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Abstract

This paper suggests a negative link between a firm's tax-planning activities and its long-term performance. In particular, we suppose that tax avoidance may reduce the motivation and effort of a firm's employees. If a firm neglects or underestimates this *indirect cost of tax avoidance*, it avoids too much taxes and experiences lower-than-optimal production and profit levels in the long run. Accordingly, an unexpected disclosure of a firm's tax-planning activities may have lasting negative effects on its performance.

Key words: Tax avoidance; Reputation; Intrinsic motivation; Firm performance

JEL classification: H25; H26; G32

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1 Introduction

A common view on companies' attitudes towards paying taxes is that most of them try to avoid corporate profit taxes and only a few are willing to pay their fair share. This view is supported by a number of prominent cases of big multinational firms whose tax payments, despite of high earnings, are known to be very little. Public concern about this topic has increased strongly in recent years.[1] This process was triggered by the 2008-2009 financial crisis and further amplified by civil society campaigning and the release of several data leaks, like the Panama Papers in 2016 and the Paradise Papers in 2017 (cf. Dallyn, 2017; Forstater and Christensen, 2017; Murphy, 2013).[2] Accordingly, the question arises how the assessment of a tax-avoiding firm changes if its misbehavior is exposed and, furthermore, what the associated consequences are?

It is reasonable to assume that the growing public interest in and the large number of disclosures on tax avoidance were, at least to some extent, unexpected by both the public and the respective companies, which gives rise to the conjecture that the latter may have underestimated the negative consequences of their tax-planning activities. Thus, examining the relationship between tax avoidance, firm reputation, and performance seems to be particularly worthwhile.

In this paper, we develop a novel theoretical framework which suggests a negative link between a firm's tax-planning activities and its long-term performance. In particular, we assume a multi-period firm-employees relationship where the latter's effort depends on the firm's tax payments. More precisely, tax avoidance negatively affects workers' future motivation and effort, and, consequently, the production and profit of the avoiding firm. This effect is supposed to be particularly strong if workers can easily observe and strongly condemn tax avoidance. Thus, a firm optimally takes this *indirect cost of tax avoidance* into account when deciding on tax-planning activities.

[1] Most prominently, Starbucks became the target of massive protests in the UK in 2012 after media reports revealed that the company has failed almost entirely to pay taxes on its corporate income since starting operations in the UK in 1998. This induced Starbucks to voluntarily pay £20 million more taxes than what would have been required by law. See Campbell and Helleloid (2016) for more details.

[2] Oei and Ring (2018) show how data leaks have lead to recent changes in tax legislation. On a related note, the dissemination of taxpayers' misbehavior is facilitated and accelerated by the ongoing progress in information technology. As a consequence, tax shaming has become an important factor of revenue collection in several countries (Bø et al., 2015; Dyreng et al., 2016; Perez-Truglia and Troiano, 2015).

If it fails to do so, it avoids too much taxes and experiences a subpar long-term performance, in terms of lower output, (potentially) higher wages and employee turnover, and lower profit. This outcome is particularly likely in case of an unexpected exposure or change in employees' attitude towards tax avoidance.

The paper is organized as follows. Section 2 puts our contribution into perspective to related research. The theoretical model is presented and analyzed in Section 3. Following this, some model variations and robustness checks are presented in Section 4. Section 5 concludes.

2 Motivation of supposed mechanism and related research

We contribute to the existing literature by proposing a link between tax avoidance and firm performance that has been neglected so far. That is, we suppose that employee effort and, as a consequence, the productivity and profit of a firm are reduced by tax avoidance.

The literature on employee well-being and worker productivity motivates such a link. This literature provides conclusive evidence that employee satisfaction and trust is associated with higher productivity levels and better firm performance (e.g., Edmans et al., 2014; Guiso et al., 2015; Nagin et al., 2002). For example, Guiso et al. (2015) find a positive relationship between managerial integrity and ethics, as perceived by employees, and firm performance. Similarly, Minkler (2004) provides survey evidence that workers tend to shirk more if they believe their employer to be dishonest.

Similarly, Lins et al. (2017) show that firms with high social capital, as measured by high corporate social responsibility (CSR) intensity, performed better during the 2008-2009 financial crisis, in terms of higher stock returns, profitability, growth and sales per employee. Most important with respect to our model, the increase in sales per employee remained (at a lower rate) after the crisis and was not accompanied by a higher employee layoff, which strongly suggests a positive effect of social capital on employee productivity.[3] In line with Guiso et al. (2015) and Minkler (2004), Lins et al. (2017) argue that this pattern is driven by the role of trust. Accordingly, social capital

[3]Several studies highlight the positive effect of CSR on employee satisfaction and commitment. See, e.g., Bauman and Skitka (2012), Hansen et al. (2011), and Kim et al. (2010).

and firm ethics prove to be particularly valuable when trust in corporations is, in general, low.

It seems reasonable to expect a similar pattern with respect to tax avoidance. That is, firms which avoid taxes may be considered not trustworthy and perform worse, especially in periods of low trust. This should be particularly true if there is a negative shock to trust caused by the divulgence of tax-sheltering activities, as in the cases of the Panama Papers and the Paradise Papers.[4]

A lot of (mostly indirect) evidence suggests that employees care about their employer's tax-planning behavior. For instance, Chyz et al. (2013) show that firms' tax aggressiveness is reduced by the impact of labor unions, while Oei and Ring (2018) highlight that most leaks of tax data happen due to employee whistleblowing. In line with these findings, Dyck et al. (2010) argue that employees, as well as other non-traditional players like media and industry regulators, play an important role in the detection of corporate fraud. However, their findings also suggest that employee whistleblowers face severe costs. They are often fired, forced to quit by themselves, or assigned significantly different responsibilities. Therefore, in many cases whistleblowers prefer to stay anonymous. Consequently, Dyck et al. (2010, p. 2245) state that "the surprising part is not that most employees do not talk, but that some talk at all." One reason for employees to do so, besides monetary incentives and the desire to avoid potential liability, might be a personal aversion to corporate fraud by their employer. Given the aforementioned negative consequences of open opposition, however, most workers probably prefer other ways of punishing misbehavior by their employer. In this regard, providing less effort may serve as an easier and less costly alternative, since work effort is usually hard to observe. Supporting this conjecture, Cornelissen et al. (2013) show that perceived injustice in taxation leads to more absenteeism from work. Using data on German employees, they find that individuals who believe that the top income earners don't pay enough taxes accrue 20% more sick days. In line with our above reasoning, Cornelissen et al. (2013) argue that being absent more often, which they interpret as

