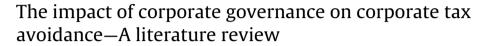


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#### ABSTRACT

In this article, we review recent literature (79 articles) on the impact of corporate governance on corporate tax avoidance. Applying a stakeholder-oriented view, we find that various aspects of corporate governance, such as incentive alignment between management and shareholders, board composition, ownership structure, capital market monitoring, audit, enforcement and government relations, and other stakeholders' pressure have a strong influence on corporate tax avoidance. Findings indicate that effective corporate governance mechanisms steer tax avoidance at its firm-specific optimal level. The classical principal-agent theory, however, fails to fully explain corporate tax avoidance as an outcome. Investigating the determinants of corporate governance institutions and all stakeholders relevant to the firm. We show that corporate governance institutions not only have the potential to increase tax avoidance, making firms more profitable, but also to limit tax avoidance to a level where the arising risks do not outweigh the benefits.

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# 1. Introduction

Tax avoidance has not only become an issue of increasing interest in political and academic debates (Huseynov, Sardali, & Zhang, 2017), but the wider public has taken notice of the issue in response to media reports about several global firms' tax avoidance practices (Kanagaretnam, Lee, Lim, & Lobo, 2016). Recent anecdotal evidence about firms such as Apple, Facebook, and Starbucks (Davis, Guenther, Krull, & Williams, 2016), as well as more long standing examples, including Enron (McGill & Outslay, 2004) and Tyco (Wilson, 2009), have given the impression that tax avoidance in its most aggressive forms is a widespread phenomenon in today's business world. Nevertheless, despite this common perception many firms do pay substantial taxes every year. For instance, Thomsen and Watrin (2018) show that more than half of US firms had effective tax rates in the range of 30%–40% in the period between 2005 and 2016; on the other hand, they also found that roughly one out of ten firms had an effective tax rate below 20% (Thomsen & Watrin, 2018). This raises the question of why some firms aggressively avoid taxes, whereas others have effective tax rates that are almost equal to or even exceed statutory tax rates, despite plenty of opportunities to reduce taxes being offered by the tax code (Dyreng, Hanlon, Maydew, & Thornock, 2017).

Since avoiding taxes, if undertaken successfully, increases cash flow and after-tax income (Austin & Wilson, 2017), it can be expected to be in the interest of shareholders as the residual claimants of the firm (Rego & Wilson, 2012). Whether a firm's management acts in the interest of shareholders depends on the firm's corporate governance, which, in a traditional sense,

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"deals with the ways in which suppliers of finance to corporations assure themselves on getting a return on their investment" (Shleifer & Vishny, 1997). Therefore, whether tax avoidance opportunities are used in the interest of the shareholders can be expected to be a function of corporate governance (Armstrong, Blouin, Jagolinzer, & Larcker, 2015). Indeed, the literature demonstrates that corporate governance as "the alignment between shareholder and manager interests is an important factor in understanding corporate tax avoidance" (Bauer, 2016).

The relationship between corporate governance and corporate tax avoidance is now the subject of extensive research. A plethora of journal articles on this relationship were published, especially in the past decade (Wilde & Wilson, 2018), in response to Hanlon and Heitzman's (2010) seminal literature review. Numerous aspects of corporate governance and their impact on tax avoidance have been examined, such as management compensation (Armstrong, Blouin, & Larcker, 2012; Gaertner, 2014; Rego & Wilson, 2012; Seidman & Stomberg, 2017), board composition (Lanis & Richardson, 2011; Lanis, Richardson, & Taylor, 2015; Richardson, Taylor, & Lanis, 2016), ownership structure (Badertscher, Katz, & Rego, 2013; McGuire, Wang, & Wilson, 2014), and audit (Kanagaretnam, Lee, Lim, & Lobo, 2016; Klassen, Lisowsky, & Mescall, 2016), among others.

For the purpose of this literature review, tax avoidance is broadly defined as "anything that reduces the firm's taxes relative to its pretax income" (Dyreng, Hanlon, & Maydew, 2010). Thus, we capture a broad range of tax avoidance activities, regardless of whether they can be considered "aggressive" or not, and whether they are within the scope of the law or constitute illegal activities. We define corporate governance as "the combination of mechanisms which ensure that the management [...] runs the firm for the benefit of one or several stakeholders" (Goergen & Renneboog, 2006). Here we go beyond more traditional approaches in defining corporate governance by including all relevant groups of stakeholders<sup>1</sup> as providers of resources to the firm, which "may cover shareholders, creditors, suppliers, clients, employees and other parties with whom the firm conducts its business" (Goergen & Renneboog, 2006). We use a broad definition of corporate governance because we believe that the fate of a firm not only depends on the relations between management and providers of finance, but also on the relationship between management and other stakeholders who provide non-financial resources to the firm (Freeman, 1984).

This systematic literature review aims to synthesize research on the impact of corporate governance on corporate tax avoidance. Past literature reviews in this field (e.g., Shackelford & Shevlin, 2001; Hanlon & Heitzman, 2010; Wilde & Wilson, 2018) are either much broader in scope or did not cover corporate governance explicitly. While the recent review by Wilde and Wilson (2018) does cover corporate governance as a determinant of tax avoidance, it does so very briefly and only considers the relationship between management and shareholders. This review, therefore, differs from prior literature reviews mainly by exploring the relationship between corporate governance and tax avoidance in depth, and by including all possibly relevant stakeholders in the discussion. Thus, we use stakeholder agency theory in our analysis (Hill & Jones, 1992).

In this review, we considered 79 empirical articles published over the period 2001–2018 that examine the relationship between the two, whereby tax avoidance serves as the dependent variable and at least one aspect of corporate governance serves as an independent variable. While firm-level factors, such as firm size, leverage, or profitability, are shown to effect tax avoidance and frequently occur in the considered studies as control variables, they are not explicitly discussed here because the focus of this review is on corporate governance as a determinant of tax avoidance. We do not discuss articles on the consequences of corporate tax avoidance as these constitute a separate research stream and are beyond the scope of this literature review.

Our examination indicates that corporate tax avoidance is driven to a large extent by seven groups of corporate governance aspects: (1) Incentive alignment between management and shareholders, (2) Board composition, (3) Ownership structure, (4) Capital market pressure, (5) Audit, (6) Enforcement and government relations, and (7) Pressure from other stakeholders, such as employees, customers, and the public.

This paper provides the first comprehensive, in-depth literature review on the association between corporate governance and corporate tax avoidance. Results are relevant to practitioners, regulators, and researchers alike. For practitioners, we show how corporate governance institutions, such as incentive alignment between management and shareholders, board independence, and high-quality audits have the potential to induce more effective but less risky tax avoidance, thereby making firms more profitable and also limiting risk exposure. For regulators, we show that tax enforcement with high rates of audit is necessary to contain corporate tax avoidance. However, external monitoring by fiscal authorities needs to be complemented by internal monitoring, such as through more independent boards. For researchers, we identify several future research topics, show linkages to other fields of research, and provide direction for future research. This paper proceeds as follows: In Section 2, we elaborate the concept of tax avoidance in more detail and describe the stakeholder-agent framework that motivates this review. Section 3 examines the widely applied metrics used to measure tax avoidance and describes the methodology used in this literature review, as well as the resulting data. In Section 4, we present the results of our literature review, discuss the limitations of prior research, and give recommendations for future research. Section 5 summarizes the findings, discusses the limitations of current research, and concludes.

<sup>&</sup>lt;sup>1</sup> Narrowly, stakeholders can be defined as constituents who have a legitimate claim on the firm, which is established through exchange relationships (Hill & Jones, 1992). However, there is no generally accepted definition of who is a stakeholder (Miles, 2012). Taking a broader approach, stakeholders can also be defined as anyone who affects or is affected by the firm's actions (Freeman, 1984), or anyone who has an interest in the firm and an ability to influence it (Savage, Nix, Whitehead, & Blair, 1991), whether legitimate or not.

# 2. Stakeholder agency theory

Tax avoidance may be defined as any activity that reduces the firm's taxes relative to pretax income (Dyreng et al., 2010). Conceptually, tax avoidance is thought of as a continuum of activities to reduce tax liability (Hanlon & Heitzman, 2010), ranging from full tax compliance to tax sheltering and clearly illegal tax evasion. As the firm moves away from full tax compliance, the level of tax avoidance increases and becomes more aggressive. Following agency theory, the separation of ownership and control is central to all predictions made regarding tax avoidance (Badertscher et al., 2013).

Since tax avoidance increases after-tax cash flows, tax avoidance can be seen as "one of many risky investment opportunities available to management" (Armstrong et al., 2015). If detected by the fiscal authorities, tax avoidance may lead to restatements increasing the tax liability, penalties, and reputational damage to the firm (Hanlon & Slemrod, 2009), which makes it a risky endeavor. Also, agency conflicts can cause the agent to select a level of tax avoidance that differs from that preferred by the principals. The principals may either prefer a high level of tax avoidance resulting in increased after-tax cash flows or a lower level of tax avoidance resulting in less firm risk. Classical principal-agent theory (PAT) assumes principals to be risk neutral because they are assumed to hold their wealth in highly diversified portfolios (Demski & Feltham, 1978). However, this does not necessarily apply to all types of shareholders. Although the assumption of risk neutrality may be appropriate for those shareholders with highly diversified portfolios, large blockholders (i.e., shareholders holding a large fraction of equity) are expected to be more risk averse due to their wealth being concentrated in fewer firms (Shleifer & Vishny, 1986). Since large blockholders are expected to be more risk averse and tax avoidance will often involve risk, it may be expected that blockholders prefer less tax avoidance, while diversified owners will more likely accept higher levels of tax avoidance.

Effectively, the level of tax avoidance is chosen by managers. According to PAT, managers will select the level that is desired by the shareholders as long as strong corporate governance mechanisms, such as effective monitoring and incentive alignment, are in place. With regard to taxation, this implies that corporate governance institutions are a means of ensuring that managers do not behave inefficiently by letting firm resources be subject to high taxation. In the absence of such corporate governance mechanisms, PAT predicts managers will not act effectively against high taxes and assumes managers to be rather risk averse due to the fear of job loss, suggesting that poor corporate governance will lead to a low level of tax avoidance.

On the other hand, Desai and Dharmapala (2006) hypothesize that tax avoidance and managerial rent diversion are complementary. The opaque structures necessary to effectively avoid taxes (e.g., setting up subsidiaries in tax havens or using off-balance sheet financing) reduce corporate transparency, which enables managers to divert rents from the owners for their personal benefit, similar to earnings management. This reasoning suggests that managers engage in higher levels of tax avoidance if there are no strong corporate governance mechanisms in place. For example, when there is no effective monitoring and incentives are not aligned to the interests of owners by equity-based compensation. However, as suggested by Eisenhardt (1989), the possibility that incentive compensation actually increases managerial risk-taking to a level that is not in the interest of shareholders cannot be ruled out and may also increase tax avoidance.

