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# Corporate Tax Incidence and Tax Avoidance: Evidence from the German Business Tax Reform 2008

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# Corporate Tax Incidence and Tax Avoidance: Evidence from the German Business Tax Reform 2008

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***Abstract***

This study examines the interplay between corporate tax avoidance and the incidence of the corporate income tax falling on wages and employment. Using the German Business Tax Reform 2008 (GBTR 2008) as a natural experiment, we investigate how a large tax cut of about nine percentage points affected wages and the number of employees of low-avoidance firms compared with high-avoidance firms. We expect an abnormal wage response of low-avoidance firms that are more burdened by corporate taxation and benefitted more from the tax cut. In difference-in-differences and triple-difference regressions, we do not find significant evidence for an abnormal wage response of low-avoidance firms. A potential explanation might be strong labour protection regulations in Germany that might limit the ability of German firms to shift corporate taxes on labour. We find some but not very robust evidence for an abnormal increase in employment of low-avoidance firms after the GBTR 2008. Our findings align with recent evidence that German employees bear only a small fraction of German corporate taxation and that this burden primarily falls on employees of very small firms that are only poorly represented in our Amadeus data.

Keywords: Tax Incidence, Corporate Income Tax, Tax Avoidance, Employment Effects, Wage Effects

JEL classification: E24; H22; H25; J30

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## 1. Introduction

The incidence of the corporate income tax (CIT) is an interesting yet intricate area of research. Understanding who ultimately bears the burden of the CIT — capital owners, employees, customers, land owners or other stakeholders — is important for economic research and tax policy. Empirical studies have predominantly explored the extent to which firms can shift corporate tax burdens on wages and find mixed evidence (Fuest et al. 2018; Felix and Hines, 2022). While Arulampalam et al, (2012) estimate that about half of the CIT burden is passed on employees, other studies find weaker (Suarez Serrato and Zidar, 2016; Gstrein et al., 2025) or statistically insignificant results (Clausing, 2013; Curtis et al., 2022). A meta-analysis of Knaisch and Pöschel (2024) that controls for publication bias does not find statistically significant effects of CIT rates on wages. In addition, there is empirical evidence (e.g., Mukherjee and Badola, 2023) suggesting that higher CIT rates may also reduce employment and labor demand, which is often neglected in research on corporate tax incidence.

Another strand of research analyses tax avoidance behavior of firms. Using various methodological approaches to measure tax avoidance, the literature identifies a large number of determinants of corporate tax avoidance, such as profitability or executive compensation (e.g., Dyreng et al., 2008; Hanlon and Heitzman, 2010; Dyreng et al., 2017; Khan et al., 2017). An understudied area is the relationship between corporate tax avoidance and corporate tax incidence. While Arulampalam et al. (2012) and Fuest et al. (2018) provide some heterogeneity tests suggesting that firms with more avoidance opportunities shift less corporate income taxes on wages, there is only one paper that clearly addresses this research question. Dyreng et al. (2022) argue in a theoretical model that firms with a low cost to pass on the corporate tax burden on employees are less active in tax avoidance. Using the TCJA in the U.S. as natural experiment, they find a negative association of corporate tax incidence (i.e., passing the burden on employees) and corporate tax avoidance.

We take an alternative perspective. Using a large tax cut in Germany as a natural experiment, we analyze whether low-avoidance firms react differently to this tax cut than high-avoidance firms. We expect that firms with more tax avoidance opportunity have less incentive to pass on the burden on wages. As an alternative channel, we also consider that firms can adjust the number of employees in response to a corporate tax cut. We expect that the employment of low-avoidance firms is more responsive to the tax cut than the employment of high-avoidance firms.

Our analysis interprets the roughly 9-percentage-point tax cut of the German Business Tax Reform 2008 (*Unternehmensteuerreform 2008*; GBTR 2008) as exogenous variation and relies on unconsolidated AMADEUS data from 2005 to 2013. A main benefit of the unconsolidated

data is that we can clearly identify business units treated by the GBTR 2008. Consolidated data would be a problem for multinational firms that are only partially subject to the German CIT. In addition, AMADEUS also allows us to differentiate between domestic and multinational firms. We use six indicator variables for low-avoidance firms: high pre-reform long-run GAAP ETR, low pre-reform tax planning score TPS (Jacob and Schütt, 2020), low pre-reform Δ/BVA (Henry and Sansing, 2018), SME firms, domestic firms without profit shifting opportunities, and a low composite tax avoidance index based on the other five indicators.

We expect that low-avoidance firms are more responsive to the GBTR 2008 tax cut, as they bear higher effective tax burden and thus benefitted more from the reform. We hypothesize that treated low-avoidance firms abnormally increase the average wage per employee and the number of employees in comparison to high-avoidance firms after the GBTR 2008. In graphical analyses and placebo tests, we provide evidence for common trends between the six alternative treatment and control groups in the pre-reform period. In difference-in-difference tests, we also find that low-avoidance firms benefitted more from the GBTR 2008. Compared to high-avoidance firms, the reform abnormally reduced long-run GAAP ETRs for four groups of low-avoidance firms (*HighETR*, *LowΔ/BVA*, *SME* and *LowIndex*) and long-run Δ/BVA also for four groups of low-avoidance firms (*HighETR*, *LowTPS*, *LowΔ/BVA*, and *LowIndex*).

We use difference-in-difference estimation (DiD) and triple difference estimation (DDD) as identification strategies. Our DiD analysis builds on and extends the approach of Dobbins and Jacob (2016). While Dobbins and Jacob (2016) use domestic firms as treatment group and multinationals as control group to identify the GBTR 2008 impact on investment, we use not only *Domestic* as treatment indicator of low-avoidance firms, but also five other avoidance indicators (*HighETR*, *LowTPS*, *LowΔ/BVA*, *SME*, and *LowIndex*). This enables us to account for different dimensions of tax avoidance. The variation of treatment and control groups also ensures that we do not "cherry-pick" a specific definition of treatment and control groups. Our focus on within country variation also allows us to account for country-specific shocks.