[4] A growing number of literature analyzes the relationship between corporate tax payments and CSR, finding mixed results. Lanis and Richardson (2012, 2015) argue that socially responsible firms are less likely to avoid taxes. By contrast, Davis et al. (2016) and Hoi et al. (2013) provide evidence that CSR and tax payments act as substitutes, and Campbell and Helleloid (2016) stress the discrepancy between Starbucks' tax avoidance practices and the public image the company tried to create by self-promoting its commitment to CSR.

a reduction of the effort level, is the most convenient way for employees to "compensate" for perceived tax unfairness. By contrast, the often-suggested response of evading taxes (Alm et al., 1993; Andreoni et al., 1998) is usually impracticable for employees because of third-party reporting (Kleven et al., 2011).[5]

Several surveys provide evidence for a considerable and increasing public concern about corporate tax avoidance. According to UK data (Institute of Business Ethics, 2017), corporate tax avoidance has been the greatest concern of the British public in business conduct in each year from 2013 to 2017. Similar results are obtained for the US, where participants' main complaint about the tax system is that some corporations do not pay their fair share of taxes (Pew Research Center, 2017). Moreover, 62% state that they are bothered "a lot" by this perception. When asked whether cheating on taxes is justifiable, the vast majority (59.2%) of participants in the World Values Survey (WVS, 2015) stated that cheating on taxes is never justifiable, whereas only 1.8% of participants said that cheating on taxes is always justifiable. In the light of this development, both PwC (2013) and Ernst & Young (EY, 2014) conducted surveys among CEOs and managers with a specific focus on tax strategies and the associated effects on reputation. Their results show that executives have become increasingly worried about the potential reputation cost of tax avoidance.[6] For instance, EY (2014) reports that 89% of the largest companies are somewhat or significantly concerned about media coverage of firms' tax activities, constituting a sharp increase from the previous survey in 2011 (60%). By contrast, only 9% of firms are unconcerned, in comparison to 40% in 2011. Consistently, 99% of participants state that the importance of managing tax risk and controversy has increased or at least stayed constant in the previous two years, and 81% expect this development to continue in the following two years.

The growing public interest in corporate tax planning has given rise to several papers which investigate the relationship between tax avoidance and firm reputation. Both Dyreng et al. (2016) and Kanagaretnam et al. (2016) demonstrate that public pressure can limit corporate tax avoidance, thereby

[5] Nevertheless, the perception of fairness seems to be important in explaining individual tax avoidance and tax evasion. If individuals believe that they are taxed on fair grounds (compared to other individuals or firms), they tend to be more willing to accept their own tax burden and will not try to avoid or evade taxes (Alesina and Giuliano, 2011; Fortin et al., 2007).

[6] As demonstrated by Graham et al. (2014), concerns about the negative effects of tax planning on firm reputation already existed prior to the 2008-2009 financial crisis.

highlighting the role of tax activists (Dyreng et al., 2016) and independent media (Kanagaretnam et al., 2016), respectively. Loretz and Moore (2013) argue that the reputation loss of a firm avoiding taxes depends on the tax-planning activities of its competitors. The reasoning is as follows: since it may be difficult for stakeholders to evaluate whether the firm's tax payments are appropriate (unless actual tax avoidance is revealed), they compare them to the ones of the firm's peer group, i.e. its competitors. Supporting these theoretical considerations, Loretz and Moore (2013) provide empirical evidence of a positive correlation between the effective tax rates of firms within the same country and of firms within the same industry. Similar to our approach, Hardeck and Hertl (2014) suggest a negative relationship between tax avoidance and firm performance that is driven by individual (i.e., household) behavior. While we focus on employees, Hardeck and Hertl (2014) highlight the role of consumers. They employ two laboratory experiments in order to analyze how tax planning affects corporate reputation and consumer behavior. Their results suggest that aggressive tax strategies are punished by consumers and reduce the latter's willingness to pay. The magnitude of this effect crucially depends on consumers' attitude towards tax avoidance, which is in line with our hypothesis with respect to employees. Consistent results are obtained by Austin and Wilson (2017), Bame-Aldred et al. (2013), and DeBacker et al. (2015). In the study of Austin and Wilson (2017), firms with valuable customer brands (and, therefore, high reputation cost) are found to be less tax aggressive. Bame-Aldred et al. (2013) and DeBacker et al. (2015) provide evidence that firms' tax compliance depends to a significant extent on moral values and social norms.[7]

Overall, these findings strongly suggest that firms take public concern and the potential reputation loss into account when deciding on tax avoidance. Nevertheless, some firms may (have) underestimate(d) this effect or overlook(ed) some of the associated consequences. It seems very likely that this is the case, given the sudden increase in reports and public concern about tax avoidance in recent years.[8] The results of O'Donovan et al. (2017) appear to support this notion. They show that the leak of the Panama Papers in 2016 had a significant negative effect on affected firms' stock returns that,

[7]Not surprisingly, the same is true for individuals' tax compliance. See, for example, Alm and Torgler (2011), Dulleck et al. (2016), and Hallsworth et al. (2017).

[8]In the survey conducted by PwC (2013), most CEOs express their concern about the reputation risk that goes along with tax planning. However, 46% of them expect no adjustments to their investment in managing corporate reputation for the following year, while 11% anticipate a major change.

on average, amounted to a 0.7% drop in firm value, compared to similar but unaffected firms. Likewise, Hanlon and Slemrod (2009), using media reports from 1990 to 2004, find stock prices to react negatively to news about a firm's involvement in tax shelters. This effect proves to be stronger for firms in the consumer-oriented retail sector. Gallemore et al. (2014) obtain similar results for observations from 1995–2005. This confirms the findings of Graham et al. (2014) indicating that tax planning was associated with reputation risk even prior to the 2008-2009 financial crisis.[9] However, as outlined above, it seems obvious that reputation risk has strongly increased in recent years.[10]

If not ignored completely by firms, the link between tax avoidance and workers' motivation supposed in our model not only affects a firm's future performance, but also its tax avoidance decision in the first place. Therefore, our paper contributes to the literature on the determinants of tax avoidance, which we won't discuss in further detail.[11] Just additionally note that, while the impact of managerial incentives (Armstrong et al., 2012, 2015; Desai and Dharmapala, 2006; Rego and Wilson, 2012) and individual characteristics of firms' decision makers (Dyreng et al., 2010; Francis et al., 2015; Ge et. al, 2011) on tax avoidance and firm performance have been extensively investigated, the role of (lower-level) employees has, to the best of our knowledge, not been examined in this context so far.

As already mentioned, the role of employees also has been neglected by the literature that links tax avoidance and firm performance. Most studies dealing with this issue focus on stock prices, thereby highlighting the impact of shareholders, investors, and executives. Desai and Dharmapala (2006) propose a complementarity between tax avoidance and manager diversion of corporate resources. The underlying idea is that complex tax sheltering structures can be exploited by managers if corporate governance is rather weak. This notion is supported by Desai and Dharmapala (2009) and Wilson (2009), who find a positive effect of tax avoidance on firm value, but only for well-governed firms. Using data on Russian firms, Desai et al.