Classical PAT (Jensen & Meckling, 1976; Ross, 1973) is the most widespread approach used in empirical tax avoidance studies (Desai & Dharmapala, 2006; Desai & Dharmapala, 2009). Notwithstanding that the principal-agent framework is helpful in many ways, it is limited to the relationship between shareholders and managers. Hill and Jones (1992) extend the classical model by the inclusion of other stakeholders, such as employees, customers, suppliers, creditors, and the general public. The extent to which stakeholders' expectations of the firm are fulfilled depends not only on governance structures but also on the power differentials between the parties of exchange (Hill & Jones, 1992). Apart from the specificity of the asset investments of the respective stakeholders, the relative distribution of power among the stakeholders is strongly affected by corporate governance mechanisms.

Theoretically, it is unclear which groups of stakeholders—including shareholders and managers—prefer higher or lower levels of tax avoidance. Which of these groups are successful in promoting their preferences will be a function of the power assigned to them through corporate governance institutions. Hence, broadly speaking, corporate governance can be expected to have a strong impact on corporate tax avoidance. Fig. 1 below shows the different aspects of internal and external corporate governance institutions that we expect to have an impact on corporate tax avoidance.

# 3. Research framework

#### 3.1. Metrics for tax avoidance

The variables that are central to research on tax accounting and regularly occur as proxies for tax avoidance are *Effective Tax Rates (ETR)* and *Book-Tax Differences (BTD)*. ETR, as the simplest measure, is the ratio of tax expense to pretax book income. Thus, a low ETR is assumed to be reflective of a low tax expense resulting from tax avoidance, i.e., a decrease in the numerator. However, an inflation of book income, i.e., an increase in the denominator, may also result in a low ETR (Blaylock, Shevlin, & Wilson, 2012), where "low" means lower than the statutory tax rate. ETR can easily be calculated from financial statement data, which likely explains why it is used by innumerable studies. However, there is no consensus regarding the exact definitions of the numerator and denominator. Several variants of ETR are established in the literature, mainly

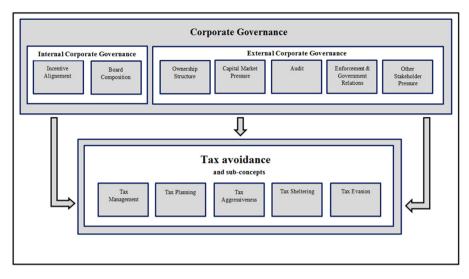


Fig. 1. Research framework.

#### Table 1

Studies included by country and journal.

Panel A: by country	
Australia	5
China	5
Germany	1
Israel	1
Japan	1
Malaysia	2
Tunisia	1
USA	60
UK	1
Multiple countries	2
Total	79
Panel B: by journal	
Accounting & Finance	2
Accounting Research Journal	2
Advances in Accounting	1
Advances in Taxation	1
Asian Review of Accounting	1
Auditing: A Journal of Practice & Theory	1
Contemporary Accounting Research	6
Journal of Accounting and Economics	8
Journal of Accounting and Public Policy	4
Journal of Accounting Research	4
Journal of Accounting, Auditing & Finance	1
Journal of Banking and Finance	4
Journal of Business Finance & Accounting	3
Journal of Contemporary Accounting and Economics	3
Journal of Corporate Finance	5
Journal of Financial and Quantitative Analysis	1
Journal of Financial Economics	4
Managerial Auditing Journal	1
Pacific-Basin Finance Journal	1
Review of Accounting and Finance	2
Review of Accounting Studies	2
Review of Quantitative Finance and Accounting	1
The Accounting Review	13
The Journal of the American Taxation Association	8
Total	79

Generally Accepted Accounting Principles (GAAP) ETR (Phillips, 2003), Current ETR (Gupta & Newberry, 1997), and Cash ETR (Dyreng, Hanlon, & Maydew, 2008).

Similar to ETR, several variants of BTD are regularly used in the literature (Jackson, 2015). As a minimum consensus, BTD refers to the difference between book income and taxable income (Hanlon, 2005). BTD can be either positive, when book income exceeding taxable income, or negative (Brooks, Godfrey, Hillenbrand, & Money, 2016). As tax avoidance should result

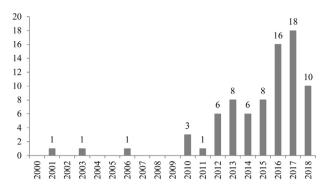


Fig. 2. Empirical studies on impact of corporate governance on tax avoidance by year published.

in increased book income and decreased taxable income, BTD is usually assumed to be positive. Most published studies rely on estimated BTD as the difference between book income and estimated taxable income.<sup>2</sup>

#### 3.2. Data

To establish the studies to be included in this literature review, we conducted a targeted search in international databases (EBSCO, Emerald, ScienceDirect, SAGE, Web of Science, Wiley Online Journals). We used the keywords "tax avoidance," "tax aggressiveness", "tax planning", "tax management", "tax sheltering", or "tax evasion". We did not limit the search to any specified time period. After correcting for duplicates, this process resulted in a preliminary sample of 1221 published articles. To assure ourselves of the quality and relevance of the research, we retained only those articles published in journals listed in either the "Accounting" or "Finance" subsections of the Academic Journal Guide 2018 published by the Chartered Association of Business Schools ("ABS Guide"). This procedure resulted in 236 potentially relevant articles that were subject to closer examination. Because we are interested in empirical research on the impact of corporate governance on tax avoidance, we further excluded all articles that were either not empirical (-62), were case studies (-7), did not cover tax avoidance as the dependent variable (-43), or did not fit our research question because they did not cover any corporate governance-related variable (-45), which resulted in a final sample of 79 empirical research articles.

Analyzing our final sample, we find very few studies published before 2010. Empirical research on the impact of corporate governance on corporate tax avoidance strongly increased after this date. We attribute this finding to Hanlon and Heitzman (2010), who in their review of the then still young tax avoidance literature called for research on "the interesting cross-sectional determinants, such as corporate governance" (Hanlon & Heitzman, 2010). A further reason may be FIN 48 becoming effective in 2006<sup>3</sup>, which facilitated research on tax avoidance through increased disclosure requirements (Wilde & Wilson, 2018).

An overview of the studies included in this review is given in Table 1, depicting the number per country and the journals where the articles are published. The high number of studies published in recent years shows how research in this field has accelerated, highlighting its relevance. Fig. 2 shows the increasing numbers of publications per year.<sup>4</sup> It should be noted that the data in Fig. 2 does not imply that there was no empirical research on the determinants of tax avoidance before the year 2000, but merely that we did not find any relevant empirical research on corporate governance as a determinant of tax avoidance before then.

Current research focuses on investigating corporate governance aspects as determinants of tax avoidance, and the related valuation and the empirical research is heavily dominated by studies on US samples (60). However, in recent years, research on the determinants of tax avoidance has also developed for Australia, China, and various European and Asian countries. Many of the studies were published in top accounting and finance journals, such as *The Accounting Review* (13), *The Journal of the American Taxation Association* (8), *Journal of Accounting and Economics* (8), *Contemporary Accounting Research* (6), *Journal of Financial Economics* (4), and *Journal of Accounting Research* (4). A complete list of studies included in this review is given in the Appendix.

<sup>&</sup>lt;sup>2</sup> Using BTD requires taxable income to be known to the researcher. One approach is to obtain data on taxable income from the fiscal authorities and match them to publicly available financial statement data. However, in most countries, tax returns are confidential (Lennox, Lisowsky, & Pittman, 2013). So for practical reasons, very few studies follow this approach (Cho, Wong, & Wong, 2006; Mills, 1998). The problem of data availability forces the researcher to infer taxable income from tax-related financial statement data, such as current or deferred tax expense and balances of deferred tax assets and liabilities. Variants regularly encountered in the literature are total BTD (Manzon & Plesko, 2002), temporary BTD (Phillips, Pincus, & Rego, 2003) and permanent BTD (Lennox et al., 2013), and metrics based on these like discretionary total BTD (Desai & Dharmapala, 2006), discretionary permanent BTD, often referred to as "DTAX" (Frank, Lynch, & Rego, 2009), the SHELTER score (Wilson, 2009), or TSSCORE (Lisowsky, 2010). Some studies also use unrealized tax benefits (UTB) to measure tax avoidance. For a detailed discussion of tax avoidance metrics, we refer the reader to Hanlon and Heitzman (2010) and Lietz (2013).

<sup>&</sup>lt;sup>3</sup> FASB Interpretation No. 48 "Accounting for Income Taxes".

<sup>&</sup>lt;sup>4</sup> The number for 2018 in Fig. 2 includes the studies by Bradshaw et al. (2019) and Chen et al. (2019), which had already been forthcoming in 2018 when the studies for this literature review were gathered.

# 4. Review of the literature

#### 4.1. Incentive alignment between management and shareholders

#### 4.1.1. Summary of published research

According to PAT, managerial decisions depend on the extent to which management incentives are aligned to shareholder interests by means of equity-based incentive compensation (Jensen & Murphy, 1990). A plethora of research finds that on average, incentive compensation is associated with increased levels of tax avoidance (Armstrong et al., 2012; Halioui, Neifar, & Abdelaziz, 2016; Huang, Ying, & Shen, 2018; Minnick & Noga, 2010; Rego & Wilson, 2012), which holds not only for Chief Executive Officers (CEOs) and Chief Financial Officers (CFOs) (Rego & Wilson, 2012), but also for directly responsible tax directors (Armstrong et al., 2012).

Armstrong et al. (2015) hypothesize that the relationship has a non-linear shape and find that the positive relationship between equity-based compensation and tax avoidance is particularly strong for firms where tax avoidance was on a very low level, while incentive compensation has a negative effect among firms that ex ante had a very high level of tax avoidance. Xian, Fang, and Zhang (2015) find that incentive compensation increases BTD caused by tax avoidance but decreases BTD caused by earnings management, supporting the notion that incentive compensation is an effective tool to deter harmful managerial practices while promoting the desired behavior.

A few studies also examine specific properties of incentive compensation and how they influence tax avoidance. Phillips (2003) finds that compensating business unit managers based on after-tax measures decreases ETRs. The logic is straightforward: if managers are compensated on an after-tax basis, they have a much stronger incentive to reduce tax expense. This is confirmed for CEOs by Gaertner (2014) and Powers, Robinson, and Stomberg (2016). Additionally, Powers et al. (2016) find that firms using cash-flow metrics instead of earnings metrics for determining compensation exhibit higher levels of tax avoidance. Competition among executives for promotion to a higher position inside the firm (so-called tournament incentives) is another form of managerial incentive. Kubick and Masli (2016) hypothesize and find that tournament incentives have a positive effect on tax avoidance, reasoning that competition among executives promotes risk-taking in order to increase the probability of being promoted. However, Chi, Huang, and Sanchez (2017) find that incentive compensation has a negative effect on tax avoidance (i.e. lower levels of tax avoidance) in situations where the firm pays a substantial part of compensation to the CEO in the future (i.e. owes the CEO money).