A potential problem for our analysis might be that economic shocks could have different effects for low-avoidance and high-avoidance firms. If such shocks coincide with the GBTR 2008 and have a permanent effect on wages and employment, this would distort our results. To account for such shocks, we extend our analysis by a triple difference model with three dimensions: before and after GBTR 2008 (*Reform*), low-avoidance (*LowAvoid)* versus high-avoidance firms, German firms (*DE*) versus firms of neighboring countries without a relevant tax reform in the observation period (Austria, Belgium, France and Poland). In these DDD tests we can control for "*LowAvoid × Reform*", "*LowAvoid × DE*" and "*DE × Reform*" interaction

terms. Thus, we control for shocks with a specific effect on low-avoidance firms (*LowAvoid* × *Reform*) and for Germany-specific shocks (*DE* × *Reform*).

We further perform a large number of robustness checks. To account for potential insolvency effects of the financial crisis 2008/2009, we perform tests for a panel of firms that survived the crisis ("survivor" firms). We also identify year-specific GBTR 2008 effects on wages and employment to separate long-run effects of the reform from potential short-run economic shocks. We perform tests on the logarithm of total employee costs as alternative dependent variable. While the do not account for (potentially endogenous) control variables in our baseline tests and instead rely on firm fixed effects and year fixed effects, we also provide a wide range of robustness checks in Appendix D that account for control variables at the firm level and the country level, alternative specifications of fixed effects (industry fixed effects and country fixed effects instead of firm fixed effects, industry-year fixed effects), different weighting schemes for our triple difference tests, a pre-matched sample for our DiD tests, a sample excluding firms with subsidiaries in tax havens for our DiD tests, a subsample analysis for small firms, and triple difference tests with French firms.

In spite of this comprehensive set of tests and analyses, we do not find any statistically significant evidence for the hypothesis that low-avoidance firms abnormally increased wages in comparison to high-avoidance firms after the GBTR 2008. Regarding our second hypothesis, we find some evidence that low-avoidance firms abnormally increased employment after the GBTR 2008 (*HighETR* and *SME* firms in the DiD tests in Table 6; *HighETR*, *HighΔ/BVA*, and *Domestic* in the DDD tests in Table 7). However, we also find that this result is not very robust and largely depends on models specifications. For example, we typically do not find significant employment effects if we replace firm fixed effects by industry fixed effects, use a pre-matched sample in the DiD specification or enrich the model by potentially endogenous firm control variables. Therefore, the evidence for positive employment effects of the GBTR 2008 for low-avoidance firms should be interpreted with caution.

Thus, our most conclusive finding is a non-result, as we do not find any evidence that tax avoidance is associated with wage responses to the GBTR 2008. There are two possible interpretations of this outcome. First, our finding is consistent with evidence that the corporate tax incidence in Germany lies primarily on firm and land owners (Gstrein et al. 2025) and that mainly firms with less than 100 employees pass on the burden to employees (Fuest et al., 2018). This might be due to the strong labour protection regulations in Germany. The Employment Protection Act (*Kündigungsschutzgesetz*) is not relevant for micro firms and Fuest et al. (2018) find that especially firms with less than 10 employees pass the burden of the German local

business tax on employment. Second, our findings are also consistent with the interpretation that the GBTR 2008 resulted in a similar increase in wages for low- *and* high-avoidance firms, implying that ex-ante tax avoidance is unrelated with the responsiveness of wages to tax rate increases. However, this interpretation in not consistent with Dyreng et al. (2022) who find a negative association of corporate tax incidence and corporate tax avoidance.

We contribute in several ways to the literature. First, and in line with Knaisch and Pöschel (2024), our study raises some doubt regarding the effect of corporate tax cuts on wages. That holds at least for Germany, where strong employment protection regulations strengthen the position of employees in wage bargaining, especially in firms with at least 10 employees. Given that firms in our sample are much larger (average number of employees 196; median 98), our findings are quite in line with Fuest et al. (2018) and Gstrein et al. (2025).

Second, we contribute to the literature on corporate tax avoidance. Different from Dyreng et al. (2022), we do not find a negative association between corporate tax incidence and corporate tax avoidance for a sample of German firms. In our view, this might be driven by German unemployment protection regulations. In addition, we use a different empirical setting than Dyreng et al. (2025) and compare wage and employment reactions of firms to a large tax cut with different levels of pre-reform tax avoidance Our findings suggest that not only corporate tax incidence but also employment effects and other real effects of corporate taxation might be negatively associated with corporate tax avoidance. Our findings also provide some support for the notion of Dwenger et al. (2017) that empirical research on corporate tax incidence should also account for employment effects.

The remainder of this paper is structured as follows. Section 2 provides the institutional background and a short review on the related literature. Section 3 develops the hypotheses and the identification strategy. Section 4 describes the data and indicator variables for tax avoidance. Section 5 presents our empirical results and Section 6 concludes.

## 2. Institutional Background and Literature

### 2.1. German Business Tax Reform 2008

In Germany, corporations pay corporate taxes at the federal and at the local (municipality) level. The German federal corporate income tax CIT (*Körperschaftsteuer*) also includes a so-called solidarity surcharge (*Solidaritätszuschlag*) of 5.5% on the tax payment. The aggregate rate (including the surcharge) was 26.38% (25% without surcharge) before the German Business Tax Reform 2008 (GBTR 2008). In addition, municipalities raise a local business tax

(LBT, *Gewerbesteuer).* The LBT rate is the product of a uniform basic rate *(Steuermesszahl)* and a local multiplier *(Hebesatz)*. The tax base is an adjusted taxable profit including add-backs (*Hinzurechnungen*) and cutbacks (*Kürzungen*). Before 2008, the LBT was deductible as a business expense and the basic rate was 5%. The local tax multiplier is set by the municipality and ranges typically from 2 to 6. Assuming a LBT multiplier of 4 like other studies (e.g., Spengel et al., 2007) and accounting for the tax-deductibility of the LBT, the aggregate corporate tax rate was 38.64% before 2008.[2]

In March 2007, the German federal cabinet decided on a draft legislation with the target to reduce the burden of German businesses and corporations in order to enhance the competitiveness of the German economy and to attract international investors. The German Federal Parliament decided on the Business Tax Reform Law 2008 on May 25, 2007 and the German Federal Council agreed on July 6, 2007. The new regulations for German corporations became effective in January 1, 2008. They included a reduction of the federal CIT tax by 10 percentage points (including the surcharge from 26.38% to 15.83%). In addition, the LBT basic rate was reduced from 5% to 3.5%. As the tax-deductibility of the LBT was also abolished, this effect partially outweighed lower tax rates. Assuming a LBT multiplier of 4, the aggregate corporate income tax rate was 29.83% since January 2008. Therefore, the reform reduced the aggregate tax rate on corporate profits by about 9 percentage points.