[9] On a related note, Bowen et al. (2010) show that whistleblowing allegations can have lasting negative effects on a firm's stock return and operating performance.

[10] Supporting this notion, Gallemore et al. (2014) find no significant reputation effects on managers, customers, and tax authorities, which stands in sharp contrast to some of the studies mentioned above. While the latter rely on more recent (i.e., post-crisis) data, Gallemore et al. (2014) only use pre-crisis observations (in fact, more than 40% of their observations date back to 1995).

[11] See Hanlon and Heitzman (2010) and Dyreng et al. (2017) for an overview on this topic.

(2007) find that stricter tax enforcement leads to higher company values and lower control premia. A similar result is obtained by Mironov (2013), who shows that increased enforcement has a positive effect on firms' growth rates and productivity, with the latter being measured by revenue per employee. In line with Desai and Dharmapala (2006), both Desai et al. (2007) and Mironov (2013) argue that reduced managerial diversion, rather than actual tax planning, is the main driver of this effect. Balakrishnan et al. (2012) stress that aggressive tax planning decreases the financial transparency of firms, which may hinder the communication with outside parties. Consistent with this reasoning, it seems that tax aggressive firms are considered more risky by stakeholders and business partners, which may also impair their performance. For instance, Kim et al. (2011) find a positive relationship between US firms' tax-planning activities and the future crash risk of their stock prices. Hasan et al. (2014) show that firms avoiding taxes face higher bank loan cost. Examining data on UK companies, Brooks et al. (2016) demonstrate that corporations with lower effective tax rates are perceived to be more risky by investors. Nevertheless, they find the stock prices of these firms to be only affected temporarily, if at all.

These results suggest that firm performance can, under certain circumstances (like, e.g., good corporate governance), be positively associated with tax avoidance. However, managerial diversion and reputation risk have been identified to pose serious threats to avoiding firms' performance, and the theoretical model presented in the next section gives rise to an additional link through which tax avoidance may harm firm performance.

3 The model

We assume a two-period model with a risk-neutral firm using labor as only input in each period t ($t = 1, 2$) to produce a single good with price of unity. We may argue that (two-period) wage contracts are already in place and renegotiation or termination of a contract is prohibitively costly. This is consistent with assuming that wage w as well as the number of (homogeneous) workers $\overline{L}$ employed by the firm is fixed. Output f produced by each employee depends on effort e, which is unobserved by the firm, and is given as

$$f(e) = \phi e. \tag{1}$$

The parameter $\phi > 0$ denotes the marginal product of work effort. It is assumed to be constant and, due to homogeneity of workers, the same for all

employees.

The firm faces the time-invariant statutory corporate tax rate $\tau \in [0, 1]$. However, the firm may engage in tax-planning activities and avoid taxes. Tax avoidance A is associated with cost $C(A) = \alpha A^2/2$, where $\alpha > 0$ is a constant cost parameter. We assume that the cost of tax planning is not deductible for tax purposes. The firm's net profit in period t is

$$\pi_t = (1 - \tau)\Pi_t + \tau A_t - \alpha A_t^2/2, \tag{2}$$

where

$$\Pi_t = (f(e_t) - w)\overline{L} \tag{3}$$

denotes gross profit of the firm in period t. Drawing on Delfgaauw and Dur (2003), the utility of a worker in period t when employed by the firm is given by

$$U_t = w + \gamma_t e_t - \frac{1}{2}\Theta e_t^2. \tag{4}$$

Providing effort is costly for the worker and the parameter Θ determines the magnitude of this effect. In the following, however, we set $\Theta = 1$ for simplicity. The parameter γ_t captures a worker's utility from providing effort in period t.[12] Note that γ may not only be time- but also firm-specific (we focus on a single firm, though). In the following, we will interpret a high γ as high intrinsic motivation to work for a specific firm. The latter may be due to a specific job, but can also be related to the reputation of a firm and its products.

We suppose that γ depends on firm behavior and generally on the attitude of the employee towards the employer. In particular, building on the arguments from Sections 1 and 2, we assume that γ is determined by a firm's tax avoidance behavior:

$$\gamma_t = \overline{\gamma}\left(1 - \frac{\kappa_o \kappa_s (\tau - \tau_{t-1}^e)}{\tau}\right), \tag{5}$$

where $\overline{\gamma} \geq 0$ denotes the worker's initial intrinsic motivation. This motivation is negatively affected by tax avoidance; to be specific, if τ_t^e, the firm's effective tax rate, is lower than τ. The magnitude of this effect is determined by the parameters κ_o and κ_s, with $\kappa_o, \kappa_s \in [0, 1]$. We think of κ_o as the degree to which workers are able to observe the firm's tax avoidance; κ_s measures a

[12] We can interpret γ very generally as fulfillment, satisfaction, or pleasure from providing effort.

worker's sensitivity towards avoidance.[13] The effective tax rate is defined as the ratio of actual tax payments to gross profit (cf. Ewert and Niemann, 2014) and given by

$$\tau_t^e = \frac{\tau(\Pi_t - A_t)}{\Pi_t}. \tag{6}$$

By definition, the effective tax rate cannot be negative, i.e. the avoided amount cannot exceed the firm's tax liability: $A_t \leq \Pi_t$. Using equation (6), the intrinsic motivation parameter can be expressed in terms of the tax avoidance level

$$\gamma_t = \overline{\gamma}\left(1 - \frac{\kappa_o \kappa_s A_{t-1}}{\Pi_{t-1}}\right). \tag{7}$$

Equation (7) suggests that γ_t is decreasing in the level of tax avoidance or, more precisely, in A_{t-1}/Π_{t-1}, the fraction of profits that has not been taxed in the previous period due to avoidance. Note that γ changes only due to observed tax avoidance. By contrast, a worker's expectations or beliefs concerning a firm's tax-planning behavior are captured by the initial intrinsic motivation parameter $\overline{\gamma}$, which we assume to be constant. Furthermore, workers' assessment of the firm's tax-planning behavior prior to the beginning of the game (i.e., in periods $t \leq 0$) is supposed to be fully captured by $\overline{\gamma}$. This implies that $\gamma_1 = \overline{\gamma}$.

The firm decides on tax avoidance at the end of each period, after employees have provided effort and the corresponding gross profit has been realized. Due to this order of events, there is a one-period lag between the firm's tax avoidance decision and the corresponding effect on effort, as employees are only able to observe a firm's past tax-planning behavior. In our two-period model, this implies that the firm optimally takes into account the effect of tax avoidance on workers' future (i.e., second-period) effort in the first period.