Opposing the view that managers are induced by incentive compensation to avoid taxes is the belief that tax avoidance is complementary with managerial rent diversion, due to the corporate opaqueness that is a precondition for tax avoidance (Desai & Dharmapala, 2006). Assuming this complementarity, incentive alignment by means of equity-based compensation should also have a negative effect on tax avoidance. In their empirical study, Desai and Dharmapala (2006) find that increases in the ratio of stock to total compensation, on average, reduce the level of tax avoidance. Nevertheless, they admit that their result is driven by poorly governed firms and suggest that the relationship between incentive compensation and tax avoidance will depend on the presence of other corporate governance mechanisms, such as stronger outside monitoring. Seidman and Stomberg (2017) replicate the study by Desai and Dharmapala (2006) and find only very limited evidence of a negative association between equity-based incentives and tax avoidance.

However, effective incentive alignment can be reduced by specific manager characteristics, leading to tax avoidance outcomes that are not in the interest of shareholders. Dyreng et al. (2010), the first study to deal with individual managers, track CEOs and CFOs across firms and find that individual characteristics play a significant role in determining the level of tax avoidance that firms undertake, because the level of tax avoidance may change significantly following the advent of a new CEO or CFO. This finding opened up research on individual executives' effects on tax avoidance. Chyz (2013) confirms that individuals play an important role, finding that the presence of an executive on the board who is *personally tax aggressive* is associated with a higher probability of tax sheltering by the firm. Focusing on the relative strength of the CEO vis-à-vis the board, Chyz and White (2014) investigate whether *CEO centrality* has an impact on corporate tax avoidance and find that firms with higher CEO centrality (i.e. more powerful CEOs) avoid more tax.

CEO narcissism is a manager characteristic that causes an extreme misalignment between management and shareholders. Olsen and Stekelberg (2016) find that *narcissistic* CEOs are more tax avoidant. Similar results are obtained by Kubick and Lockhart (2017), who find that *overconfidence* leads CEOs to become more tax aggressive. CEO narcissism and CEO overconfidence possibly cause higher tax aggressiveness due to the reduced risk aversion that accompanies these psychological phenomena. Hsieh, Wang, and Demirkan (2018) go a step further by including CFOs in their study on the effects of managerial overconfidence and conclude that the interaction of an overconfident CEO with an overconfident CFO strongly increases corporate tax avoidance. A recent study by Law and Mills (2017) found that firms led by CEOs who have *military experience* consistently show less tax avoidance than firms led by CEOs without military experience. As the authors emphasize, managers with a military past may share common values related to government legitimacy and have a high awareness of the cost of national defense (Law & Mills, 2017). The manager being concerned about governmental revenue, however, also constitutes a misalignment with shareholder interests.

# 4.1.2. Synthesis and areas for future research

As shown, plenty of studies investigated the impact of incentive alignment on corporate tax avoidance. They almost unanimously found that incentive compensation, which increases managerial risk-taking, may strongly affect corporate tax avoidance. Nevertheless, there are still aspects of incentive compensation whose effects on tax avoidance are not yet investigated. One aspect of managerial compensation packages that might add to this discussion is the presence of a "golden parachute", which could incentivize managers to increase tax avoidance. A further instrument of incentive alignment that seeks to increase managers' tolerance for risk are Directors-and-Officers insurance policies (D&O insurance). Future research could examine the effects of these and other instruments on tax avoidance. Another relatively novel phenomenon with regard to incentive compensation is so-called Say-on-Pay votes, through which shareholders can express their agreement or disagreement about the appropriateness of compensation plans (Obermann & Velte, 2018). If a compensation plan receives low approval from shareholders and incentive alignment can hence be considered to be low, this may have an effect on tax avoidance. Future research could investigate whether the perceived appropriateness of compensation plans, as expressed through Say-on-Pay votes, affects corporate tax avoidance.

# 4.2. Board composition

# 4.2.1. Summary of published research

Shareholders delegate control and management functions to a board of directors, which then delegates most management functions to internal agents (Fama & Jensen, 1983). Such internal managers can gain considerable control over the board as they have valuable inside knowledge of the firm, and in the end this may lead to agents not acting on behalf of their principals, but rather to the agents colluding in extracting firm resources for their private benefit. The inclusion of *independent*, i.e., outside directors as "professional referees" on the board is intended to increase competition among the managerial directors in pursuing the interests of the shareholders (Fama, 1980). Whereas Minnick and Noga (2010) do not find a conclusive association between the board and tax outcomes, Lanis and Richardson (2011) present evidence that firms with a higher proportion of independent directors exhibit less tax avoidance. Supportive evidence is also offered by Lanis and Richardson (2018), whose findings reinforce the importance of outside directors for tax avoidance. Taken together, the above evidence suggests that strong and independent boards negatively affect tax avoidance.

To the contrary of what was argued above, tax avoidance may be beneficial to shareholders as long as it does not take on an inappropriate level of risk. Hence, independent boards can also be expected to prevent managerial entrenchment and actually increase tax avoidance in the interest of shareholders. In this vein, Richardson, Lanis, and Taylor (2015) and McClure, Lanis, Wells, and Govendir (2018) present evidence that a higher percentage of outside directors on the board is positively associated with tax avoidance, which is obviously in opposition to Lanis and Richardson (2011, 2018). To some extent, the conflicting findings may be explained by the different economic conditions faced by the firms in the respective samples. Richardson et al. (2015) explicitly focus on financially distressed firms. According to risk shifting theory, increasing tax avoidance in response to financial distress is in the interest of shareholders, as risk is shifted away from shareholders towards debtholders. Assuming that independent directors improve decision-making quality and protect shareholder interests (Anderson & Reeb, 2004), board independence would lead to an increase in tax avoidance under financial distress, which is in accordance with the results of Richardson et al. (2015). The study by McClure et al. (2018) also spans the years of the financial crisis and finds a decline in tax avoidance in the post-crisis years, consistent with Richardson et al. (2015). The study by Lanis and Richardson (2011), on the other hand, covers only pre-crisis years and their sample mainly included firms who were on the more aggressive end of the tax avoidance continuum. Given these circumstances, reducing tax avoidance would be in the interest of shareholders, as aggressive forms of tax avoidance may be associated with an inappropriate level of risk (Blouin, 2014). Therefore, conflicting findings indicate that the effect of board independence on tax avoidance may be non-linear and depends on additional variables, such as the firm's economic condition.

Other board characteristics, such as *gender diversity, educational background*, and *political affiliations* are found to affect corporate tax avoidance. Francis, Hasan, Wu, and Yan (2014) and Richardson, Taylor et al. (2016) examine the influence that women on boards have on tax avoidance. Francis et al. (2014) find that female CFOs are less tax aggressive compared to their male counterparts. Richardson, Taylor et al. (2016) also find a negative association between the presence of women on boards and tax aggressiveness. The findings by Francis et al. (2014) and Richardson, Taylor et al. (2016) indicate that gender diversity has a limiting effect on tax avoidance. Another important board characteristic is educational level and background of the directors. Taylor and Richardson (2014) present evidence that tax avoidance tends to be higher when directors have tax expertise or are affiliated with a tax institution. Similarly, Abernathy, Kubick, and Masli (2016) find that the ascension of the general counsel—i.e., a lawyer—into the top management team increases tax avoidance. Law and Mills (2017) also find that *gender* and *education* contribute to the level of tax avoidance. Male managers are more tax aggressive than females and managers who hold an MBA tend to be more tax aggressive than those without.

A central role in the monitoring process is played by the *audit committee*, which chooses the auditor and is responsible for reviewing financial statements. This places the audit committee at the intersection of internal and external monitoring (Velte, 2017). Independence is a precondition for the audit committee to work effectively and Richardson, Taylor, and Lanis (2013) find that firms with a more independent audit committee exhibit less tax avoidance. Moreover, this finding is extended by Hsu, Moore, and Neubaum (2018), who report that independent financial experts on audit committees have a decreasing effect on tax avoidance for risk-seeking prospector firms<sup>5</sup> (i.e., fulfill a monitoring function), but an increasing effect on tax avoidance for risk-averse defender firms (i.e., fulfill an advisory function).

<sup>&</sup>lt;sup>5</sup> According to the framework developed by Miles and Snow (1978), defender firms follow a cost leadership strategy, minimize risk exposure, and do not aggressively pursue new opportunities. Prospector firms, on the other hand, follow an innovation strategy, have a high tolerance for risk, and aggressively pursue new opportunities.

# 4.2.2. Synthesis and areas for future research

While board composition and board independence have been investigated extensively, findings remain ambiguous. For example, it remains unclear how corporate boards are involved in tax avoidance, and whether it is impacted by the presence of outside directors. Conflicting findings about the effect of board independence offer room for future research on the conditions that influence the direction of this effect on tax avoidance. Apart from the cleavage between inside and outside directors, effects on tax avoidance may depend on the interests these outside directors represent. Banks are important stakeholders and providers of financial resources to firms, and they are sometimes represented on boards, especially in continental Europe or Japan where debt financing is more prevalent (La Porta, Lopez-de Silanes, Shleifer, & Vishny, 1997). Given that banks as creditors only share the potential downside risk of tax avoidance (Ayers, Lapalante, & McGuire, 2010), it can be expected that bank representation on corporate boards would negatively impact tax avoidance. On the other hand, tax avoidance might increase the ability of firms to service their debt, especially in times of financial tension (Lim, 2011). Hence, the presence of banks on corporate boards is theoretically ambiguous and deserves empirical investigation.

Young firms utilizing an innovative business model often require financing by a venture capital firm. After going public, the venture capital firm often keeps a substantial part of equity and remains in the background fulfilling a monitoring and advisory function (Brav & Gompers, 1997; Hochberg, 2012). This is often linked to board representation by the venture capital firms. As an extensive literature shows that venture capital firms are effective monitors and advisors, they can also be expected to have an effect on corporate tax planning. Whether such an effect is negative or positive is unclear: a venture capital firm could be interested in limiting risk exposure and discourage tax avoidance by its investee, or it could use its experience with other firms to advise on successful tax avoidance strategies. Hence, future research could investigate the effects of venture capitalist representation on corporate boards. However, banks and venture capitalists are merely two examples of board representation: future research should also explore the effect of various other types of board representation on corporate tax avoidance.

