Voluntary disclosures in earnings announcements & conference calls	– Tax (reporting) complexity / uncertainty
Flagmeier & Mueller (2017)	Tax disclosures in financial statements in general	– Tax (reporting) complexity / uncertainty
Flagmeier et al. (2017)	Tax disclosures in financial statements in general	– Tax aggressiveness

References	Disclosure type	Determinants
Gramlich & Whiteaker-Poe (2013)	Subsidiary list	– Tax aggressiveness
Hardeck & Kirn (2016)	CSR reports	– Tax aggressiveness
Hardeck et al. (2019)	CSR reports	– Tax aggressiveness – Cultural imprint
Hope et al. (2013)	Segment reporting	– Tax aggressiveness
Inger et al. (2018)	Tax disclosures in financial statements in general	– Tax aggressiveness
Kao (2019)	CSR reports	– Tax aggressiveness
Koutney (2019)	Voluntary disclosures in earnings announcements & conference calls	– Tax (reporting) complexity / uncertainty
Krapat et al. (2016)	Subsidiary list	– Tax aggressiveness
Kubick et al. (2016)	Tax disclosures in financial statements in general	– Tax aggressiveness
L. A. Robinson & Schmidt (2013)	UTB disclosures (FIN 48)	– Tax aggressiveness
Schwab (2009)	Voluntary disclosures in earnings announcements & conference calls	– Tax aggressiveness
Ylönen & Laine (2015)	CSR reports	– Tax aggressiveness – Attitude towards CSR

**Panel C: Studies on determinants – external pressure (Section 4.2)**

References	Disclosure type	Determinants
Belnap (2019a)	Tax strategy disclosures	– NGO pressure / public attention
Dyreng et al. (2016)	Subsidiary list	– NGO pressure / public attention
Dyreng et al. (2020)	Subsidiary list	– Media coverage
Kubick et al. (2016)	Tax disclosures in financial statements in general	– Regulatory scrutiny
	Tax-related MD&A disclosure	– Regulatory scrutiny

**Panel D: Studies on determinants – interaction between different disclosure types (Section 4.3)**

References	Disclosure type	Interacting disclosure rule
Abernathy et al. (2013)	UTB disclosures (FIN 48)	– Schedule UTP
Bozanic et al. (2017)	UTB disclosures (FIN 48)	– Schedule UTP
	Tax disclosures in financial statements in general	– Schedule UTP
R. J. Brown et al. (2019)	Segment reporting	– CbCR - banks
Honaker & Sharma (2017)	UTB disclosures (FIN 48)	– Schedule UTP
Hope et al. (2013)	Segment reporting	– Schedule M-3
Kays (2019)	Voluntary additional public disclosures to tax return data	– Public tax return disclosure by tax authorities
Towery (2017)	UTB disclosures (FIN 48)	– Schedule UTP



**Panel E: Studies on the informativeness (Section 5):**

<b>References</b>	<b>Disclosure type</b>	<b>Informativeness in terms of</b>
Belnap (2019b)	Tax strategy disclosures	– Boilerplate language / similarity
Bilicka et al. (2020)	Tax strategy disclosures	– Boilerplate language / similarity
Blouin & Robinson (2020)	CbCR - OECD	– Comparison with other datasets
Bouvatier et al. (2018)	CbCR - banks	– Tax aggressiveness
R. J. Brown et al. (2019)	CbCR - banks	– Tax aggressiveness
Campbell et al. (2019)	Tax risk disclosures	– Future tax payments
Clausing (2020)	CbCR - OECD	– Comparison with other datasets
Clausing (2020)	CbCR - OECD	– Tax aggressiveness
Desai & Dharmapala (2009)	Deferred tax & BTB disclosures	– Tax aggressiveness
Dutt et al. (2019b)	CbCR - banks	– Tax aggressiveness
Dutt et al. (2019b)	CbCR - banks	– Comparison with other datasets
Fatica & Gregori (2020)	CbCR - banks	– Tax aggressiveness
Frank et al. (2009)	Deferred tax & BTB disclosures	– Tax aggressiveness
Garcia-Bernardo et al. (2019)	CbCR - OECD	– Comparison with other datasets
Horst & Curatolo (2020)	CbCR - OECD	– Comparison with other datasets
Janský (forthcoming)	CbCR - banks	– Tax aggressiveness
Lisowsky (2009)	Tax disclosures in financial statements in general	– Actual current tax liability / tax payments
Lisowsky (2010)	Tax disclosures in financial statements in general	– Tax aggressiveness
Lisowsky et al. (2013)	UTB disclosures (FIN 48)	– Tax aggressiveness
McGill & Outslay (2004)	Tax disclosures in financial statements in general	– Actual current tax liability / tax payments
McGill & Outslay (2004)	Tax disclosures in financial statements in general	– Tax aggressiveness
Mills (1998)	Deferred tax & BTB disclosures	– Tax aggressiveness
L. A. Robinson et al. (2016)	UTB disclosures (FIN 48)	– Future tax payments
Wilson (2009)	Deferred tax & BTB disclosures	– Tax aggressiveness