In order to limit the reduction of tax revenues, the reform also contained a number of regulations that broadened the tax base or limited tax avoidance opportunities. These included an elimination of the declining-balance depreciation, a limitation of immediate write-offs for low-value assets, specific tax regulations for business function relocations (*Funktionsverlagerung*), stricter regulations for the omission of tax loss carryforwards in case of shell company acquisitions (*Mantelkauf*), and additional add-backs of the German local business tax.[3] Additional regulations also tightened the German thin-capitalization regulations (*Zinsschranke*) in order to limit profit shifting via debt finance (see also Finke et al., 2013).

Despite the base-broadening components of the GBTR 2008, German corporations on average experienced large benefits from the GBTR 2008. Spengel et al. (2007) and Finke et al.

[2] An LBT multiplier of 4 is often used as a reference point in the German tax literature (Spengel et al., 2007; Finke et al,, 2013). Using the average LBT multiplier from KPMG would have resulted in an aggregate CIT rate before 2008 of 38.36% before 2008 and of 29.51% after 2008.

[3] Before the reform, the addbacks included 50% of long-term interests and rents. After the reform, add-backs included 25% of all interests and rents, 12.5% of leasing payments for immovable property, 5% of leasing expenses for movable property and 6.5% of license fees to the extent that the weighted sum of 100% interests and rents, 50% of leasing expenses for immovable property, 20% of leasing expenses for movable property and 25% of license fees and royalty exceeded an allowance of 100,000 €.

(2013) estimate that the reform reduced the effective tax burden on retained earnings of German corporations by about 20%. Micro simulations of Finke et al. (2013) show that reductions of effective tax rates were most significant for firms with high profitability, a low debt ratio and a low capital intensity. In addition, the anti-tax avoidance regulations of the reform package imply that the reduction of the effective tax burden was larger for firms with low pre-reform avoidance activity compared to for firms with high pre-reform avoidance activity.

### 2.2. Literature on Tax Incidence and Employment

While corporate income taxes are legally borne by firms and their shareholders, an extensive economic literature investigates under which conditions and to what extent this tax burden is shifted to other stakeholders–most notably employees and consumers (e.g., Harberger, 1962; Gravelle & Kotlikoff, 1989; Auerbach, 2006; Gravelle, 2013; Auerbach, 2018). Prior research identifies two principal mechanisms how tax burdens can be shifted on labor.

The first mechanism, *indirect incidence,* builds on the Harberger (1962) framework of tax incidence. Under the assumption of mobile capital, a higher domestic CIT rate induces capital owner to relocate their investments to lower-tax jurisdictions or sectors. This capital reallocation reduces the marginal productivity of labor in the taxable domestic sector, which in turn compresses wages (Harberger, 1962; Gravelle & Kotlikoff, 1989; Gravelle, 2013). The second mechanism, *direct incidence*, is based on a bargaining framework in which firms and employees negotiate over post-tax economic rents. As the corporate income tax reduces the firms' surplus, this pushes also pressure on the rent component that is paid as wages to employees (Arulampalam et al., 2012).

The empirical evidence of the elasticity of wages to corporate income taxes is mixed. Some studies find that firms can shift about half of their corporate tax burden on wages (Arulampalam et al., 2012; Hassett & Mathur, 2015; Fuest et al., 2018). Conversely, other studies estimate much smaller elasticities (Clausing, 2012; Dwenger et al., 2017; Suarez-Serrato & Zidar, 2016; Gstrein et al., 2025) or statistically insignificant tax effects on wages (Clausing, 2013; Curtis et al., 2022; Felix & Hines, 2022).[4] A recent meta-analysis of Knaisch and Pöschel (2024) uncovers substantial publication bias in the literature that results in a structural overestimation of the tax effect on wages. Correcting for the publication bias, they do not find a statistically significant average impact of corporate taxation on wages. For Germany, the estimates of Fuest et al. (2018) suggest that on average about 50% of the LBT burden are passed on employees.

[4] Felix and Hines (2022) provide mixed evidence. While they find a significant association of union-wage premiums and state corporate income tax rates in 2000, the do not find such evidence in the year 2024.

However, the also provide evidence that shifting corporate tax burdens on employment is a function of firm size. While they find large effects especially for firms with less than 10 employees, the effect becomes statistically insignificant for firms with 100 and more employees. Gstrein et al. (2025) find that labor bears only about 10% of the burden of the German LBT. A potential explanation for that outcome are the strong German labor protection regulations. Noteworthy, German firms with less than 10 employees do not fall under the regulations of the German Employment Protection Code (*Kündigungsschutzgesetz*).

A gap in this literature is its strong focus on wage adjustments, while there is little attention to employment responses. Firms facing higher corporate income taxes may not only cut down wages per employee (*incidence effect*), but can also reduce their labor demand (*employment effect*), either by declining headcounts or cutting working hours per employee. Empirical research at the regional or country level reports significant employment declines following corporate tax hikes (Bettendorf et al., 2009; Feldmann, 2011; Zirgulis & Šarapovas, 2017; Ljungquist & Smolyanski, 2018; Mukherjee & Badola, 2023). Conversely, Criscuolo et al. (2019) and Curtis et al. (2022) provide evidence that investment tax incentives increase employment. Bilicka et al. (2022) and Souillard (2022) find further that effective anti-tax avoidance regulations may not only increase the effective tax burden but also reduce employment. Ignoring these adjustments of labor demand risks overstating the share of corporate taxes shifted on wages (Dwenger et al., 2017; Miyagiwa, 1988). Dwenger et al. (2017) jointly estimate wage and employment responses to Germany's local business tax and find that employees bear only 19% to 28% of the corporate tax burden.