#### 4.3. Ownership structure

#### *4.3.1. Summary of published research*

The separation of ownership and control lies at the heart of principal-agent theory. Under a dispersed ownership structure, the position of shareholders vis-à-vis managers is weak, since strongly diversified shareholders do not take much interest in a particular firm due to cost considerations (Fama, 1980). In contrast, concentrated ownership structures strengthen the position of shareholders vis-à-vis managers through effective control by large blockholders (Shleifer & Vishny, 1986). The separation of ownership and control is typical for *publicly traded companies*. Mills and Newberry (2001) find that public firms have larger BTD than private firms, which may point to tax avoidance. Following this explanation, Badertscher et al. (2013) find that firms with higher rates of managerial stock ownership avoid less tax than other firms. This confirms that the separation of ownership and control encourages tax avoidance, whereas ownership and control falling together reduces the propensity to engage in tax avoidance.

However, results presented by McGuire et al. (2014) on the effects of *dual class ownership* do not confirm these findings. Under dual class ownership, there is an inferior class with one vote per share and a superior class with multiple votes per share, although both classes have the same cash flow rights. Dual class structures may cause managers to be less accountable to shareholders, as only those shareholders that belong to the superior class have the power to remove managers, which makes the dual class structure an extreme form of the separation of ownership and control. McGuire et al. (2014) find that tax avoidance is lower in dual class firms than in single class firms. The authors explain this finding by a managerial entrenchment effect that allows managers to perform at a suboptimal level (i.e., not reducing tax liability) without fear of job loss. Hence, there is conflicting evidence regarding the question of whether the separation of ownership and control has a positive or negative effect on tax avoidance. A potential reconciliation of the conflicting findings is offered by Richardson, Wang, and Zhang (2016), who observe that ownership concentration is related to tax avoidance in an inverted U-shaped manner.

In many countries, firms' ownership structures are shaped by the presence of large *blockholders* (La Porta, Lopez-de Silanes, & Shleifer, 1999). While it does not benefit small shareholders in a dispersed structure to monitor managers, it does for large blockholders (Shleifer & Vishny, 1986). Khurana and Moser (2013) find that firms avoid less tax when owned by long-term oriented institutional investors (e.g., pension funds), which are typically more risk adverse. Contradicting this conclusion, more recent studies by Huseynov et al. (2017); Khan, Srinivasan, and Tan (2017), and Chen, Huang, Li, and Shevlin (2019) find that increases in institutional ownership lead to an increase in tax avoidance. However, for a small subset of firms where tax avoidance was already at a high level prior to the involvement of an institutional investor, tax avoidance decreases after the investor acquires shares in the firm. This indicates that institutional investors may push their investees to a certain preferred level of tax avoidance.

One variant of long-term oriented investors are *families* who hold a large and often controlling fraction in a single firm. Chen, Chen, Cheng, and Shevlin (2010) find that family-owned firms tend to exhibit lower levels of tax avoidance compared to other firms, possibly due to higher risk aversion related to the wish to preserve the firm for coming generations. However, conflicting findings are presented by Gaaya, Lakhal, and Lakhal (2017), who find that family ownership usually increases tax avoidance. They interpret their findings as evidence for the family placing private and opportunistic financial goals over those of minority shareholders. This interpretation extends the rent-extraction argument put forward by Desai and Dharmapala (2006) to possible principle-principle conflicts.

Apart from institutional investors and families, in some countries *state-controlled investment funds* or the *state* itself engages as a long-term shareholder. Here the logic seems to be straightforward at first glance in the sense that the state, as the beneficiary of tax payments, would not desire tax avoidance. However, the state might be a less efficient monitor than other investors. Chan, Mo, and Zhou (2013) find that firms with government shareholders exhibit less tax avoidance. In support of these findings, Bradshaw, Liao, and Ma (2019) show that tax avoidance increases when state-owned enterprises are privatized.

#### 4.3.2. Synthesis and areas for future research

The above studies imply that a concentrated ownership structure affects corporate tax avoidance both negatively (Badertscher et al., 2013; Khurana & Moser, 2013) and positively (Huseynov et al., 2017; Khan et al., 2017). Hence, the effects of ownership structure on tax avoidance are still somewhat ambiguous. Future research on the effect of ownership structure on tax avoidance could concentrate on events that severely impact ownership structure. For instance, an *initial public offering (IPO)* is an event in the corporate life-cycle, which strongly decreases ownership concentration. An event further diluting the shareholder structure, and possibly drawing increased attention from capital markets, is a *seasoned equity offering*, where a public firm issues new equity. However, ownership concentration increases and capital market pressures decrease when a firm *goes private* again. If tax avoidance were a function of ownership structure, changes in the extent of tax avoidance should be observable around these events. Another event which considerably concentrates the ownership structure is a *management buy-out*, which might also affect tax avoidance.

A recent entrant to the global capital markets is the so-called *socially responsible investors (SRIs)*, which seek increased shareholder value as well as the achievement of societal and environmental goals (Wallis & Klein, 2015). Since tax avoidance might be considered detrimental to society's interests (Sikka, 2010), it can be expected that the presence of SRIs has a deterrent effect on corporate tax avoidance. On the other hand, tax avoidance leaves the firm with more resources available for corporate social responsibility (CSR) related activities. Hence, future research could investigate the impact of SRIs on corporate tax avoidance.

# 4.4. Capital market pressure

#### 4.4.1. Summary of published research

The benefits of corporate tax avoidance accrue primarily to the shareholders, whereas aggressively avoiding taxes involves substantial risk for managers (Rego & Wilson, 2012). This gives entrenched managers a strong incentive not to avoid taxes, but rather to behave inefficiently by allowing the firm to have higher tax expense (McGuire et al., 2014). Therefore, capital market pressure as a form of external monitoring can be expected to induce managers to engage more strongly in tax avoidance. Public firms traded on stock exchanges are more strongly exposed to those capital market pressures. Orihara (2017) investigates the effects of stock market listing, but fails to produce consistent evidence. While Li, Liu, and Ni (2017) examine the effects of removing the non-tradability of a specific share class and find that subsequent to the shares becoming tradable, firms increase their tax avoidance.

Capital market pressure is particularly strong when firms receive much attention from market participants. Chen et al. (2019); Huseynov et al. (2017), and Khan et al. (2017) (discussed above) exploit a setting in which capital market pressure exogenously increases when firms are added to a stock market index. These studies find that firms with low levels of tax avoidance increase their tax avoidance after index inclusion.

Another source of attention and monitoring in capital markets are analyst reports and forecasts. Several recent studies (Allen, Francis, Wu, & Zhao, 2016; Chen & Lin, 2017; Chen, Chiu, & Shevlin, 2018) examine the effects of decreases in analyst coverage on tax avoidance and find that a decrease in analyst coverage leads to a subsequent decrease in tax avoidance. Furthermore, Ayers, Call, and Schwab (2018) find that analysts' cash flow forecasts induce firms to avoid cash taxes to meet or beat the forecast. This compelling evidence suggests that analysts exert effective pressure on firms to avoid taxes.

One other very specific form of capital market pressure that firms can be exposed to is hedge fund interventions. Cheng, Huang, Li, and Stanfield (2012) find that firms avoid substantially more tax after being targeted by hedge funds. Foreign investors can be a further source of pressure on the management. Salihu, Annuar, and Obid (2015) find that firms substantially owned by foreign shareholders engage in more tax avoidance than those with mainly domestic shareholders.

#### 4.4.2. Synthesis and areas for future research

The above studies show that capital market pressure serves as an external monitoring device and may affect tax avoidance. In addition, Ormazabal (2016) suggests that private regulators, such as stock exchanges, exert a monitoring function over firms by requiring specific corporate governance and reporting quality from listed firms. Many firms chose to *cross-list* at two or more stock exchanges in order to have a wider access to capital and to signal a high level of corporate governance (Doidge, Karolyi, & Stulz, 2004; Karolyi, 2004). However, cross-listing also increases capital market pressure on firms.

Further sources of pressure are *rating agencies* that publish debt ratings, as negative rating changes can severely impact stock prices (Dichev & Piotroski, 2001). Hence, rating agencies can be considered as a highly effective external monitoring instrument. Future research could investigate whether rating changes impact firms' tax avoidance. For example, does a

negative rating change lead to a decrease in tax avoidance, which would reflect tax avoidance being considered as a source of risk, or to an increase in tax avoidance, which would reflect attempts to increase profitability and sustain creditworthiness.

# 4.5. Audit

#### *4.5.1. Summary of published research*

One of the most important sources of external monitoring is the *external audit* of annual reports (Ng, 1978). Evaluating recognition, measurement, and disclosure of tax-related items (such as tax expense and deferred taxes) in the financial statements constitutes a component of the audit engagement. Aggressive tax avoidance by a firm may increase the litigation risk for the auditor if the board of directors attempts to hold the auditor responsible for tax-related deficiencies in financial statements (Donohoe & Knechel, 2014). Furthermore, an auditor might incur reputational damage if tax positions are overturned by the fiscal authority and require restatements. Large and highly visible audit firms are expected to be particularly sensitive to reputational concerns (DeAngelo, 1981), which leads to the expectation that large auditors will be less tolerant with regard to their clients' tax avoidance. Investigating this hypothesis, Kanagaretnam et al. (2016b) find that firms audited by Big 4 auditors exhibit less tax avoidance than those audited by non-Big 4 auditors. Richardson et al. (2013) and Gaaya et al. (2017) also report that firms audited by Big 4 auditors are less tax avoidant.

Aside from auditing annual reports, auditors often supply *tax advisories* as part of their non-audit services to clients. Hogan and Noga (2015) find that the level of fees paid for auditor-provided tax services are positively related to tax avoidance and negatively related to tax risk. Their findings suggest that there are indeed spillover effects from auditing to tax advisory. Nevertheless, auditors potentially face high costs from their clients' tax avoidance due to litigation risk, and reputational damage becomes even more pressing when the auditor also prepares the corporate tax return. If the tax positions are overturned by the fiscal authority, the auditor may also lose the audit engagement for future years. Thus, Klassen et al. (2016) find that firms whose tax filings are prepared by the auditor who also audits the firms' financial statements avoid less tax than those firms whose tax filings are prepared by internal tax departments or external tax advisors. They also find that firms whose tax returns are prepared by auditors other than those who audit their financial statements show less tax avoidance. This supports the idea that auditors who provide tax advisory services are also concerned about reputational damage arising from clients that purchase audit services, but not their tax advisory services. McGuire, Omer, and Wang (2012) find that tax avoidance is higher when the auditor providing tax services has specific industry expertise. This suggests that industry experts are able to adequately assess and manage the risks related to tax avoidance in their specific domain of expertise.