**Panel F: Studies on firm reactions to tax disclosure regulations (Section 6.1.1)**

<b>References</b>	<b>Disclosure type</b>	<b>Reaction in terms of / effect on</b>
Bilicka et al. (2020)	Tax strategy disclosures	– Tax aggressiveness
Blouin et al. (2010)	UTB disclosures (FIN 48)	– Avoidance of disclosure (i.a., bunching)
Bouvatier et al. (2018)	CbCR - banks	– Tax haven presences – Investment & real activity
Braun & Weichenrieder (2015)	TIEAs	– Tax haven presences – Investment & real activity
S. Chen (2017)	Public tax return disclosure by tax authorities	– Tax aggressiveness
De Simone & Olbert (2020)	CbCR - OECD	– Tax haven presences – Avoidance of disclosure (i.a., bunching) – Investment & real activity

<b>References</b>	<b>Disclosure type</b>	<b>Reaction in terms of / effect on</b>
Donohoe & McGill (2011)	Schedule M-3	– Tax aggressiveness
Dutt et al. (2019b)	CbCR - banks	– Tax aggressiveness
Eberhartinger et al. (2020)	CbCR - banks	– Tax haven presences
Green & Plesko (2016)	UTB disclosures (FIN 48)	– Tax aggressiveness
	Schedule M-3	– Tax aggressiveness
	Schedule UTP	– Tax aggressiveness
Gupta et al. (2014)	UTB disclosures (FIN 48)	– Tax aggressiveness
Hasegawa et al. (2013)	Public tax return disclosure by tax authorities	– Avoidance of disclosure (i.a., bunching)
Hasegawa et al. (2013)	Public tax return disclosure by tax authorities	– Tax aggressiveness
Henry et al. (2016)	UTB disclosures (FIN 48)	– Tax aggressiveness
	Schedule M-3	– Tax aggressiveness
	Schedule UTP	– Tax aggressiveness
Honaker & Sharma (2017)	Schedule UTP	– Tax aggressiveness
Hoopes et al. (2018)	Public tax return disclosure by tax authorities	– Tax aggressiveness – Avoidance of disclosure (i.a., bunching)
Hope et al. (2013)	Segment reporting	– Tax aggressiveness
Hugger (2020)	CbCR - OECD	– Tax aggressiveness – Avoidance of disclosure (i.a., bunching)
Joshi (2020)	CbCR - OECD	– Tax aggressiveness – Avoidance of disclosure (i.a., bunching)
Joshi et al. (forthcoming)	CbCR - banks	– Tax aggressiveness
Overesch & Wolff (2019)	CbCR - banks	– Tax aggressiveness
Rauter (2020)	CbCR - extractive industries	– Investment & real activity
Slemrod et al. (2020)	Public tax return disclosure by tax authorities	– Avoidance of disclosure (i.a., bunching)
Tomohara et al. (2012)	UTB disclosures (FIN 48)	– Tax aggressiveness
Towery (2017)	Schedule UTP	– Tax aggressiveness