### 2.3. Literature on Tax Incidence and Tax Avoidance

Tax avoidance and incidence represent complementary strategies through which firms can reduce their tax cost, either by reducing the burden (avoidance) or by shifting it to employees or customers (incidence). Despite the linkage between these mechanisms (Dyreng et al., 2022), their relationship remains inadequately explored. Theoretical research argues that avoidance through artificial arrangements may often be less costly than adjusting their operational activity (e.g., production, location adjustments, Slemrod, 1995; Jacob, 2022). Thus, firms might prefer to use "artificial" tax avoidance schemes if this is possible. Clausing (2012, 2013) argues that empirical studies tend to overstate tax incidence effects if they ignore tax avoidance activities.

Evidence from multinational enterprises (MNEs) suggests that firms with higher tax-avoidance activity shift a smaller fraction of their corporate burden on wages. Arulampalam et al. (2012) and Fuest et al. (2018) find that MNEs exhibit weaker wage responses to CIT changes

than domestic firms and attribute this to tax avoidance opportunities from cross-jurisdictional profit shifting (Huizinga and Laeven, 2008; Clausing, 2009; De Simone et al., 2017). Thus, internationally mobile firms might be less inclined to pass the corporate tax burden on their employees (Clausing, 2013). Nonetheless, domestic firms can also exploit avoidance channels such as tax shelters, debt finance and conforming tax avoidance (Eichfelder et al., 2025). In addition, the findings of Fuest et al. (2018) might be due to the fact that especially the very small (domestic) firms in their sample pass the corporate tax burden on employment.

To our knowledge, the only study to explicitly analyze the connection of tax incidence and tax avoidance is Dyreng et al. (2022), who argue that the relation of corporate tax incidence and corporate tax avoidance depends on the elasticity of labor supply, the productivity of capital relative to labor, and the tax deductibility of labor and capital. Their theoretical model suggests that firms with a more elastic labor supply (i.e., a higher cost of passing the burden to employees) have to pay higher wages will in turn increase the share of capital in their production function. As capital investments – different from wage expenses – can typically only depreciated over time and not deducted immediately, this increases the incentives of such firms to avoid taxes. This "input-mix channel" suggests a negative relationship between tax avoidance and the share of corporate taxes that is shifted on employees (tax incidence). In addition, the also consider the negative impact of higher wages and economic activity ("firm scale" channel) that generates ambiguous effects on tax avoidance. Using the 2017 U.S. Tax Cuts and Jobs Act as a natural experiment, they provide empirical evidence that firms with a stronger bargaining power in wage negotiations are less active in tax avoidance and vice versa. In line with their theory, the also find that the association of tax incidence and tax avoidance varies with relevance of capital in the production function and the tax-deductibility of capital investments. Concluding, the findings of Dyreng et al. (2022) suggest a negative association of corporate tax avoidance and corporate tax incidence.

## 3. Hypotheses and Identification Strategy

### 3.1. Hypotheses

In line with Dyreng et al. (2022), we hypothesize a negative association between corporate tax avoidance and corporate tax incidence. Firms with more tax avoidance opportunities can reduce their tax burden with a relatively low cost via profit shifting or tax shelters (Slemrod, 1995; Jacob, 2022). On the other side, passing the burden on employees can be very costly as it dampens work incentives, weakens the position of the firm in the labor market and may result

in a negative selection of employees. Therefore, all things being equal, firms with more tax avoidance opportunities should be less willing to pass the burden on their employees.

We expect that low-avoidance firms benefitted more from the GBTR than high-avoidance firms. First, as high-avoidance firms do not pay the full tax burden, they will benefit less from tax rate reductions than firms that pay the statutory tax rate. Second, as the GBTR 2008 also included base-broadening regulations with the target to reduce tax avoidance, this might partially mitigate tax burden reductions for high-avoidance firms. Accordingly, we hypothesize that the GBTR's tax cut produced a more pronounced wage response for firms with lower pre-reform level of tax avoidance:

*H1: Firms with low tax avoidance activity before the GBTR 2008 increased their wages per employee significantly more than firms with a high pre-reform level of tax avoidance.*

Beyond wage adjustments, corporate taxation may also influence firms' economic activity and labor demand (Giroud and Rauh, 2019; Curtis et al., 2022). Firms with low avoidance opportunity should benefit more from the GBTR 2008, thereby exhibiting stronger employment responses. Thus, we also test the following second hypothesis:

*H2: Firms with low tax avoidance activity before the GBTR 2008 increased employment significantly more than firms with a high pre-reform level of tax avoidance.*

Because no single metric perfectly captures a firms' tax avoidance potential (Dyreng et al., 2008; Hanlon and Heitzman, 2010; Jacob and Schütt, 2020), we construct six proxy variables to classify firms into the two categories of high-avoidance firms and low-avoidance firms (Section 4.2). We also test empirically our assumption that low avoidance firms benefit more from the reform than high-avoidance firms (Section 5.1.)

### 3.2. Identification Strategy

To evaluate H1 and H2, we estimate a difference-in-differences (DiD) model that compares the development of wages per employee and employment for treated low-avoidance firms relative to a control group of high avoidance firms before and after the GBTR 2008. In addition, we address potential confounding events by the extension of the model to a triple-difference (DDD) design that compares low-avoidance firms with high-avoidance firms in Germany and neighboring countries without contemporaneous reforms.