### 4.5.2. Synthesis and areas for future research

Financial audits merit increasing attention in conjunction with corporate tax avoidance. Existing research only addresses auditor size (Kanagaretnam et al., 2016b; Richardson et al., 2013), industry expertise (McGuire et al., 2012), and auditor-provided tax services (Hogan & Noga, 2015; Klassen et al., 2016). Recently, the European Union made *audit firm rotation* mandatory for so-called public interest entities (Aschauer & Quick, 2018). The purpose of external audit rotation is to limit *auditor tenure*, since an extended auditor-client relationship might negatively affect an auditor independence due to the auditor's objectivity declining over time (Mautz & Sharaf, 1961). Longer tenure has been associated with lower earnings quality (Boone, Khurana, & Raman, 2008; Dao, Mishra, & Raghunandan, 2008). This is commonly explained by the auditors' ability to increase quasi-rents from the prolonged relationship, which may lead to an increased interest in sustaining the relationship (DeAngelo, 1981). Extending this reasoning to tax avoidance, tenure could be expected to be positively associated with higher tax avoidance due to the auditor becoming less vigilant. Therefore, mandatory audit rotation limits tenure and could be negatively associated with tax avoidance. However, audit tenure or rotation was not convincingly associated with higher earnings quality (Blouin, Grein, & Rountree, 2007; Myers, Myers, & Omer, 2003), which raises doubt about an association with tax avoidance.

In France, *joint audits* are mandatory for public firms (Francis, Richard, & Vanstraelen, 2009). Joint audits are intended to increase auditor independence because two auditors working together on one engagement are assumed to monitor each other, which proponents claim leads to higher audit quality (Deng, Lu, Simunic, & Ye, 2014). However, empirical evidence is not very supportive of joint audits having an effect on auditor independence or audit quality (Ratzinger-Sakel, Audousset-Coulier, Kettunen, & Lesage, 2013). Investigating whether joint audits could deter aggressive corporate tax avoidance could be a valuable addition to the discussion about the cost and benefits of joint audit arrangements.

# 4.6. Enforcement and government relations

# 4.6.1. Summary of published research

Another source of external monitoring is *fiscal authorities*, who regularly conduct audits of corporate taxpayers. However, the probability of being audited by a fiscal authority is not evenly distributed across time, firms, or jurisdictions. Although it seems intuitive that a higher probability of being audited should reduce tax avoidance, the opposite could be true. Taxpayers might increase their tax avoidance when expecting an audit in order to ensure that their after-audit tax liability remains stable (Slemrod, Blumenthal, & Christian, 2001). Claiming more aggressive tax positions widens the field for negotiation with the fiscal authority, making aggressive tax avoidance a rational response to higher audit probability. Atwood, Drake,

Myers, and Myers (2012), however, find strong support for their hypothesis that a higher overall level of tax enforcement in a country decreases corporate tax avoidance. Hoopes, Mescall, and Pittman (2012) finding that the probability of an US Internal Revenue Service (IRS) audit considerably reduces tax avoidance is also supported by Chen and Gavious (2015). One rather counterintuitive result is offered by Kubick, Lockhart, Mills, and Robinson (2017), who find that the proximity of a firm's headquarters to the nearest IRS territory manager's office actually increases tax avoidance. Intuitively, a negative association is expected due to the IRS having a lower cost of audit. However, Kubick et al. (2017) interpret their results as evidence that firms closer to an IRS office have better access to information and might, for example, focus on preparing for the next audit. Alternatively, firms which are audited more intensively could take more aggressive tax positions as an "opening bid" for further negotiations with the IRS.

Apart from fiscal authorities, *other regulatory agencies* may contribute to external monitoring with regard to tax avoidance. The US Securities and Exchange Commission (SEC) regularly reviews 10-K filings and issues comment letters when a filing has deficiencies or requires additional clarification. Kubick, Lynch, Mayberry, and Omer (2016) find that firms receiving such a SEC comment letter reduce their tax avoidance in subsequent periods, possibly due to the attention being paid to the firm's tax matters. In addition, Jiménez-Angueira (2018) reports that poorly governed firms reduced their tax avoidance in response to increased external monitoring by both the IRS and other regulators, such as the SEC, after the corporate scandals of the early 2000s.

However, governmental agencies, as their name implies, are agents themselves and may be affected by agency problems. Officers and staff of governmental agencies have reputational and career incentives, as they can seek promotions to higher positions or receive offers from private industry (Ormazabal, 2016). Hence, corporate taxpayers may try to take advantage of such agency problems by engaging in close relations with governments and legislatures. For instance, when a firm donates to a political party or candidate, the firm might expect winning parties or candidates to protect it from regulatory enforcement actions. Officials of governmental agencies could possibly anticipate this and act accordingly, out of concern for their career. Thus, firms can be expected to maintain governmental relationships in order to reduce their exposure to enforcement actions. As the evidence by Kubick et al. (2017) implies, relations with governmental agencies are of an interactive nature rather than just one-sided actions from the agency. Hill, Kubick, Lockhart, and Wan (2013) found that firms engaging in tax-related political spending as well as through political spending by industry associations. Francis, Hasan, Sun, and Wu (2016); Kim and Zhang (2016), and Wahab, Ariff, Marzuki, and Sanusi (2017) also conclude that politically connected firms avoid taxes to a greater extent than non-connected firms.

#### 4.6.2. Synthesis and areas for future research

While existing research covers enforcement by executive bodies and interactions with legislatures, interactions with the judiciary still needs investigation. After being audited by a fiscal authority and told to pay higher taxes, a firm may contest it in court. Court proceedings can take years, and in many countries courts are hopelessly overloaded. Therefore, the expected time until a final decision is made may affect corporate tax policy. Unlike the US, where the tax court has nation-wide jurisdiction, in many countries tax courts are organized on a subnational level with several circuits. Thereby, some courts may have a reputation as being "taxpayer friendly", whereas others may tend to rule in favor of the fiscal authority. Hence, future research could investigate whether being domiciled in a specific circuit affects a firm's tax avoidance.

# 4.7. Other Stakeholders' pressure

#### 4.7.1. Summary of published research

*Employees*, as suggested above, may also take a strong interest in their employer's tax avoidance. On the one hand, tax avoidance increases cash flows that can be used to benefit employees. For example, increased cash flows increase employees' strength in negotiations for higher wages, and weaken employer arguments that demands made by the labor side are too costly. On the other hand, tax avoidance is a risky activity that may also reduce future cash flows, and might result in financial distress that limits possible wage increases (Noga & Schnader, 2013). Furthermore, employees are also taxpayers and might perceive it as simply unfair if their employer has a substantially lower ETR than they themselves pay. Chyz, Leung, Li, and Rui (2013) investigate whether labor unions impact firms' tax avoidance and find that greater union power is associated to a lower degree of tax avoidance. Recent evidence by Wilde (2017) shows that possible employee whistleblowing may also have a deterrent effect on aggressive tax avoidance.

One specific employee who is highly interested in the firm's taxation is the *tax director* who leads the tax department. In their survey of tax directors, Feller and Schanz (2017) find that the power of the tax director is a very decisive factor for corporate tax avoidance. A specific tax avoidance method that is theoretically available to a firm and is considered to be desirable might not be implemented if the tax director lacks power in the organization, even if that tax avoidance method has the potential to strongly increase cash flow. This is reinforced by Gallemore and Labro (2015) and Bauer (2016), whose evidence suggests that firms who disclose material internal control weaknesses in the tax function are less successful in avoiding taxes. Since material internal control weaknesses often arise from a lack of qualified personnel, these weaknesses can be considered indicative of the comparatively weak position of the tax director in the organization.

*Media* and *civil society* have recently rediscovered their interest in tax avoidance by global corporations. For instance, news coverage on the tax strategy of Starbucks resulted in that firm finally paying more taxes in the United Kingdom. Civil society organizations and non-governmental organizations (NGOs) may also provide effective monitoring. Dyreng, Hoopes,

and Wilde (2016) found that being named on a "public shaming list" by an NGO for not disclosing tax-related information helped to effectively reduce tax avoidance by those firms in subsequent years.

As consumers become increasingly aware of corporate tax behavior, they may also take a growing interest in tax avoidance. A survey by Graham, Hanlon, Shevlin, and Shroff (2014) concludes that tax managers name possible harm to corporate reputation as an important criterion in decisions on tax planning. Hanlon and Slemrod (2009) suggest that unveiling aggressive tax avoidance might even result in consumer boycotts, which might give a sufficiently strong incentive to firms to forgo tax avoidance opportunities in order to sustain current revenues. However, not all firms are equally visible and many have very different customer bases. A firm with only business customers (business-to-business (B2B)) and operates largely hidden from the public may be shielded from this monitoring effect. Conversely, for businesses operating directly to public consumers (such as Starbucks in the above example), reputational concerns and consumer reactions may be serious issues. Recently, Austin and Wilson (2017) presented evidence that firms with valuable consumer brands have lower levels of tax avoidance, indicating that consumers do play a role in monitoring.

Nevertheless, not all firms have to expect a consumer backlash. In particular, those mainly doing B2B transactions and those that have high product market power might be shielded from such consumer responses. Kubick, Lynch, Mayberry, and Omer (2015) find that firms with high product market power can afford to engage in more aggressive tax avoidance, as high product market power provides a natural hedge against the associated risks. Furthermore, Cen, Maydew, Liandong, and Luo (2017) find that firms in close supplier-customer relationships coordinate their supply chains for effective tax avoidance, which benefits both the supplier and the customer firm. Huang, Lobo, Wang, and Xie (2016) show that firms with a concentrated customer base avoid more taxes than firms with a less concentrated customer base. They argue that firms with a concentrated customer base, due to their dependence on a small number of customers, need to hold more cash due to risks arising from their non-diversified customer base. Another interpretation is that such firms engage mostly in B2B transactions and are consequently not directly exposed to the attention of consumers.

Apart from employees and consumers, *local communities* are affected by corporate actions and so are themselves stakeholders in the firm. Local communities are directly affected in numerous ways, including negatively through toxic emissions or commuting traffic and positively through employment of the local population and, in many countries, by the payment of municipal taxes. This implies that local communities may monitor firms with substantial operations on their territory.

Local communities and their attitudes can vary to great extent by many characteristics. Boone, Khurana, and Raman (2013) argue that religiosity could negatively affect tax avoidance, since religion may contribute to the fulfilment of social expectations. They find that firms headquartered in more religious US-counties exhibit less tax avoidance. Extending this line of thought to a more general level, Hasan, Hoi, Wu, and Zhang (2017) hypothesize that social capital – shared common beliefs and dense associational networks – in local communities facilitates norm-consistent behavior and should have a deterrent effect on tax avoidance. Using a similar methodological approach to Boone et al. (2013); Hasan et al. (2017) find that firms headquartered in counties with strong social capital avoid less tax, whereas firms in counties with weak social capital avoid more tax.

#### 4.7.2. Synthesis and areas for future research

Both anecdotal and empirical evidence suggest that activist groups and the media can have a deterrent effect on corporate tax avoidance. For instance, Starbucks finally "volunteered" to pay more tax after media coverage about the low amount of income tax paid caused a public outcry (Austin & Wilson, 2017). Dyreng et al. (2016) find that being listed as tax aggressive by an NGO leads to an increase in ETRs. However, it is unclear whether this is really a long-term effect. For an NGO, constant monitoring of firms is costly and without material reward, and keeping the public's attention on an issue for an extended length of time is difficult given all the events around the world that attract public attention.