**Panel G: Studies on firm reactions to actual disclosure of tax-related information (Section 6.1.2)**

References	Disclosure type	Reaction in terms of / effect on
S. Chen et al. (2019)	Disclosure in press articles or by NGOs / leaks	– Tax aggressiveness
Dyreng et al. (2016)	Disclosure in press articles or by NGOs / leaks	– Tax aggressiveness – Tax haven presences
Gallemore et al. (2014)	Disclosure in press articles or by NGOs / leaks	– Tax aggressiveness – Executive turnover – Auditor turnover – Sales & advertising expenses
Kubick et al. (2016)	Tax-related SEC comment letters	– Tax aggressiveness – Tax aggressiveness of peer firms
O'Donovan et al. (2019)	Disclosure in press articles or by NGOs / leaks	– Tax aggressiveness – Sales & advertising expenses

**Panel H: Studies on investor reactions to increases in tax transparency (Section 6.2.1)**

References	Disclosure type	Reaction in terms of / effect on
Abernathy et al. (2013)	Schedule UTP	– Stock price reaction to increase in transparency
Bennedsen & Zeume (2018)	TIEAs	– Stock price reaction to increase in transparency
S. Chen (2017)	Public tax return disclosure by tax authorities	– Stock price reaction to increase in transparency
Donohoe & McGill (2011)	Schedule M-3	– Stock price reaction to increase in transparency
Dutt et al. (2019a)	CbCR - banks	– Stock price reaction to increase in transparency
Frischmann et al. (2008)	UTB disclosures (FIN 48)	– Stock price reaction to increase in transparency
Hoopes et al. (2018)	Public tax return disclosure by tax authorities	– Stock price reaction to increase in transparency
Hutchens et al. (2020)	Deferred tax & BTB disclosures	– Stockholdings of individual investors
Johannesen & Larsen (2016)	CbCR - extractive industries	– Stock price reaction to increase in transparency
O'Donovan et al. (2019)	Disclosure in press articles or by NGOs / leaks	– Stock price reaction to increase in transparency

**Panel I: Studies on investor reactions to actual disclosure of tax-related information (Section 6.2.2)**

References	Disclosure type	Association / reaction / effect on
Baik et al. (2016)	Analysts' (implicit) tax expense forecast	– (Mis)pricing of tax-related performance information
Blaufus et al. (2019)	Disclosure in press articles or by NGOs / leaks	– Stock price reaction to disclosure / increased scrutiny

<b>References</b>	<b>Disclosure type</b>	<b>Association / reaction / effect on</b>
Brooks et al. (2016)	Tax disclosures in financial statements in general	– Association between tax avoidance & firm value
	Disclosure in press articles or by NGOs / leaks	– Stock price reaction to disclosure / increased scrutiny
Campbell et al. (2019)	Tax risk disclosures	– (Mis)pricing of disclosed tax information
S. Chen (2017)	Public tax return disclosure by tax authorities	– Stock price reaction to disclosed tax information
A. B. Davis et al. (2017)	Disclosure in press articles or by NGOs / leaks	– Association between tax avoidance & firm value
Deméré (2018)	Tax return disclosure to selected recipients	– (Mis)pricing of tax-related performance information
Desai & Dharmapala (2009)	Deferred tax & BTB disclosures	– Association between tax avoidance & firm value
Dyreng et al. (2016)	Disclosure in press articles or by NGOs / leaks	– Stock price reaction to disclosure / increased scrutiny
Frischmann et al. (2008)	UTB disclosures (FIN 48)	– Stock price reaction to disclosed tax information
Gallemore et al. (2014)	Disclosure in press articles or by NGOs / leaks	– Stock price reaction to disclosure / increased scrutiny
Hanlon & Slemrod (2009)	Disclosure in press articles or by NGOs / leaks	– Stock price reaction to disclosure / increased scrutiny
Hoopes et al. (2018)	Public tax return disclosure by tax authorities	– Stock price reaction to disclosed tax information
Huesecken et al. (2018)	Disclosure in press articles or by NGOs / leaks	– Stock price reaction to disclosure / increased scrutiny
Inger (2014)	Tax disclosures in financial statements in general	– Association between tax avoidance & firm value
Inger et al. (2018)	Tax disclosures in financial statements in general	– Association between tax avoidance & firm value
Jemiole (2019)	Disclosure in press articles or by NGOs / leaks	– Association between tax avoidance & firm value
Kays (2019)	Public tax return disclosure by tax authorities	– Stock price reaction to disclosed tax information
Mauler (2019)	Analysts' (implicit) tax expense forecast	– (Mis)pricing of tax-related performance information
Minnis & Sutherland (2017)	Tax return disclosure to selected recipients	– (Debt) investors' request for the information
L. A. Robinson & Schmidt (2013)	UTB disclosures (FIN 48)	– Stock price reaction to disclosed tax information
L. A. Robinson et al. (2016)	UTB disclosures (FIN 48)	– (Mis)pricing of disclosed tax information
Schwab (2009)	Voluntary disclosures in earnings announcements & conference calls	– (Mis)pricing of tax-related performance information
Wilson (2009)	Deferred tax & BTB disclosures	– Association between tax avoidance & firm value