Our DiD specification aligns with Dobbins and Jacob (2016) who compare investment responses of domestic firms (treatment group) and multinational firms (control group). Similar to our analysis, they expect that domestic firms receive a stronger treatment effect of the GBTR 2008 tax cut than multinationals. They find that investment activities of domestic firms increase

in comparison to multinationals. Our study extends their approach by using not only multinational status, but six indicator variables of pre-reform avoidance activity to identify the impact of the GBTR on wages and employment. We use the long-run GAAP effective tax rate (*ETR*), the tax planning score (*TPS*) of Jacob and Schütt (2020), the *Δ/BVA* measures of Henry and Sansing (2018), firm size (*SME*) and a composite avoidance index (*Index*) constructed from standardized values of the five other measures. By focusing on a within-country comparison, we can mitigate confounding effects from cross-national shocks and policy heterogeneity. Thus and similar to Dobbins and Jacob (2016), our analysis will not be biased by country-specific shocks and policies of the financial crisis 2009 as treatment and control group are based in the same country. Our estimation equation is:

$$Ln\, Y_{it} = \alpha_0 + \beta_1 Reform_t + \beta_2 LowAvoid_i + \beta_3 LowAvoid_i \times Reform_t + \mu_i + \eta_t + \varepsilon_{it}. \quad (1)$$

where $Y_{it}$ is either the logarithm of the average wage per employee ($LnWage_{it}$) as measure for corporate tax incidence or the logarithm of the total number of employees ($LnEmpl_{it}$) for labor demand. We calculate the average wage per employee by dividing the firms' total employee cost by the number of employees. $Reform_t$ is a dummy variable set to 1 for years since the GBTR 2008 and the indicator $LowAvoid_i$ defines firms with a low pre-reform avoidance level. Our baseline estimation further incorporates firm fixed effects ($\mu_i$) and year fixed effects ($\eta_t$) to control for unobserved firm characteristics and macroeconomic shocks, and the error term $\varepsilon_{it}$. We cluster standard errors at the firm level to address within-firm correlation over time. As $Reform_t$ is collinear with the year fixed effects and $LowAvoid_i$ is collinear with the firm fixed effects, both indicators will drop out the regression. The coefficient of the interaction term $\beta_3$ identifies the treatment effect. In line with H1 and H2, we expect positive coefficient estimates for both dependent variables. Critical identifying assumptions of our analysis are a stronger treatment effect for low avoidance firms and parallel trends between treatment and control groups. We will test both assumptions in Section 5.1.

A potential concern might be that average wages and employment of low-avoidance firms and high-avoidance firms could be affected differently by other events that coincided with the GBTR 2008. The financial crisis 2008/2009 resulted in a large and short-term decline of the German GDP in 2009 (GDP growth was positive in 2008 and after 2010), that might have affected low-avoidance firms differently than high-avoidance firms. To isolate the GBTR 2008 effect from such contemporary events, we implement a triple-difference (DDD) estimator by comparing low- and high-avoidance firms in Germany to their counterparts in neighboring

countries. We restrict the analysis to neighboring EU countries without significant changes in corporate tax rates in the observation period. Hence, we consider observations from Austria, Belgium, France and Poland. [5] In a robustness check (Appendix D), we focus on France as the most similar neighboring economy. Formally, we augment the DiD model with a country indicator for Germany $DE_i$ and its interactions. The triple-difference specification is defined as:

$$\begin{aligned} Ln\, Y_{it} = {} & \alpha_0 + \beta_1 DE_i + \beta_2 Reform_t + \beta_3 LowAvoid_i + \beta_4 DE_i \times Reform_t \\ & + \beta_5 DE_i \times LowAvoid_i + \beta_6 LowAvoid_i \times Reform_t \\ & + \beta_7 DE_i \times LowAvoid_i \times Reform_t + \mu_i + \eta_t + \varepsilon_{it}. \end{aligned} \quad (2)$$

The additional two-way interactions $DE_i \times Reform_t$ and $DE_i \times LowAvoid_t$ absorb any time-varying shocks common to all German firms and any time-invariant differences between German low-avoidance firms and their counterparts in neighboring countries. In addition and more relevant, the interaction term $LowAvoid_i \times Reform_t$ absorbs any macro-economic shocks that are not specific to Germany but affect low-avoidance firms differently than high-avoidance firms. Thus, $LowAvoid_i \times Reform_t$ accounts for effects of the financial crisis 2008/2009 that affect high-avoidance firms differently from low-avoidance firms.

In Equation (2), the coefficient $\beta_7$ of the DDD interaction term $DE_i \times Low\ Avoidance_i \times Reform_t$ identifies the impact of the GBTR 2008 on German low-avoidance firms compared to a) high avoidance firms in Germany as well as b) low-avoidance firms and high-avoidance firms in neighboring countries. Again, we expect positive coefficient estimates for both dependent variables *LnWage* and *LnEmpl*.

## 4. Data and Tax Avoidance Indicators

### 4.1. Data

Our study relies on firm-level panel data of *unconsolidated* financial statements from Bureau van Dijk's AMADEUS database, covering the observation period from 2005 to 2013 (i.e., 3 years before the treatment, the treatment period 2008, and 5 years after the treatment). The *unconsolidated* AMADEUS data provides two important benefits. First, considering the strong connections of German multinational firms with other countries and especially with the EU market, it allows us to clearly identify the treatment effect of the GBTR 2008. Using

[5] Therefore, we did not consider the following neighbor countries of Germany: Czech Republic (several tax cuts from 26.0% to 19% in the observation period), Denmark (tax cut from 28% to 25% in 2007), Luxembourg (several tax rate changes over the observation period, e.g., from 30.4% to 29.6% from 2005 to 2006), Netherlands (several tax cuts from 31.5% to 25.0% in the observation period), and Switzerland (not part of the EU). We considered France as part of the control group for the triple difference specification in spite of a small tax cut from 33.8% to 33.3% in 2006 (for the evolution of tax rates see also Eichfelder et al., 2024).

consolidated accounting data, the treatment effect of the GBTR 2008 would virtually be a function of the multinational activity of a firm resulting in serious measurement error of the treatment indicator. Thus, as for Dobbins and Jacob (2016) it is essential for our study to use unconsolidated accounting information. Second, unconsolidated data also allows us to differentiate between firms belonging to a multinational group and domestic firms. As discussed in more detail in Section 4.2., we expect a stronger treatment effect of the GBTR 2008 tax cut on domestic entities compared to multinational entities (MNEs).

We start our sample selection with information on EU-domiciled parent firms that are reported as global ultimate owners (GUO) in AMADEUS and their EU-28 domiciled subsidiaries. Table 1 displays the steps in our sample selection. We then drop firms with insufficient company information, which is mostly the case for non-European subsidiaries. We further omit inactive firms and firms in the financial institutions and the insurances sector (2-digit NACE codes 64 to 66) due to their special tax and financial reporting regulations. We also exclude firms that are recorded as a parent as well as a subsidiary.