Only two studies (Chyz et al., 2013; Wilde, 2017) examine the effect that employees can have on corporate tax avoidance. Chyz et al. (2013) found that labor unions fulfill a monitoring function that negatively impacts corporate tax avoidance. In many countries, such as France, Germany, or Japan, employees are represented on the boards of public corporations once they exceed a certain headcount (Lopatta, Böttcher, & Jaeschke, 2018). Given the results of Chyz et al. (2013) and Wilde (2017), we propose the investigation of the effect of employee board representation on corporate tax avoidance.

In addition to collective bargaining or board representation, the threat by employees to leave can be a powerful tool to pressure management (Ormazabal, 2016). In particular, employees with a high educational level may have numerous alternatives to their current employer, which makes the threat to leave more credible. Therefore, firms strongly dependent on the human capital of their highly skilled employees may be more susceptible to their demands. Furthermore, employees with a high educational level might be more interested in an issue like taxation than low-skilled workers. This is reinforced by recent anecdotal evidence about Google employees leaving the firm in response to their employer's collaboration with the Pentagon in an arms project (Kosoff, 2018). Accordingly, future research could investigate whether characteristics of a firm's workforce have an effect on corporate tax avoidance.

The negative association between unionization and tax avoidance (Chyz et al., 2013) and whistleblowing and tax avoidance (Wilde, 2017) suggest that tax avoidance is not in the best interest of employees. This may be explained by the fact that employees who are not members of the top management team usually receive a fixed salary, and do not directly benefit from tax avoidance. However, many firms have employee stock ownership plans in place that could changes this picture (Ormazabal, 2016). Thus, future research could examine whether employee stock ownership plans have an effect on corporate tax avoidance.

# 5. Summary, limitations, and conclusion

Recent years have seen an enormous rise in empirical research on corporate tax avoidance and academic research on tax avoidance is currently accompanied by high public interest in the issue. Whereas public attention focuses on a narrow selection of high profile cases and rarely asks for the reasons of tax avoidance, empirical research could uncover many determinants of the phenomenon. Corporate governance as a key determinant of tax avoidance emerged as an autonomous research stream accelerated by the call made in Hanlon and Heitzman (2010).

The present literature review summarizes recent findings on the impact of corporate governance on corporate tax avoidance behavior. Synthesizing the findings of published research, we conclude that the effects of various corporate governance mechanisms on tax avoidance are dependent on which stakeholders' interests are channeled by each respective mechanism. This makes the extent to which a firm avoids taxes a function of stakeholders' interests and their ability to pursue these interests via corporate governance mechanisms. Accordingly, corporate governance balances the competing interests of various stakeholders with regard to tax avoidance, steering it to the optimal level for the specific firm, which is putting in equilibrium the cost of paying taxes and the cost of avoiding taxes. At this point, more tax avoidance would lead to an increase in the (non-tax) cost of tax avoidance that exceeds the benefits of tax avoidance, whereas less tax avoidance would lead to an increase in the cost of paying taxes that exceeds the benefits from paying taxes. The location of that point on the tax avoidance continuum will be specific to each individual firm (Hanlon & Heitzman, 2010).

Empirical research identified many corporate governance arrangements that contribute to corporate tax avoidance, which we discussed above. However, research on tax avoidance is subject to a few methodological limitations. From a methodological perspective, a key concern still remains the inaccessibility of confidential data, such as corporate tax filings and tax assessments. Several measures based on accounting data exist to measure tax avoidance, but these are strongly affected by financial accounting choices which involve considerable discretion, especially regarding accounting for income taxes (Graham, Ready, & Shackelford, 2012), and can be affected by earnings management (Guenther, Krull, & Williams, 2014).

Some measures for tax avoidance were explicitly developed for the context of the US system of taxation and cannot be applied to non-US samples. Apart from ETR and BTD, there are not yet adequate equivalents for other national contexts. Differences in accounting for income taxes between US-GAAP and International Financial Reporting Standards (IFRS) further complicate the measurement of tax avoidance. Most studies have considered mainly firm-level factors, while the environment in which the firm operates, such as the institutional environment, is rarely considered. Hence, results of extant research are mainly limited to the US-context and future research should widen its scope on non-US settings. There is already a growing number of studies on other countries, but research about the US still dominates.

This review article evaluates 79 empirical studies on the impact of corporate governance variables, namely (1) incentive alignment between management and shareholders, (2) board composition, (3) ownership structure, (4) capital market pressure, (5) audit, (6) enforcement and government relations and, (7) pressure from other stakeholders on tax avoidance. Results of published research are relevant to practitioners, regulators, and researchers alike. To practitioners, such as investors or board members, findings show that corporate governance mechanism, such as incentive compensation, board independence, and board gender diversity, have the potential to increase tax avoidance and make firms more profitable, but also to limit tax avoidance to a level where the risks do not outweigh the benefits. Research has also provided evidence that auditors significantly influence corporate taxes. Furthermore, results show that political lobbying can have a significant effect on the corporate tax burden.

To regulators, findings reinforce that tax enforcement with high rates of audit is effective in preventing corporate taxpayers from avoiding taxes. However, external monitoring by fiscal authorities needs to be accompanied by internal monitoring mechanisms. To researchers, we identify several open research questions and provide direction for future research on the association of all the above-mentioned corporate governance mechanisms and tax avoidance. This review underscores that taxation is not merely a sub-discipline of accounting, but spreads out into all areas of economics and business research, and even into neighboring disciplines such as psychology, sociology, political science, and administrative science. Hence, academics from these disciplines are invited to contribute to further research on the determinants of corporate tax avoidance. Furthermore, we hope that our review will be a useful introduction for young scholars who intend to enter tax research.

#### **Declaration of Competing Interest**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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# Appendix A

Panel A:						
Incentive	alignment					
Year	Author(s)	Journal	Country Sample Year(s)	Independent variable(s)	Dependent variable(s) for tax avoidance	Results
2000			USA 209 firms 1995–1996	After-tax performance measures in CEO and business unit managers' compensation	GAAP ETR	Compensating business-unit managers, but not CEO, on an after-tax basis leads to lower ETR.
2006	Desai and Dharmapala	Journal of Financial Economics	USA n.a. 1993-2001	Ratio of stock to total management compensation; governance index by Gompers et al.; proportion of institutional investors	Discretionary total BTD	Increases in incentive compensation tend to reduce the level of tax sheltering, in a manner consistent with a complementary relationship between diversion and sheltering. In addition, the negative effect is driven primarily by firms with relatively weak governance arrangements.
2010	Dyreng et al.	The Accounting Review	USA 12,958 firm-years 1992–2006	CEO/CFO and other executive movement across firms over time	GAAP ETR and Cash ETR	Individual executives play a significant role in determining the level of tax avoidance that firms undertake.
2010	Minnick and Noga	Journal of Corporate Finance	USA 456 firm five-year averages 1996–2005	Pay-performance sensitivity and Corporate Governance (various measures)	GAAP ETR, Cash ETR	Pay-performance sensitivity is strongly related to a long-run reduction in tax rates. Corporate Governance variables are less strongly associated to successful tax management.
2012	Armstrong et al.	Journal of Accounting and Economics	USA 1,162 firm-years 2002-06	Tax director compensation; ratio of variable to total compensation	GAAP ETR, Cash ETR, total BTD; DTAX, SHELTER	The incentive compensation of the tax director exhibits a strong negative relationship with the GAAP ETR, but little relationship with the other tax attributes.
2012	Rego and Wilson	Journal of Accounting Research	USA 18,234 CEO-years 1992–2009	CEO and CFO equity risk incentives to compensation	DTAX, SHELTER, Cash ETR, estimated UTB	Larger equity risk incentives are associated with greater tax avoidance. The results are robust across four measures of tax avoidance, but do not vary across several proxies for strength of corporate governance

*Empirical studies on the link between corporate governance and tax avoidance* 

governance.

2013	Chyz	Journal of Accounting and Economics	USA 7,821 firm-years 1996-2002	Presence of an executive (CEO, CFO etc.) in a firm-year, who is suspect of being personally tax aggressive	TSSCORE	The presence of a personally tax aggressive executive in a firm-year is associated to higher probability of tax sheltering than in firm-years
2014	Chyz and White	Advances in Taxation	USA 4,149 firm-years 1992-2011	CEO centrality per Bebchuk, Cremers, and Peyer (2011), moderated by institutional ownership	Discretionary total BTD	without such an executive. CEO centrality has a positive impact on tax avoidance. This effect is moderated negatively by monitoring through institutional investors.
2014	Gaertner	Contemporary Accounting Research	USA 354 firms 2010	After-tax performance measures in CEO compensation	GAAP ETR	Negative relation between CEO's after-tax incentives and ETR. Positive relation between after-tax CEO incentives and the level of CEO cash compensation.
2015	Armstrong et al.	Journal of Accounting and Economics	USA 12,275 firm-years 2007-2011	Corporate Governance (measured by various variables) and Equity-compensation based incentives	UTB, difference between firm's GAAP ETR and GAAP ETR of industry-peers	Non-monotonic relationship between corporate governance and tax avoidance. When tax avoidance is low, governance has a positive, when tax avoidance is high has a negative effect on further tax avoidance (under- or over-investment).
2015	Xian et al.	Accounting Research Journal	USA 9,024 firm-years 1992-2011	Discretionary permanent BTD; GAAP and Cash ETR; discretionary accruals; interacted with equity-based compensation	Total BTD	Tax planning-related BTD increase as the equity-based pay of executives does, and that earnings management-related BTD decrease as the equity-based
2016	Halioui et al.	Review of Accounting and Finance	USA 471 firm-years 2008-2012	CEO Salary, CEO Stock Option Compensation	Current ETR	pay of executives increases. CEO Salary has a negative effect on tax aggressiveness, CEO Stock Option Compensation has a positive effect on tax aggressiveness.
2016	Kubick and Masli	Journal of Accounting and Public Policy	USA 13,532 firm-years 1994-2012	Payment gap between CEO and CFO as promotion-based tournament incentives for CFO	Permanent BTD, DTAX, SHELTER	Controlling for equity-based compensation, tournament incentives are positively related to tax aggressiveness