**Panel J: Studies on the effects on analysts (Section 6.3.1)**

References	Disclosure type	Reaction in terms of / effect on
Bratten et al. (2017)	Mandatory ETR forecasts in interim reports	– Incorporation into forecasts – Effect on forecast accuracy
K. Chen et al. (2003)	Deferred tax & BTB disclosures	– Incorporation into forecasts
N. Chen et al. (2019)	Mandatory ETR forecasts in interim reports	– Incorporation into forecasts – Effect on forecast accuracy
	Voluntary disclosures in earnings announcements & conference calls	– Incorporation into forecasts – Effect on forecast accuracy
Koutney (2019)	Voluntary disclosures in earnings announcements & conference calls	– Incorporation into forecasts – Effect on forecast accuracy
Schwab (2009)	Voluntary disclosures in earnings announcements & conference calls	– Incorporation into forecasts – Effect on forecast accuracy
Weber (2009)	Deferred tax & BTB disclosures	– Incorporation into forecasts – Effect on forecast accuracy

**Panel K: Studies on the effects on consumers and the general public (Section 6.3.2)**

References	Disclosure type	Reaction in terms of / effect on
Antonetti & Anesa (2017)	Disclosure in press articles or by NGOs / leaks	– Sentiment / perception – Purchase intention
Asay et al. (2018)	Disclosure in press articles or by NGOs / leaks	– Awareness / sensitivity – Purchase intention
Gallemler et al. (2014)	Disclosure in press articles or by NGOs / leaks	– Sentiment / perception
Hardeck & Hertl (2014)	Disclosure in press articles or by NGOs / leaks	– Sentiment / perception – Purchase intention – Willingness to pay
Hardeck et al. (forthcoming)	Disclosure in press articles or by NGOs / leaks	– Sentiment / perception – Willingness to pay
Hoopes et al. (2018)	Public tax return disclosure by tax authorities	– Sentiment / perception – Purchase intention
Jemiolo (2019)	Disclosure in press articles or by NGOs / leaks	– Sentiment / perception – Willingness to pay – Purchase intention

**Panel L: Studies on the effects on tax authorities (Section 6.3.3)**

References	Disclosure type	Reaction in terms of / effect on
Bozanic et al. (2017)	UTB disclosures (FIN 48)	– Utilization & processing of the information

**Notes:** This table provides a structured overview of extant empirical literature on tax transparency. The different panels of the table follow the structure of our review in Sections 4-6. Studies investigating multiple research questions may appear in multiple panels of the table. Within each panel, the references are sorted alphabetically.



Download ZEW Discussion Papers from our ftp server:

<http://ftp.zew.de/pub/zew-docs/dp/>

or see:

<https://www.ssrn.com/link/ZEW-Ctr-Euro-Econ-Research.html>

<https://ideas.repec.org/s/zbw/zewdip.html>



## IMPRINT

**ZEW – Leibniz-Zentrum für Europäische  
Wirtschaftsforschung GmbH Mannheim**

ZEW – Leibniz Centre for European  
Economic Research

L 7,1 · 68161 Mannheim · Germany

Phone +49 621 1235-01

[info@zew.de](mailto:info@zew.de) · [zew.de](http://zew.de)

Discussion Papers are intended to make results of ZEW  
research promptly available to other economists in order  
to encourage discussion and suggestions for revisions.  
The authors are solely responsible for the contents which  
do not necessarily represent the opinion of the ZEW.