Let us, for a moment, assume that the firm is not fully aware of the mechanism described by equation (7).[14] In that case, the firm underestimates

[13] Accordingly, the growing public concern about firms' tax-planning activities in recent years should imply an increase of κ_s, while larger media attention and tax data leaks should imply an increase of κ_o.

[14] Alternatively, we may suppose that the firm is aware of the mechanism described by equation (7) but underestimates the degree to which employees observe and despise tax avoidance. As both the recent disclosures of and the increase in public interest in firms' tax-planning activities were, at least to some degree, unexpected by firms, it seems reasonable to assume that firms underestimate κ_o and κ_s (or, at least, have done so in the past).

the negative impact of tax avoidance on workers' motivation. We refer to this firm behavior as *"myopic"*.

3.1 Myopic tax avoidance

In this subsection, we determine the outcome of our model when the firm is not aware of the mechanism described by equation (7). As the model is solved via backward induction, we start with the firm's avoidance decision at the end of the *second period*. The firm maximizes its second period net profit

$$\pi_2 = (1-\tau)\Pi_2 + \tau A_2 - \alpha A_2^2/2 \tag{8}$$

by choosing the avoidance level A_2. The corresponding optimality condition states that marginal tax savings equal the marginal avoidance cost

$$\tau = \alpha A_2 \quad \Leftrightarrow \quad A_2^* = \tau/\alpha. \tag{9}$$

Each unit of tax avoidance A is associated with a tax saving equal to τ. On the cost side, the firm takes into account the marginal cost of tax planning $C'(A_2) = \alpha A_2$. We will refer to this cost as the "*direct cost of tax avoidance*". Note that there is no future in period 2, which means that the tax avoidance decision in this period does not affect effort levels of employees.

The level of tax avoidance determined by equation (9) is independent of the gross profits of a firm. The reason is our assumption that the cost of tax planning depends on A, the difference between actual and reported gross profit, and not on the absolute levels thereof.[15]

At the beginning of the period, each worker chooses e_2 to maximize

$$U_2 = w + \gamma_2 e_2 - e_2^2/2. \tag{10}$$

The optimal effort level is given by

$$e_2^* = \gamma_2 = \overline{\gamma}\left(1 - \frac{\kappa_o \kappa_s A_1}{\Pi_1}\right). \tag{11}$$

Thus, employees' effort depends on the firm's tax avoidance. In particular, tax avoidance in the first period reduces effort in the second period. The

[15] This assumption implies that tax avoidance is not becoming cheaper when gross profits increase. In general, this could be the case if income is positively related to firm complexity and if the latter facilitates tax avoidance.

effect of past tax avoidance on e_2^* is small if workers are rather insensitive to tax planning (κ_s small) or if they simply lack information about firm behavior (κ_o small).

We can now substitute A_2^* (9) in equation (8) to obtain

$$\pi_2 = (1-\tau)\Pi_2 + \tau^2/2\alpha. \tag{12}$$

Following (1), (3), and (11), it is apparent that tax avoidance in period 1 has a negative impact on the firm's productivity and its gross profit in the second period, as well as on the corresponding net profit (12):

$$\frac{f(\gamma_2)}{\partial A_1}, \frac{\partial \Pi_2}{\partial A_1}, \frac{\partial \pi_2}{\partial A_1} \leq 0.$$

This effect is stronger if workers are sensitive and disapprove of tax avoidance behavior (κ_s high). It is also stronger if tax avoidance behavior can easily be observed by employees (κ_o high).

At the end of the *first period*, the firm chooses A_1 to maximize

$$\pi_1 + \delta\pi_2 = (1-\tau)\Pi_1 + \tau A_1 - \alpha A_1^2/2 + \delta\big[(1-\tau)\Pi_2 + \tau^2/2\alpha\big], \tag{13}$$

where $\delta \in [0,1]$ denotes the intertemporal discount factor.

Since we have assumed that the firm is not aware of the negative impact tax avoidance has on employee effort, and thus on gross profit in the following period, the selected level of tax avoidance is

$$\tau = \alpha A_1 \quad \Leftrightarrow \quad A_1^* = \tau/\alpha. \tag{14}$$

Again, the firm chooses the tax avoidance level such that marginal benefit (avoided tax payment τ) and current marginal cost of tax planning ($C'(A_1) = \alpha A_1$) are equalized.[16] However, it neglects the link between current tax avoidance and employee effort in the future.[17] Hence, it underestimates the total (i.e., current and future) marginal cost of tax planning and avoids too much.

At the first stage of the game, each employee selects the (first period) effort that maximizes its overall utility

$$U_1 + \delta U_2 = w + \gamma_1 e_1 - e_1^2/2 + \delta(w + \gamma_2 e_2 - e_2^2/2). \tag{15}$$

This effort is given by $e_1^* = \gamma_1 = \overline{\gamma}$.

[16] If the statutory corporate tax rate and the (direct) avoidance cost function are the same in both periods, the level of tax avoidance is the same in both periods as well.

[17] Technically, the firm wrongly assumes $\frac{\partial \Pi_2}{\partial A_1} = 0$, although $\frac{\partial \Pi_2}{\partial A_1} \leq 0$ holds true.

3.2 Optimal tax avoidance

If the firm knew about the negative consequences of tax avoidance on employee effort, its avoidance decision in the first period would satisfy

$$\tau = \alpha A_1 + \delta(1-\tau)\frac{\partial \Pi_2}{\partial A_1}. \tag{16}$$

We can rewrite this equation to obtain

$$\tau = \alpha A_1 + \Delta \quad \Leftrightarrow \quad A_1^o = \frac{\tau - \Delta}{\alpha}. \tag{17}$$

As before, marginal tax savings equal marginal cost of avoidance. Compared to expression (14), however, the effect of tax avoidance on effort is now taken into account by the firm. We capture this effect by using the term Δ. This term, to which we refer to as the *indirect cost of tax avoidance*, is given by

$$\Delta \equiv \delta(1-\tau)\frac{\partial \Pi_2}{\partial A_1} = \frac{\delta(1-\tau)\overline{L}\phi\overline{\gamma}\kappa_o\kappa_s}{\Pi_1} = \frac{\delta(1-\tau)\phi\overline{\gamma}\kappa_o\kappa_s}{\phi\overline{\gamma} - w} \geq 0. \tag{18}$$