[Table 1 about here]

Following Eichfelder et al. (2025), we use the worldwide ownership information provided in AMADEUS, irrespective of the availability of accounting data, to classify firms in multinationals and domestics. We define a parent firm and its subsidiaries as domestic if the parent does not hold any stake in a firm that is settled abroad. In line with the literature on profit shifting (Huizinga and Laeven, 2008), we assume that profit shifting as an indicator for tax avoidance is relevant for majority shareholdings that are controlled by the parent firm. Thus, firms are classified as MNE firms if either the parent or at least one of its *majority-owned* subsidiaries is located in another country than the other group members. We exclude firms and groups, where the international status (domestic, MNE) cannot be clearly defined (i.e., where it is not clear if profit shifting opportunities do exist or not).

We further eliminate observations with negative values of fixed or total assets, number of employees and costs of employees. We also exclude observations of firms that are not a public or private limited company, as other firm types are typically not affected by the corporate income tax rate (e.g., sole proprietorships, partnerships) or may not be interested in tax planning (e.g., public authorities, non-profit organizations). The number of observations with IFRS reporting is relatively low in our data base and the distribution does not correspond to the

distribution of economic activity in Europe.[6] Thus, we restrict our sample to firm-year observations with local GAAP reporting.

We further restrict our sample to firms with available information *before* and *after* the GBTR 2008. This approach mitigates potential biases that could arise from firms that appear only in the pre- or post-reform periods. Including firms with limited information over time could disrupt the parallel trends assumption, thereby compromising the validity of our identification strategy. Finally, we restrict our sample for the DiD analysis to firms active in Germany. However, we also consider firms from Austria, Belgium, France, and Poland for our triple difference tests.

### 4.2. Tax Avoidance Indicators

Following Hanlon and Heitzman (2010), we define tax avoidance as the deliberate reduction of a firms' tax liability. To comprehensively capture corporate tax avoidance, we employ six proxy variables: the long-run GAAP effective tax rate (ETR), the tax planning score (TPS) of Jacob and Schütt (2020), the adjusted tax expense measure of Henry and Sansing (2018), firm size, multinational status, and a composite tax avoidance index.

Effective tax rates (ETR) are commonly used in accounting research as indicators of tax avoidance (Wilson, 2009; Badertscher et al., 2013; Dyreng et al., 2017; Bradshaw et al., 2019). A lower ETR relative to the statutory rate typically indicates a firms' ability to pay a lower percentage of pre-tax earnings as taxes than the statutory rate, thus suggesting tax avoidance. Annual ETR measures cannot disentangle persistent and sustainable tax avoidance from temporary fluctuations of taxes and profits and are unreliable when firms report negative pre-tax income (Wang et al., 2020). Dyreng et al. (2008) developed a long-run cash effective tax rate, calculated as the sum of cash taxes over several years (e.g., 5 years) divided by the sum of pre-tax income over the same period. A limitation of the unconsolidated information in the AMADEUS data is the lack of information on cash tax payments. Therefore, we rely on total tax expenses (including deferred taxes) and calculate a long-run GAAP ETR over the pre-reform period by summing each firms' tax expenses and pre-tax income from 2005 to 2007:

[6] 82,929 firm-year observations use IFRS accounting. Approximately 97% (80,271 observations) of these observations apply to Spain for the period 2007 to 2013 and Portugal (2010-2013). 2,658 firm-year observations are spread over 9 countries in the sample between 2005 and 2013. The Spanish local GAAP (Plan General de Contabilidad/PGC) were maintained, but amended by 'adapted' IFRS standards in 2007. Portugal established a new financial reporting network (Sistema de Normalização Contabilística /SNC), effective on January 1, 2010. The new framework requires listed companies to apply IFRS statements. Unlisted companies that are required to prepare consolidated statements may opt to apply IFRS in both, consolidated and unconsolidated statements. Other unlisted companies are required to apply a set of SNC standards that are similar to IFRS, see Guerreiro et al. (2014); Mora (2017).

$$Pre08\ \text{ETR}_{\text{pre,i}} = \frac{\sum_{t=2005}^{3} \text{Tax expense}_{\text{it}}}{\sum_{t=200}^{3} \text{Pre-tax income}_{\text{it}}} \quad (3)$$

The long-run GAAP ETR does not consider tax risk. Hence, we use the tax planning score (TPS) of Jacob and Schütt (2020) as second indicator, which incorporates both the firms' effective tax burden and its associated risks. Unlike ETRs, the TPS evaluates how effectively firms optimize their after-tax returns through strategic tax avoidance (Schwab et al., 2022). Knaisch (2024) confirms the robustness of the TPS with regard to firm valuation in the German context. Like for the ETR, we rely on a GAAP-based version of the tax score as AMADEUS does not provide information on cash taxes. We compute the pre-reform long-run TPS for each firm as:

$$Pre08\ TPS_{,i} = \frac{1 - \text{Pre08 ETR}_{\text{i}}}{\sigma_{\text{Pre08 ETR,i}}}, \quad (4)$$

where $\sigma_{ETRsc}$ represents the standard deviation of the firms' long-run GAAP ETR as defined by Equation (3). A higher TPS indicates more avoidance activity.