2016	Olsen and Stekelberg	The Journal of the American Taxation Association	USA 678 firm-years 1992-2009	CEO narcissism (prominence of the CEO's photograph in annual report; CEO's relative	SHELTER	CEO narcissism increases the likelihood that the CEO's firm engages in corporate tax
2016	Powers et al.	Review of Accounting Studies	USA 1,394 firm-years 2009-2011	non-cash pay) Accounting metrics (cash flow instead of earnings) used for CEO compensation	GAAP ETR and Cash ETR	shelters. Firms using cash flow metrics report lower GAAP and cash ETR than firms using earnings metrics. Firms using after-tax earnings metrics report lower GAAP ETR but similar cash ETR.
2017	Chi et al.	Journal of Accounting Research	USA 6,211 firm-years 2006-2013	CEO inside debt holdings	SHELTER	CEO inside debt holdings are negatively associated to tax sheltering, because inside debt holdings increase CEOs risk aversion.
2017	Kubick and Lockhart	Journal of Business Finance & Accounting	USA 1,935 firm-years 1994-2011	CEO overconfidence, induced by winning an award.	DTAX, SHELTER	Firms with award-winning CEO exhibit greater tax aggressiveness in the year following the award.
2017	Law and Mills	Review of Accounting Studies	USA 9,738 firm-years, 4,886 CEOs 1992-2011	Military experience of CEOs and other manager characteristics	GAAP ETR, Cash ETR, UTB, use of tax havens	CEOs with military experience consistently show less tax avoidance than managers without military experience. Other manager characteristics like male gender and having a financial education are positively associated with tax avoidance.
2017	Seidman and Stomberg	The Journal of the American Taxation Association	USA 3,545 firm-years 1993-2001	Ratio of stock to total management compensation; governance index by Gompers et al.	Discretionary total BTD, total BTD, permanent BTD, DTAX, SHELTER	Replication and extension of Desai and Dharmapala (2006). Only little evidence of a negative relation between equity incentives and tax avoidance, using other measures than discretionary total BTD.
2018	Hsieh et al.	Journal of Accounting and Public Policy	USA 1,962 firm-years 2004-2014	Indicator = 1 for CEO and CFO overconfidence, if CEO/CFO is a net buyer of own company stocks	Five-year GAAP ETR, five-year Cash ETR	Overconfidence of CEO only has a positive impact on tax avoidance, if CFO is overconfident. too.
2018	Huang et al.	Review of Quantitative Finance and Accounting	China 958 firm-years 2006-2012	Logarithm of cash compensation payment to directors, executives and members of the supervisory council	Discretionary total BTD (adjusted for mechanical differences between book income and taxable income)	Cash compensation is negatively associated to tax avoidance.

#### Board composition Dependent variable(s) for tax avoidance Results Year Author(s) Journal Country Independent variable(s) Sample Year(s) 2011 Journal of Accounting and Australia Disclosure of a formal tax Lanis and Richardson Proportion of non-employee Higher proportion of directors; grey directors; independent members on the Public Policy 32 firms dispute with the Australian 2001-2006 independent directors Taxation Office (ATO) board reduces the likelihood of tax aggressiveness. DTAX, SHELTER; predicted 2014 Francis et al. The Journal of the American USA Male to female CFO turnover Female CFOs are associated Taxation Association 4,239 (421) firm-years UTB with less tax aggressiveness as 1988-2007 compared to their male counterparts. 2014 Taylor and Richardson Journal of Contemporary Australia Tax experience of directors GAAP ETR, Cash ETR, total BTD, Directors with tax experience Accounting and Economics 1,000 firm-years (=1) if director has prior tax discretionary total BTD increase tax avoidance. 2006-2010 experience, Tax affiliation of directors with tax affiliation directors (=1) if affiliated to a decrease tax avoidance. tax-related professional body, performance-based percentage of remuneration increases tax performance-based avoidance. remuneration 2015 Richardson et al. Journal of Banking and Finance USA Financial distress, the global SHELTER, pred. UTB, DTAX, A positive relationship 3,765 firm-years financial crisis, moderated by Cash ETR between financial distress 2006-2010 percentage of outside (global financial crisis) and tax directors avoidance is increased by the presence of outside directors. 2016 USA Abernathy et al. The Journal of the American General counsel ascension (GC Total BTD and SHELTER GC ascension into TMT is Taxation Association 7,028 firm-years as member of the top positively related to an 1993-2011 management team) increase in total BTD and SHELTER likelihood. Effect reverses when GC is removed from TMT. 2016 Journal of Corporate Finance USA DTAX, discretionary total BTD, CEOs with political Francis et al. CEO political preference. 13,549 firm-years, 1,468 measured by political party SHELTER connections (high donations) CEOs donations engage in more tax avoidance 1992-2007 than other CEOs. In particular, Republican CEOs are more tax

Panel B:

aggressive than Democratic

CEOs.

2016	Kim and Zhang	Contemporary Accounting Research	USA 32,898 firm-years 1999-2009	Political connectedness (politically connected directors, campaign contributions, lobbying)	DTAX, SHELTER, industry- and size-matched GAAP ETR less firm's GAAP ETR and a combining factor	Controlling for other determinants of tax aggressiveness, politically connected firms are more tax aggressive than other firms.
2016	Richardson et al.	Accounting Research Journal	Australia 1,025 firm-years 2006-10	Women on board	Disclosure of a formal tax dispute with the Australian Taxation Office (ATO)	Relative to there being one female board member, high (i.e., greater than one member) female presence on the board reduces the likelihood of tax
2018	Hsu et al.	Journal of Business Finance & Accounting	USA 9.670 firm-years 2004-2012	Proportion of independent financial expert directors on audit committee, strategy score (per Bentley, Omer, & Sharp, 2013)	Cash ETR, total BTD, permanent BTD, UTB	aggressiveness. Independent financial expert directors on the audit committee have a positive effect on tax avoidance for defender firms and a negative effect on tax avoidance for prospector firms.
2018	Lanis and Richardson	Journal of Accounting, Auditing & Finance	USA 5,007 firm-years 2003-2009	Percentage of outside directors, interacted with CSR performance (KLD score)	Discretionary total BTD, SHELTER, Cash ETR	Presence of outside directors on the board increases a negative association between CSR and tax avoidance.
2018	McClure et al.	Journal of Corporate Finance	Australia 4,729 firm-years 2004-2015	Paying dividends with/without attached tax credits for imputation, moderated by percentage of outside directors	Cash ETR	Firms with a higher percentage of outside directors avoid more tax, irrespective of dividend policy.

Panel C:							
Ownership structure							
Year	Author(s)	Journal	Country Sample Year(s)	Independent variable(s)	Dependent variable(s) for tax avoidance	Results	
2001	Mills and Newberry	The Journal of the American Taxation Association	USA 4,455 firm-years 1981-1996	Public or Private (dummy)	Total BTD calculated from Schedule M-1 and tax returns	Public firms have larger BTD than private firms	
2010	Chen et al.	Journal of Financial Economics	USA 3,865 firm-years 1996-2000	Family firms (dummy variable); long-term institutional ownership as interaction	GAAP ETR, Cash ETR, total BTD, discretionary total BTD	Family firms are less tax aggressive than non-family firms. This result suggests tha family owners are willing to forgo tax benefits to avoid the non-tax cost of a potential price discount, which can aris from minority shareholders' concern with family rent-seeking masked by tax avoidance activities.	
2013	Badertscher et al.	Journal of Accounting and Economics	USA 2,628 firm-years 1980-2010	Management ownership (dummy variable)	GAAP and Cash ETR; DTAX; SHELTER	Firms with greater concentration of ownership and control, avoid less income tax than firms with less concentrated ownership and control.	
2013	Chan et al.	Accounting & Finance	China 6,032 firm-years 2003-2009	Government Ownership (dummy variable) if Chinese government has more than 30% of voting rights	Ratio of ETR to statutory tax rate	Government-controlled firms are less tax aggressive than other firms, controlling for corporate governance characteristics.	
2013	Khurana and Moser	The Journal of the American Taxation Association	USA 17,997 (12,275) firm-years 1995-2008	Institutional ownership turnover; corporate governance index by Gompers et al. as interaction	Total BTD, permanent BTD, Cash ETR, SHELTER	Less tax avoidance in firms held by long-term institution, shareholders. These results ar generally driven by poorly governed firms.	

2014	McGuire et al.	The Accounting Review	USA 27,591 firm-years 1995-2002	Dual class ownership	GAAP ETR and Cash ETR	Dual class ownership is associated to lower levels of tax avoidance. Tax avoidance decreases, as the wedge
2016	Richardson et al.	Journal of Contemporary Accounting and Economics	China 1,242 firm-years 2005-2010	Ownership concentration, dual class ownership	Current ETR, Cash ETR, Total BTD and discretionary total BTD	between voting rights and cash-flow rights increases. The relationship is inverted U-shaped: Tax avoidance is low at extremely low and extremely high levels of ownership concentration. Dual class ownership is
2017	Gaaya et al.	Managerial Auditing Journal	Tunisia 315 firm-years 2008–2013	Family ownership, interacted with Big4 auditor (dummy)	GAAP ETR, Cash ETR, total BTD	associated to higher levels of tax avoidance. Family firms show more tax avoidance than non-family firms. This effect is moderated by audit quality. Family firms that engage a Big4 auditor
2017	Huseynov et al.	Journal of Corporate Finance	USA 236 firms 1991–2011	Index inclusion into S&P 500	Cash ETR	exhibit less tax avoidance. For firms with low (high) tax avoidance, index inclusion leads to an increase (decrease) in tax avoidance. Changes can be attributed to an increase in
2017	Khan et al.	The Accounting Review	USA n.a. 1988–2006	Institutional ownership; incentive compensation	GAAP and Cash ETR; total BTD, DTAX, SHELTER	institutional ownership and incentive compensation. Institutional ownership is positively related to tax avoidance. Higher levels of institutional ownership are also related to the use of
2019	Bradshaw et al.	Journal of Accounting and Economics	China 16,402 firm-years 1999–2012	State ownership, privatization of state owned enterprises	Current ETR, Cash ETR	complex tax shelters. State owned enterprises exhibit less tax avoidance than non-state owned enterprises. Privatization leads to an
2019	Chen et al.	Journal of Accounting and Economics	USA 7,967 firm-years 1996-2006	Institutional ownership, firm performance	GAAP ETR, Cash ETR	increase in tax avoidance. Positive shocks to institutional ownership around Russell index reconstitutions lead, to significant decreases in GAAP ETR and Cash ETR. However, changes in ETR can be mainly attributed to increasing pretax profitability.