From equations (14), (17), and a non-negative Δ, it is obvious that

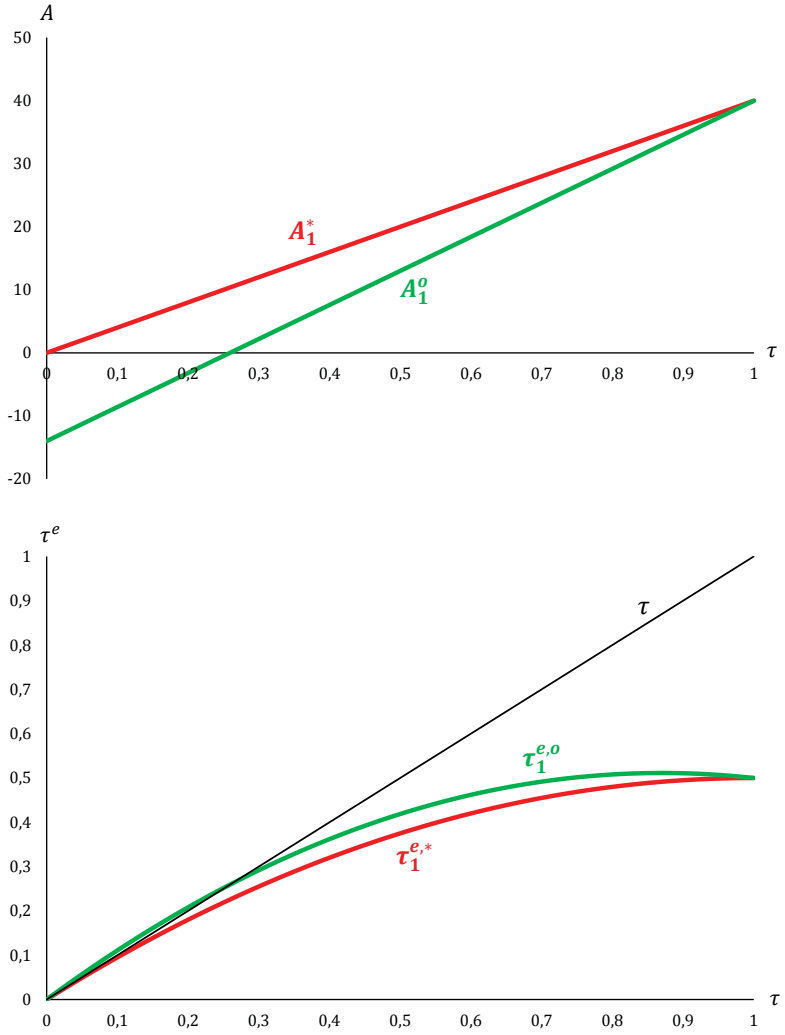
$$A_1^o \leq A_1^*. \tag{19}$$

That is, in the first period (or, more generally, in each period other than the last one), the firm optimally avoids less taxes than the myopic level A_1^*, as there is an additional indirect cost of tax avoidance. Thus, we may state that tax avoidance exerts a negative externality on future effort of employees and this reduces a firm's future profits. Accordingly, the tax avoidance level is too high if the firm does not take this effect into account. This is illustrated in Figure 1, in which A_1^* and A_1^o (the corresponding effective tax rates $\tau_1^{e,*}$ and $\tau_1^{e,o}$) are plotted against τ in the upper (lower) diagram.[18] Obviously, both avoidance levels are increasing in τ, as a higher tax rate implies a higher marginal benefit of avoidance. In particular, $A_1^* > 0$ and $\tau_1^{e,*} < \tau$ for all $\tau > 0$. By contrast, $A_1^o < 0$ and $\tau_1^{e,o} > \tau$ if $\Delta > \tau > 0$. That is, it may be optimal for a firm to make an additional tax payment if the associated (positive) effect on workers' effort is sufficiently strong.[19]

[18] In the lower diagram, the statutory corporate tax rate τ is depicted for reference.

[19] As illustrated by the case of Starbucks mentioned above, voluntary tax payments for reputation purposes actually take place. It seems rather unlikely, however, that a potential link between avoidance and employee effort works identically in both directions. Therefore, our argumentation focuses on "positive tax avoidance" ($A \geq 0$) in the following.

Figure 1: Myopic and optimal tax avoidance level (upper diagram) and effective tax rate (lower diagram)



The difference between the myopic and the optimal avoidance level is increasing in the indirect cost of tax avoidance Δ and decreasing in the direct cost parameter α: $A_1^* - A_1^o = \Delta/\alpha$. Accordingly, given $\partial\Delta/\partial\tau < 0$, the gap between the two functions is largest for $\tau = 0$ and becomes smaller as τ is increased.

Table 1: *Determinants of the indirect cost of tax avoidance*

	κ_o	κ_s	δ	w	τ	$\overline{\gamma}$	ϕ
Δ	+	+	+	+	−	−	−

If workers cannot observe the firm's tax planning activities ($\kappa_o = 0$) or do not care about them ($\kappa_s = 0$), $\Delta = 0$ and the myopic tax avoidance level is optimal: $A^* = A^o$. Furthermore, the indirect cost of avoidance is less important if α is high, as in such a case, the firm's tax avoidance is limited by the direct cost anyway.

3.3 The indirect cost of tax avoidance

The indirect cost of tax avoidance, as defined in (18), depends on several parameters, all of which are assumed to be exogenous in our model. Their qualitative effects on the indirect cost of tax avoidance are summarized in Table 1. Obviously, tax avoidance is more costly for the firm if workers can easily observe it and have strong objections against it, i.e. if κ_o and κ_s are high, as the negative impact of avoidance on future profits is stronger.

Given the indirect cost of tax avoidance, firms face the following tradeoff: avoidance increases net profit in the current period but lowers profits in the future. Accordingly, the more important future profits are, which is measured by δ, the more the firm should care about the indirect cost of tax avoidance.

By contrast, a high (future) tax rate τ curbs future profits and reduces the indirect cost of tax avoidance. Therefore, an increase in the statutory corporate tax rate increases the optimal level of tax avoidance in two different ways. This can be seen from equation (17). First, the optimal avoidance level depends directly on the (current-period) tax rate, as a higher tax rate implies a higher marginal benefit of avoidance. Second, a higher (future) tax rate decreases future profits and, hence, Δ, making tax avoidance in the present less costly. Note, however, that firms possibly neglect the indirect cost of tax avoidance (at least to some degree) and are only fully aware of the direct effect. Consequently, as mentioned earlier and illustrated in Figure 1, the difference between A_1^* and A_1^o is decreasing in τ.

The indirect cost of tax avoidance is low if the firm's gross profit is high, i.e. if marginal productivity (ϕ) and initial intrinsic motivation ($\overline{\gamma}$) of em-

ployees are high, and the wage rate (w) is low. This result is driven by the assumption that workers relate the avoided amount to the firm's gross profit when evaluating the tax compliance behavior of the latter; it crucially depends on the specification of γ (7).