The long-run GAAP ETR and TPS do both not account for firm-year observations with negative pre-tax income. Henry and Sansing (2018) developed a measure that accounts explicitly for the avoidance behavior of loss firm. They define Δ as the difference between a firms' actual cash taxes and the product of the statutory corporate tax rate and pre-tax income as a reference point. In a second step, they scale Δ by the market value of assets (MVA). Different from the market value of equity, MVA is strictly positive, as the value of debt is not deducted. Thus, by using MVA instead of pre-tax income in the denominator, the measure allows for a consistent comparison across profit and loss observations, thus mitigating the data truncation bias. In an alternative specification, they also use the book value of assets (BVA = total assets) as alternative scaling variable and show that the results are consistent for both specification of the variable. As our *unconsolidated* AMADEUS does not provide MVA for parents and subsidiaries, we use this second specification and scale Δ by total assets. In line with the long-run GAAP ETR, we calculate the pre-reform long-run Δ/BVA over the three pre-reform year 2005 to 2007 as:

$$Pre08\ \Delta/BVA_{pre.i} = \frac{\sum_{t=200}^{3} (Tax\ expense_{it} - Statutory\ rate_{it} \times Pre-tax\ income_{it})}{\sum_{t=200}^{3} Total\ assets_{it}} \quad (5)$$

Fourth, as mentioned before, we follow Dobbins and Jacob (2016) and rely on multinational status (MNE) as fourth indicator. Multinational status indicates a firms' ability to shift profits internationally, a critical tax avoidance mechanism (Huizinga and Laeven, 2008; Hope et al., 2013). We define a company as part of a multinational enterprise (MNE) if either the parent or at least one of its majority-owned subsidiaries has its legal seat in a different country than other

group members. We classify a firm as domestic if the parent does not hold any stake in an entity located abroad. Notably, AMADEUS provides an ideal data set to identify multinational status.

Our fifth proxy reflects firms' financial and organizational capacity for engaging in complex tax avoidance strategies. The literature on the costs of red tape provides robust evidence for economies of scale in tax compliance and tax planning (Slemrod & Venkatesh, 2002; Eichfelder & Vaillancourt, 2014). This suggests that small firms are less active in complex tax avoidance practices than large firms. While the evidence on the relationship between firm size and effective tax rates is mixed (Belz et al., 2019), most studies focus on large firms, but do not consider SMEs that have only limited resources for tax planning. We follow definition of the European Commission for small and medium enterprises (SME) and classify firms employing less than 250 people as SME and those above that threshold as large.

Finally, we construct an index measure to integrate multiple dimensions of tax avoidance in one indicator. Lower index values correspond to firms with less pre-reform avoidance activity. We first standardize each of the previous five proxies using Z-scores to ensure comparability:

$$Xz_i = \frac{X_i - \bar{X}}{SD(X)} \quad (6)$$

where $Xz_i$ is the z-score of each variable *X* of firm *i,* and $\bar{X}$ and $SD(X)$ represent the sample mean and standard deviation of *X*, respectively. We then calculate the composite index as:

$$Index = -Pre08\,ETR_z + Pre08\,TPS_z - Pre08\,\Delta/BVA_z - Domestic_z - SME_z \quad (7)$$

We invert the variables *Pre08 ETR*, *Pre 08 Δ/BVA*, *Domestic*, and *SME* (i.e., multiply them with -1) to ensure that lower index values consistently indicate lower pre-reform avoidance activity. To address concerns of multicollinearity within this composite measure, we analyze correlation matrices and calculate variance inflation factors (VIF) for all five indicators. These tests in Appendix C clearly indicate that the different tax avoidance indicators capture different aspects of tax avoidance (e.g., tax risk, avoidance strategies) and that multicollinearity is not a problem for our analysis. Table 2 summarizes the avoidance indicators, and their definitions.

[Table 2 about here]

### 4.3. Descriptive Statistics

Table 3 presents summary statistics for our German sample (Panel A, 12,408 firm-year observations), and for the sample of neighboring countries (Panel B, 64,315 firm-year observations). For the German sample, the average workforce is 196 employees (median 98), yet the standard deviation exceeds 480, reflecting a long right-tail of large entities. The average wage per employee is 78,200 $ (median 65,160 $) and the mean total employee cost is $12.7 Million (median $6.1 Million). Balance-sheet measures likewise display heavy skewed

distributions: mean total assets and fixed assets are $59.8 Million and $31.8 Million (medians $15.6 Million and $ 4.1 Million) and average EBIT of $2.9 Million (median $ 1.2 Million). The key avoidance proxies have significant variation. The three-year ETR averages 28.5% (SD 28.9%), while the tax-planning score is extremely right-skewed (mean 4.8; median 19.5). Δ/BVA is close to zero (mean –0.34%; SD 2.49%). The average index is 1.4, Most firms qualify as SMEs (85%) and over half are domestic (55%) and only 3.6 % have subsidiaries in tax-havens. Macroeconomic indicators are stable and do not show a large variation.

[Table 3 about here]

In the sample of neighboring countries (Panel B), average firm size is smaller, which is reflected by a lower number of employees (34), lower average employment costs ($1.7 Million) and lower average total assets ($ 12.6 Million) and fixed assets ($ 6.9 Million). This is mainly driven by the high number of observations in Belgium, while average firm sizes in France and Poland are more similar to Germany (Table B2, Panels C, D, E in Appendix B). In our triple difference analysis, we account for that by a weighting scheme that considers the overweighting of Belgian firms in our sample. Regarding average wages per employee ($ 62,984) and average tax avoidance measures, the international sample is more similar to the German sample. Hence, the average long-run GAAP ETR is 29.4%, Δ/BVA is close to zero again (mean –0.36%), and the average index is 0.9. The number of SMEs (98%) and domestic firms (81%) is larger, which mainly results from Belgium. Again, we obtain similar descriptive statistics compared to Germany, if we would rely on France or Poland (Table B2 in Appendix B).

## 5. Results

### 5.1. Tests of Model Assumptions

In this section, we examine the underlying assumptions of our identification strategy. This includes tests common trends in the pre-treatment period, as well as tests on the assumption that the reform had a stronger effect on the tax burden of low avoidance firms. We start with graphical analyses on pre- and post-reform trends between treatment (*low avoidance*) and control (*high avoidance*) groups. The analysis is based on Equation (1) and utilizes 12,408 observations from 1,783 German firms. Consider that the composition of the treatment and control groups depends on the selected tax avoidance indicator variable. Thus, our analyses virtually compare six treatment with six control groups. For the avoidance indicators ETR, TPS, Δ/BVA and Index, we define the treatment group as firms with a pre-reform tax avoidance activity below the median of our sample.