Panel D:						
Capital m	arket pressure					
Year	Author(s)	Journal	Country Sample Year(s)	Independent variable(s)	Dependent variable(s) for tax avoidance	Results
2012	Cheng et al.	The Accounting Review	USA 435 activist hedge funds and 2,981 activist events 1994-2008	Hedge Fund activist event (year-dummy)	Current and cash ETR; total BTD, discretionary total BTD	Business targeted by hedge fund activities exhibits lower tax avoidance levels prior to hedge fund intervention, but experience increases in tax avoidance after the intervention.
2015	Salihu et al.	Journal of Contemporary Accounting and Economics	Malaysia 189 firm-years 2009-2011	Proportion of foreign shareholders, proportion of foreign directors	GAAP ETR, three-year Cash ETR, total tax expense/CFO, CFO ETR	Foreign shareholders and foreign directors have a positive impact on tax avoidance.
2016	Allen et al.	Journal of Banking and Finance	USA 29 mergers, 1.117 treatment firms 1988-2008	Reduction in analyst coverage du to merger of brokerage house	DTAX, SHELTER	Tax avoidance increases after a reduction in analyst coverage.
2017	Chen and Lin	Journal of Financial and Quantitative Analysis	USA 23,475 firm-years, 29 brokerage house mergers and 22 closures 1999-2011	Reduction in analyst coverage du to merger or closure of brokerage house	Total BTD, discretionary total BTD, SHELTER, DTAX, Cash ETR	A reduction in analyst coverage leads to an increase in tax avoidance. Effect is most pronounced in industries, where reputation matters more.
2017	Li et al.	Journal of Business Finance & Accounting	China 5,775 firm-years 2003-2008	Chinese share reform, removing split share structure in China, interacted with state ownership	GAAP ETR, Cash ETR	Subsequent to the reform removing non-tradability of one share class, tax avoidance increases, especially among state-owned firms.
2017	Orihara	Pacific-Basin Finance Journal	Japan 89,943 firm-years 1994-2012	Stock market listing	Discretionary total BTD	Stock market listing reduces tax avoidance.
2018	Ayers et al.	Contemporary Accounting Research	USA 7,353 firm-years 1993-2010	Indicator (=1) if analysts publish cash flow forecast	Cash taxes paid scaled by number of common shares outstanding	Firms use cash tax avoidance to improve their cash flow for reaching analysts' cash flow forecasts.
2018	Chen et al.	Contemporary Accounting Research	USA 7,512 firm-years, 29 brokerage house mergers, 22 brokerage house closures 1988-2008	Reduction in analyst coverage du to merger or closure of brokerage house	GAAP ETR, Cash ETR, SHELTER	A reduction in analyst coverage leads to an increase in tax avoidance. Effect is most pronounced for firms on which an analyst had provided an implicit ETR forecast

Panel E:						
Audit						
Year	Author(s)	Journal	Country Sample Year(s)	Independent variable(s)	Dependent variable(s) for tax avoidance	Results
2012	McGuire et al.	The Accounting Review	USA 14,338 firm-years 2002-2009	Industry expertise of auditor	GAAP ETR, Cash ETR, total BTD, permanent BTD	Clients of audit firms that are tax-specific industry experts have higher levels of tax avoidance. Clients of industry experts report lower ETR and Cash ETR.
2013	Richardson et al.	Journal of Accounting and Public Policy	Australia 812 firm-years 2006-2009	Big4 auditor, proportion of non-audit services, proportion of independent members on the audit committee	Disclosure of a formal tax dispute with the Australian Taxation Office (ATO)	Firms that are audited by Big4 auditors, that are audited by more independent auditors (less non-audit services) and that have a more independent audit committee (more independent members) are less tax aggressive.
2015	Hogan and Noga	Review of Accounting and Finance	USA 4,173 firm-years 2003-2009	Five-year average of fees paid for auditor provided tax services	Five-year Cash ETR	Firms that pay higher fees for auditor provided tax services pay less tax over the long run.
2016	Kanagaretnam et al.	Auditing: A Journal of Practice & Theory	31 countries 39,857-41,958 firm-years 1995-2007	Auditor quality (audited by Big	Estimated taxable income less current taxes paid	Auditor quality (and thus earnings quality?) is negatively related to tax aggressiveness.
2016	Klassen et al.	The Accounting Review	USA 1,533 firm-years (financial statement data + IRS data) 2008-2009	Preparation of tax returns by auditor, tax fees, audit fees	Annual increase in UTB	Internal tax departments are more tax aggressive than external preparers; external tax preparers are less tax aggressive when they also do the audit (auditor-tax preparer is less tax aggressive due to higher reputational risk). Big4 auditors are less tax aggressive.

Panel F:

#### Enforcement and Government relations

Year	Author(s)	Journal	Country Sample Year(s)	Independent variable(s)	Dependent variable(s) for tax avoidance	Results
2012	Atwood et al.	The Accounting Review	22 countries 69,301 firm-years 1995–2007	Tax enforcement (from 1996 World Competitiveness Report)	Differential between Current ETR and statutory ETR	Tax enforcement has a strongly negative effect on tax avoidance.
2012	Hoopes et al.	The Accounting Review	USA 66,310 firm-years 1992-2008	IRS audit coverage per year and asset size	Cash ETR	Increase in IRS audit probability leads to an increase in cash ETR.
2013	Hill et al.	Journal of Banking and Finance	USA 12,222 1999–2009	Indicator = 1 if firm engages in tax-related lobbying	GAAP ETR, total BTD, DTAX	Firms that engage in tax-related political lobbying have lower effective tax rates.
2015	Chen and Gavious	Accounting & Finance	Israel 3,816 firm-years 2003-2010	Audit rate and reduction in conformity	Total BTD, DTAX	Even under reduced conformity due to IFRS adoption, tax avoidance is decreased under an increased level of tax enforcement through higher audit probability.
2016	Kubick et al.	The Accounting Review	USA n.a. 2004-2012	Receipt of tax- related SEC comment letter	GAAP ETR, Cash ETR, permanent BTD	Tax avoidance leads to increased probability of an SEC comment letter. Receipt o an SEC comment letter due to tax avoidance leads to decrease of tax avoidance in subsequent periods.
2017	Kubick et al.	Journal of Accounting and Economics	USA 29,841 firm-years 1996–2012	Proximity of corporate HQ to nearest IRS territorial manager office	ETR per tax return, ETR per tax return adjusted for audit deficiency, Cash ETR	Firms whose HQs are closer to IRS office avoid more taxes. Authors interpret this as a consequence of (a) better information availability or (b) an öpening bidto increase negotiation space.
2017	Minnick and Noga	Journal of Corporate Finance	USA 5,443 firm-years 1998–2011	Political spending by (a) the firm itself and (b) industry associations	GAAP ETR, Cash ETR	Firms can avoid taxes through either political spending on its own or to a lesser extent through political spending by industry associations.
2017	Wahab et al.	Asian Review of Accounting	Malaysia 2,538 firm-years 2000–2009	Indicator = 1 if firm is politically connected	Indicator = 1 if GAAP ETR < statutory tax rate	Politically connected firms avoid more tax than non-connected firms.
2018	Jiménez-Angueira	Advances in Accounting	USA 2,569 firm-years 1997–2000; 2003–2005	Low enforcement period (1997–2000) vs. high enforcement period (2003–2005), composite corporate governance score	Cash ETR, permanent BTD	Firms which had poor corporate governance in the low enforcement period decreased tax avoidance in the high enforcement period.

Panel G:						
Stakeholo	der Pressure					
Year	Author(s)	Journal	Country Sample Year(s)	Independent variable(s)	Dependent variable(s) for tax avoidance	Results
2016	Bauer	Contemporary Accounting Research	USA 6,696 firm-years 2004-2009	Disclosure of a tax-related internal control weakness in SOX 404 report	Three-year Cash ETR	Firms that disclose a tax-related company level internal control weakness conduct less tax avoidance compared to those that do not disclose such an ICW. Subsequent to the remediation of the ICW, tax avoidance increases significantly.
2013	Boone et al.	The Journal of the American Taxation Association	USA 33,380 firm-years 1992-2010	Religiosity in the county where the corporation is headquartered, measured by proportion of religious adherents to total county population	Cash ETR, SHELTER, UTB	Religiosity is negatively related to tax avoidance.
2013	Chyz et al.	Journal of Financial Economics	USA 1,732 firm-years 1990-2007	Trade union coverage	GAAP ETR, Cash ETR, total BTD, discretionary total BTD	Unionization rates are negatively related to tax aggressiveness at business level and industry level. Firms become less tax aggressive after a union wins elections.
2014	Graham et al.	The Accounting Review	USA survey responses from 595 firms 2007	harm to reputationbeing ranked as important	GAAP ETR, Cash ETR, DTAX	Possible harm to reputation has a negative effect on tax avoidance (only weakly significant).
2015	Gallemore and Labro	Journal of Accounting and Economics	USA 33,246 firm-years 1994-2010	Internal information quality, measured by (a) speed of earnings release, (b) accuracy of earnings forecast, (c) absence of SOX 404 material weakness, (d) absence of restatements	Cash ETR, Cash ETR volatility	Firms with higher internal information quality pay less tax and have lower tax risk.
2015	Kubick et al.	The Accounting Review	USA 25,800 firm-years 1993-2010	Product market power, measured as price-cost margin per Peress (2010)	GAAP ETR, Cash ETR	Firms with higher product market power engage more intensively in tax avoidance. Product market power may provide a natural hedge against risks, so that firms with higher PMP can afford more risky tax avoidance.

more risky tax avoidance.

2016	Dyreng et al.	Journal of Accounting Research	UK 515 firm-years 1997-2012	Increased public pressure for compliance, measured by a firm being included in a ñon-compliantlist by ActionAid	GAAP ETR, use of tax haven subsidiaries	Increased public pressure leads to higher compliance and a decrease in tax avoidance.
2016	Huang et al.	Journal of Banking and Finance	USA 48,386 firm-years 1988-2011	Customer concentration	Current ETR, Cash ETR and factor from total BTD, ETR differential and discretionary total BTD	Customer concentration is positively associated to tax avoidance.
2017	Austin and Wilson	The Journal of the American Taxation Association	USA 1,013 firm-years 2006-2011	Consumber-based brand equity	GAAP ETR, Cash ETR, TSSCORE	Firms with valuable consumer brands avoid less tax than firms without valuable brands.
2017	Cen et al.	Journal of Financial Economics	USA 42,565 firm-years 1994-2009	Indicator =1 for firms being (a) a dependent supplier or (b) a principle customer of a dependent supplier	GAAP ETR, Cash ETR	Both principle customers and (to a lesser extent) dependent suppliers are able to avoid taxes through coordinating their supply chain. Profits are shifted to tax havens.
2017	Feller and Schanz	Contemporary Accounting Research	Germany 19 interviews 2013	(a) availability of tax planning method, (b) desirability of tax planning method, (c) power of tax manager	Corporate tax avoidance (in general)	Whether a specific tax avoidance method is used or not depends on the availability and desirability of the respective method, and on the power of the tax manager.
2017	Hasan et al.	Journal of Accounting Research	USA 55,415 firm-years 1990, 1997, 2005, 2009	Social capital in the county, where the firm is headquartered	GAAP ETR, Cash ETR, Discretionary permanent BTD	Strong negative association between social capital and corporate tax avoidance. Firms that are headquartered in counties with high social capital avoid significantly less taxes.
2017	Wilde	The Accounting Review	USA 26,890 firm-years 2003-2010	Employee whistleblowing allegations to OSHA	DTAX, SHELTER	Firms that are subject to whistleblowing allegations exhibit significant decreases in tax avoidance.

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