The parameters $\overline{\gamma}$ and ϕ are also positively related to the indirect cost of tax avoidance. It is obvious that a higher marginal productivity implies a higher cost of tax avoidance in terms of lost effort and output. Concerning employees' initial intrinsic motivation $\overline{\gamma}$, we may interpret equations (7) and (11) in the following way. An employee's potential effort is given by its initial intrinsic motivation level. Tax avoidance limits the extent to which an employee is willing (or able) to exploit this potential effort. Accordingly, the cost of tax avoidance in terms of unexploited effort is high if the potential effort level, measured by $\overline{\gamma}$, is high. However, these positive effects are dominated by the aforementioned effects of $\overline{\gamma}$ and ϕ on a firm's gross profit. Thus, the indirect cost of tax avoidance is decreasing in $\overline{\gamma}$ and ϕ.[20]

It is worth noting that the indirect cost of tax avoidance is not affected by the number of employees ($\overline{L}$) in this basic setting with two periods and constant $\overline{L}$. In Section 4, however, we show that the indirect cost of tax avoidance is increasing in $\overline{L}$ if the time horizon is infinite.[21]

Given the optimal level of tax avoidance (17), we can calculate the optimal effort and profit levels in both periods. For comparison, we also determine the myopic outcome according to equation (14). The respective results are presented in Table 2.[22] The only difference between the myopic and the optimal values in Table 2 is the presence of the indirect cost of tax avoidance Δ. When ignoring the future effects of tax avoidance, the firm can realize a higher net profit in period 1 – as tax payments are lower. However, this higher profit comes at the cost of lower future profit, as can be seen from the second-to-last row of Table 2. Employees' effort level and, as a consequence, firm profits are lower in the subsequent period than they would be in case of optimal tax avoidance ($\Pi_2^* \leq \Pi_2^o$ as $e_2^* \leq e_2^o$). Most important, a firm's overall profit is lower if it neglects the indirect cost of tax avoidance, as shown in the last row of Table 2. The respective difference in profit increases with the indirect cost and decreases with the direct marginal cost of tax avoidance.

Given these results, we can formulate the following hypotheses:

[20] For $w = 0$, the two effects cancel out and Δ is independent of $\overline{\gamma}$ and ϕ.

[21] In the two-period case, Δ is increasing in L if $L_2 > L_1$.

[22] In Table 2, $\Pi_1 = (\phi\overline{\gamma} - w)\overline{L}$ and $\Pi_2^* = (\phi e_2^* - w)\overline{L} < \Pi_2^o = (\phi e_2^o - w)\overline{L}$.

Table 2: *Myopic view vs. optimality benchmark*

	myopic		optimal	difference ($^*-^o$)
e_1	$\overline{\gamma}$	$=$	$\overline{\gamma}$	0
A_1	$\frac{\tau}{\alpha}$	$\geq$	$\frac{\tau-\Delta}{\alpha}$	$\frac{\Delta}{\alpha}$
π_1	$(1-\tau)\Pi_1+\frac{\tau^2}{2\alpha}$	$\geq$	$(1-\tau)\Pi_1+\frac{\tau^2-\Delta^2}{2\alpha}$	$\frac{\Delta^2}{2\alpha}$
e_2	$\overline{\gamma}\left(1-\frac{\kappa_o\kappa_s\tau}{\alpha\Pi_1}\right)$	$\leq$	$\overline{\gamma}\left(1-\frac{\kappa_o\kappa_s(\tau-\Delta)}{\alpha\Pi_1}\right)$	$-\frac{\overline{\gamma}\kappa_o\kappa_s}{\alpha\Pi_1}\Delta$
A_2	$\frac{\tau}{\alpha}$	$=$	$\frac{\tau}{\alpha}$	0
π_2	$(1-\tau)\Pi_2^*+\frac{\tau^2}{2\alpha}$	$\leq$	$(1-\tau)\Pi_2^o+\frac{\tau^2}{2\alpha}$	$-\frac{\Delta^2}{\delta\alpha}$
$\pi_1+\delta\pi_2$	$\pi_1^*+\delta\pi_2^*$	$\leq$	$\pi_1^o+\delta\pi_2^o$	$-\frac{\Delta^2}{2\alpha}$

Hypothesis 1: The lower the effective tax rate of a firm, the lower is its output/total factor productivity and profit (per employee) in the long run. This effect is stronger if the indirect cost of tax avoidance is high, i.e. for high (low) values of κ_o, κ_s, δ, w (τ, $\overline{\gamma}$, ϕ).

Hypothesis 2: The higher the *direct cost of tax avoidance*, the higher the effective tax rate of a firm. The consequence is a higher output/total factor productivity and higher profit (per employee) in the long run (cf. **H1**).

Hypothesis 3: The higher the *indirect cost of tax avoidance*, the higher the effective tax rate of a firm (if the latter takes this cost into account). The consequence is a higher output/total factor productivity and higher profit (per employee) in the long run (cf. **H1**).

4 Model variations and robustness

In order to check the above results for robustness and to extend the scope of our model, three modifications of the basic framework are introduced in the following subsections.

4.1 Infinite time horizon

Extending the time horizon of our framework beyond two periods appears to be a natural and worthwhile modification of our model. Therefore, we assume an infinite time horizon in this subsection. To keep the analysis simple, we now suppose that workers are interested in whether the firm avoids taxes or not, but do not care about the exact amount of tax that the firm avoids.[23] In particular, we assume

$$\gamma_t = \begin{cases} \underline{\gamma} & \text{if } A_{t-1}, \kappa_o, \kappa_s > 0 \\ \gamma_{t-1} & \text{otherwise,} \end{cases} \tag{20}$$

with $\gamma_1 = \overline{\gamma} > \underline{\gamma} \geq 0$. Thus, workers' initial intrinsic motivation $\overline{\gamma}$ is reduced to $\underline{\gamma}$ if they observe and despise tax avoidance by the firm. Once a worker's intrinsic motivation has been reduced, the initial level is never reached again. That is, part of workers' motivation, and potential effort, is irreversibly lost once they realize that the firm avoids taxes.

Accordingly, employees' effort equals $\overline{\gamma}$ if they have never observed or do not care about tax avoidance by the firm, and $\underline{\gamma}$ otherwise. This implies that the firm, once it starts to avoid taxes, will continue to do so in all subsequent periods. Furthermore, given the specification of γ_t (20), the indirect cost of tax avoidance does not affect avoidance at the intensive margin. Consequently, the selected level in case of tax avoidance is

$$A_t = A = \tau/\alpha, \tag{21}$$

which is the same as for myopic behavior (14). Intuitively, the indirect cost of tax avoidance is sunk once the firm engages in strategic tax planning and is, therefore, excluded from subsequent avoidance decisions.

As long as the firm does not avoid taxes (implying $A = 0$, $e = \overline{\gamma}$, and $\Pi = (\phi\overline{\gamma} - w)\overline{L}$), it realizes a net profit of

$$\pi^H = (1-\tau)(\phi\overline{\gamma} - w)\overline{L} \tag{22}$$

in each period. If the firm starts to avoid taxes, its net profit is

$$\pi^D = (1-\tau)(\phi\overline{\gamma} - w)\overline{L} + \tau^2/2\alpha \tag{23}$$

once (in the "deviation" period, where $A = \tau/\alpha$, $e = \overline{\gamma}$, and $\Pi = (\phi\overline{\gamma} - w)\overline{L}$) and

$$\pi^A = (1-\tau)(\phi\underline{\gamma} - w)\overline{L} + \tau^2/2\alpha \tag{24}$$

[23] We may argue that the firm is stigmatized as "tax avoider" for all levels of $A > 0$.

in all subsequent periods (where $A = \tau/\alpha$, $e = \underline{\gamma}$, and $\Pi = (\phi\underline{\gamma} - w)\overline{L}$). Accordingly, the firm will avoid taxes if and only if

$$\pi^D + \pi^A \frac{\delta}{1-\delta} > \pi^H \frac{1}{1-\delta}, \tag{25}$$

i.e., if the net present value of all (present and future) profits is higher in case of avoidance.[24] Given (22), (23), and (24), this inequality can be expressed as follows:

$$\frac{\tau^2}{2\alpha}\frac{1}{1-\delta} > (1-\tau)(\overline{\gamma} - \underline{\gamma})\phi\overline{L}\frac{\delta}{1-\delta}.^{25} \tag{26}$$

Similar to the two-period framework, the firm optimally trades off two opposing effects when deciding whether to engage in tax avoidance. For a given gross profit, the firm's net profit is obviously higher if it avoids taxes. For an infinite number of periods, the net present value of these tax savings is given by the left-hand side of inequality (26). However, yet again, there is the indirect cost of tax avoidance. In (26), this cost is captured by the the right-hand side of the equation. Accordingly, the firm only avoids taxes if the associated savings exceed the indirect cost of avoidance, i.e. if inequality (26) holds.

Hence, a firm is more likely to engage in tax avoidance if it underestimates the associated indirect cost (myopic view), and might even do so in a situation where it is not optimal.

As in the basic framework, tax avoidance is particularly worthwhile if the direct avoidance cost (α) is low and if the tax rate (τ) is high. It can be seen from inequality (26) that a high tax rate, once again, encourages tax avoidance in two different ways. First, tax savings are increasing quadratically in τ. Second, the (future) tax rate curbs future profits, making them less worthwhile to attain. That is, the indirect cost of tax avoidance is decreasing in τ. The latter argument also applies to the discount factor δ. Thus, tax avoidance is more attractive if the value of δ is low.

Moreover, the indirect cost of tax avoidance is small if the effort-related productivity shock is small or of minor importance. This is the case if the potential decline of effort ($\overline{\gamma} - \underline{\gamma}$), the number of employees ($\overline{L}$), or the marginal productivity of effort (ϕ) are small. Given the definition of γ_t (20), $\gamma_t = \overline{\gamma}$ if employees do not observe ($\kappa_o = 0$) or despise ($\kappa_s = 0$) avoidance. In such a

[24] We assume that the firm does not avoid taxes in case of indifference.

[25] Further simplification leads to $\tau^2/2\alpha > \delta(1-\tau)(\overline{\gamma} - \underline{\gamma})\phi\overline{L}$.

case, the indirect cost of tax avoidance (i.e., the right-hand side of (26)) is zero and inequality (26) always holds, meaning that the firm avoids taxes.

Apparently, the qualitative influence of these parameters is, to a large extent, the same as in our basic setting. The only exception is the number of employees, $\overline{L}$, which is positively related to the indirect cost of tax avoidance in the present specification with infinite time horizon.

Given inequality (26), the alternate modeling approach introduced in this subsection allows us to formulate two additional hypotheses.

Hypothesis 4: The higher the *direct cost of tax avoidance*, the lower the likelihood of avoidance by a firm (cf. **H2**).

Hypothesis 5: The higher the *indirect cost of tax avoidance*, the lower the likelihood of avoidance by a firm (if the latter takes this cost into account; cf. **H3**). Regarding this (and extending **H1**), the indirect cost of tax avoidance is high if the number of employees ($\overline{L}$) is high.

4.2 Time-variant wages

Given the model's feature that tax avoidance by a firm limits the motivation of its employees, it is straightforward to ask whether the wage claims of employees are affected by avoidance as well. In order to answer this question, we drop the assumption that wages are constant over time and suppose that employees' contracts end after each period.[26] Thus, a firm has to (re)hire workers, by offering a one-period contract, at the beginning of each period t. For convenience, we continue to assume that the optimal number of employees is constant and given by $\overline{L}$. Furthermore, we assume that the wage w_t takes the form of a fixed payment.[27] Workers only accept the job offer by the firm if their participation constraint is satisfied:

$$U_t = w_t + \gamma_t e_t - \frac{1}{2} e_t^2 \geq \underline{U}, \tag{27}$$

where $\underline{U}$ denotes workers' constant and exogenous reservation utility.

[26] Moreover, we return to our basic two-period framework.

[27] Recall that effort is unobservable, making it impossible for the firm to implement monetary incentives conditional on effort provision.

Given workers' utility-maximizing effort is $e_t = \gamma_t$, the participation constraint is satisfied if the offered wage is at least

$$w_t \geq \underline{U} - \frac{\gamma_t^2}{2}. \tag{28}$$

Following (7), we have $\gamma_1 = \overline{\gamma}$ and

$$w_1 \geq \underline{U} - \frac{\overline{\gamma}^2}{2} \tag{29}$$

in the first period and $\gamma_2 = \overline{\gamma}\big(1 - \frac{\kappa_o \kappa_s A_1}{\Pi_1}\big)$, implying

$$w_2(A_1) \geq \underline{U} - \frac{\overline{\gamma}^2}{2}\left(1 - \frac{\kappa_o \kappa_s A_1}{\Pi_1}\right)^2 \tag{30}$$

in the second period. We assume a perfectly competitive labor market, which means that the firm can set wages such that (29) and (30) hold with equity. Equation (30) shows that the second-period wage is increasing in A_1, the level of tax avoidance in the first period, if workers observe and despise avoidance ($\kappa_o, \kappa_s > 0$). Tax avoidance curbs workers' intrinsic motivation and the utility they derive from working for the respective firm. Consequently, avoiding firms must pay higher wages in order to satisfy workers' participation constraints. Furthermore, a comparison of (29) and (30) shows that tax avoidance leads to higher wage requests in future periods.

One may argue that a firm's employees ("insiders", indexed I) are better informed about their employer's tax-planning activities, implying a higher value of κ_o, compared to "outsiders" (indexed O): $\kappa_{o,I} > \kappa_{o,O}$. Given $\partial w_2(A_1)/\partial \kappa_o > 0$, this means that long-term employees claim higher wages than outsiders in case of tax avoidance, i.e. $w_{2,I}(A_1) > w_{2,O}(A_1)$ for $A_1 > 0$. As a consequence, an avoiding firm prefers hiring new workers over keeping the current employees if the turnover-related cost per employee, which we denote ψ, is lower than the wage differential between insiders and outsiders: $\psi < w_{2,I}(A_1) - w_{2,O}(A_1)$. Thus, there may be a negative relationship between the employee turnover rate and the effective tax rate of a firm.

Hypothesis 6: The lower the effective tax rate of a firm, the higher are (future) wages of this firm's employees. This effect is stronger if workers can easily observe (κ_o high) and despise tax avoidance (κ_s high). Moreover, the effect is stronger for long-term employees which have better information

about the firm's tax-planning activities, compared to outsiders.

Hypothesis 7: The lower the effective tax rate of a firm, the higher its employee turnover rate.[28]

Allowing for time-variant wages does not alter the myopic tax avoidance level (14).[29] By contrast, the optimal tax avoidance level is even lower in this case. In particular, tax avoidance harms the firm's future profit in two different ways: it leads to lower effort (as in the basic framework) and higher wages of employees. Maximizing the firm's profit function (13) with respect to A_1 now yields

$$\tau = \alpha A_1 + \Delta\left(1 + \frac{\gamma_2}{\phi}\right) \quad \Leftrightarrow \quad A_1^{o,w} = \frac{\tau - \Delta\left(1 + \frac{\gamma_2}{\phi}\right)}{\alpha}. \tag{31}$$

(31) is a modified version of equation (17), as it additionally contains the wage-increasing effect of tax avoidance. This effect is reflected by the non-negative second term in the round bracket, $\frac{\gamma_2}{\phi} \geq 0$.[30] Accordingly, the wage-increasing effect is present as long as workers still have some intrinsic motivation to work for the firm ($\gamma_2 > 0$).

A comparison of equations (14), (17), and (31) shows that the difference between the myopic and optimal level of tax avoidance becomes even larger if wages are not fixed. While the marginal benefit of avoidance is still given by τ, the marginal cost increases, due to the additional wage effect. Consequently, the optimal level of tax avoidance is lower if we allow for time-variant wages: $A_1^{o,w} \leq A_1^{o}$.[31] This finding is in line with our previous results, as we may interpret the wage effect as an additional part of the indirect cost of tax avoidance.

[28] In line with Hypotheses 6 and 7, Burbano (2016) shows that CSR investment can reduce the wage demands of (prospective) workers and Hansen et al. (2011) demonstrate that employees who perceive their employer to be socially responsible are less likely to leave.

[29] Obviously, this only holds true if the firm is unaware of the link between tax avoidance and workers' wage claims.

[30] Recall that $\gamma_2 \geq 0$ per definition.

[31] The optimal tax avoidance level in this case can be explicitly determined as $A_1^{o,w} = \frac{\tau - \Delta(1+\overline{\gamma}/\phi)}{\alpha - \Delta\overline{\gamma}\kappa_o\kappa_s/\phi\Pi_1}$.

4.3 Alternate specification of γ

As a further robustness check, we want to examine how results change if we modify the specification of γ_t in our two-period framework. Instead of (7), we now suppose

$$\gamma_t = \overline{\gamma}\left(\frac{\tau_{t-1}^e}{\tau}\right)^{\kappa_o\kappa_s} = \overline{\gamma}\left(1 - \frac{A_{t-1}}{\Pi_{t-1}}\right)^{\kappa_o\kappa_s}. \tag{32}$$

In the basic model, we assume a negative linear relationship between tax avoidance and employees' (future) intrinsic motivation (cf. (7)). This implies that the marginal effect of tax avoidance on workers' motivation, $\partial\gamma_t/\partial A_{t-1}$, is negative, constant, and independent of A_{t-1}. By contrast, the marginal effect is negative and decreasing in A_{t-1} for the alternate specification of γ_t assumed here. That is, γ_t decreases more than proportionally in tax avoidance A_{t-1}.[32] Given (32), maximization of the profit function (13) yields

$$\tau = \alpha A_1 + \Delta\left(1 - \frac{A_1}{\Pi_1}\right)^{\kappa_o\kappa_s - 1} = \alpha A_1 + \Delta\left(\frac{\tau_1^e}{\tau}\right)^{\kappa_o\kappa_s - 1}, \tag{33}$$

which is yet another modification of the optimality condition (17). The additional term in equation (33), $\left(\frac{\tau_1^e}{\tau}\right)^{\kappa_o\kappa_s-1}$, is greater than one in case of tax avoidance, i.e. for $\tau_1^e < \tau$.[33] Accordingly, the indirect cost of tax avoidance is larger than in the basic model, implying a lower optimal avoidance level. Besides this quantitative effect, however, the qualitative results are the same for both specifications of γ_t.

5 Conclusions

This paper suggests a link between corporate tax avoidance, employee effort, and firm performance that has not been analyzed so far. In order to do so, we develop a theoretical framework in which workers' intrinsic motivation and, as a consequence, their provided effort are negatively affected by tax avoidance of their employer. Based on this assumption, we derive several hypotheses

[32] In particular, $\partial\gamma_t/\partial A_{t-1} = -\overline{\gamma}\frac{\kappa_o\kappa_s}{\Pi_{t-1}}$ for the specification (7) in the basic model and $\partial\gamma_t/\partial A_{t-1} = -\overline{\gamma}\frac{\kappa_o\kappa_s}{\Pi_{t-1}}\left(1 - \frac{A_{t-1}}{\Pi_{t-1}}\right)^{\kappa_o\kappa_s-1}$ for the specification (32) assumed here.

[33] To be precise, the additional term equals one in a scenario where $\kappa_o = \kappa_s = 1$, as (7) and (32) are identical in this case.

on the relationship between tax avoidance and (long-term) firm performance. In particular, our results suggest that tax avoidance leads to lower output, higher wages and employee turnover, and lower profits in the future. We refer to this effect as *indirect cost of tax avoidance*, as opposed to the *direct cost* that is caused by tax-planning activities straightaway. The higher the direct and indirect cost of tax avoidance, the lower the optimal avoidance level. Accordingly, a firm avoids too much taxes if it underestimates these costs. Given the strong increase in public concern about corporate tax planning in recent years, this finding seems to be particularly relevant regarding the *indirect cost of tax avoidance*. Both an unexpected disclosure of a firm's tax-planning activities as well as a change in employees' attitude towards avoidance may increase this cost and entail lasting negative effects on the firm's performance.

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