Figure 1 presents graphical analyses for our six tax-avoidance indicators: long-run GAAP ETR (Panel A), the long-run tax planning score (TPS) of Jacob and Schütt (2020) (Panel B), the Δ/BVA measure of Henry and Sansing (2018) (Panel C), multinational status (Domestic, Panel D), firm size (SME, Panel E), and the composite tax-avoidance index (Index, Panel F). Each panel displays normalized values of the logarithms of the average wage per employee and for the logarithm of the number of employees. Normalization means that we demean each value with its average over the pre-reform period. Thus, Figure 1 presents the relative changes of the wage per employee and the number of employees compared to the pre-reform average.

While a direct empirical test of common trends is not possible due to the unobservable counterfactual (Egami & Yamauchi, 2023), standard practice involves verifying the existence of pre-treatment parallel trends. The underlying logic is that if parallel trends exist prior to the intervention, they are more likely to persist in the post-treatment period as well. During the pre-reform period (before GBTR 2008), all figures reveal consistent trends in both wages and employment across all pairs of treatment and control groups. Thus, our graphical evidence provides robust support for the common trends assumption in all specifications.

[Figure 1 about here]

In the post-reform period, we do not find graphical support for H1, but some evidence in line with H2. Thus, while we do not find an abnormal increase in wages per employee for low-avoidance firms after treatment, we observe abnormal increases in the number of employee for high-ETR (low avoidance) firms in Figure 1, Panel A and for SME firms in Figure 1, Panel E.

As a second and more formal test for the common trends assumption in the pre-reform period, we estimate a placebo DiD model restricted to the pre-treatment period (2005–2007) and artificially set 2006 as a pseudo-reform year. The placebo regression is defined as:

$$\ln Y_{it} = \alpha_0 + \gamma_1 LowAvoid_i \times Placebo06_t + \mu_i + \eta_t + \varepsilon_{it} \quad (8)$$

where $Placebo06_t$ is a dummy variable that equals 1 for the years 2006 and 2007, and 0 for the baseline year (2005). The interaction term $LowAvoid_i \times Placebo06_t$ tests whether there is a systematic difference between the treatment and control groups during the pre-treatment period.

[Table 4 about here]

Table 4 presents the results of the placebo regressions. Panel A (log of the wage per employee) and Panel B (log of employees) both yield consistently insignificant coefficients across all specifications for the $LowAvoid_i \times Placebo06_t$ interaction term. In a robustness test (Appendix D, Table D1), we repeat this placebo test using a placebo indictor with a value of

one for 2007 and zero for the years 2005 and 2006. We again find insignificant coefficients in these tests. Overall, the findings of Figure 1, Table 4 and Table D1 in Appendix D provide robust empirical evidence for the common trends assumption.

A second assumption of our identification strategy is that the GBTR 2008 resulted in a relevant reduction of the tax burden of German low-avoidance firms compared high-avoidance firms. Under this condition, theory suggests that low-avoidance firms will increase wages and employment compared to the control group. A concern might be that our low-avoidance indicators do not accurately identify firms that benefitted abnormally from the reform. To validate our assumption, we test whether low-avoidance firms indeed experienced stronger reductions in their tax burdens after the reform. We rely on long-run GAAP ETR and Δ/BVA as tax burden measures for this analysis. While the analysis of ETRs is limited to profitable firm years, Δ/BVA also allows us to account for tax burdens of loss observations.

We estimate Equation (1) with long-run firm-level effective tax rates (*ETR*, Panel A) and long-run *Δ/BVA* (Panel B) as dependent variables. For both tax burden measures, we compare the pre-reform long-run value of the firm with the post-reform long-run value (also calculated over a three-year period). We document regression results in Table 5. In Panel A, the coefficients of the $Low\ Avoidance \times Reform$ interaction term are in most cases negative, suggesting a higher ETR reduction for low-avoidance firms. The abnormal reductions are statistically significant for *HighETR* firms, *HighΔ/BVA* firms and *LowIndex* firms at the 1% level and for SME firms at the 5% level. From a quantitative perspective, results suggest that GAAP ETR of low-avoidance firms declined in a range from 2.8 percentage points (pp) (SMEs) to 13.3 pp (*HighΔ/BVA* firms) in comparison to their high-avoidance counterparts.

Panel B shows a similar pattern. For *HighETR* firms, *LowTPS* firms, *HighΔ/BVA* firms, and *LowIndex* firms, we observe a statistically significant decline of Δ/BVAs, suggesting a reduction in the tax burden for low-avoidance firms. For Domestic firms and SME firms, we find negative coefficients that are not statistically significant. Taken together, these results validate our identifying assumption that GBTR 2008 imposed a larger tax-burden reduction on those firms with low pre-reform tax avoidance activity. Especially for the avoidance indicators *ETR*, *Δ/BVA* and *Index*, we find robust empirical evidence for an abnormal tax burden reduction.

[Table 5 about here]

### 5.2. Baseline Tests

We turn to our main empirical tests regarding the impact of the GBTR 2008 on wages per employee (H1, *incidence effect*) and the number of employees (H2, *employment effect*). We

start with the DiD specification of Equation (1) in Section 3.2 using the German sample. As documented by Section 4.2, we employ six indicators for firms' pre-reform tax-avoidance activity and present results in Table 6: (a) firms with high pre-reform long-run effective tax rates (*HighETR*), (b) firms with low pre-reform planning scores (*LowTPS*), (c) firms with high pre-reform values of the Henry and Sansing (2018) measure (*HighΔ/BVA*), (d) domestic firms (*Domestic*), (e) small- and medium-sized enterprises (*SME*), and (f) firms with a low composite tax-avoidance index (*LowIndex*). The main variable of interest is interaction of the post reform dummy and the treatment indicator (*LowAvoid* × *Reform*). As we are not able to calculate ETRs for loss observations, observations numbers are smaller for the indicators *HighETR*, *LowTPS* (requires information on ETR), and *LowIndex* (requires information on ETR and TPS).

Panel A reports results for the logarithm of the wage per employee. Contrary to H1, none of coefficients of the *LowAvoid* × *Reform* interaction indicates an abnormal wage increase for low-avoidance firms after the GBTR 2008. By contrast, SMEs exhibit a significant wage reduction vis-à-vis large firms (Column 5), while all other *LowAvoid* × *Reform* coefficients are statistically indifferent from zero. These findings align with the visual evidence in Section 5.1. and suggest that in spite of stronger effective tax cuts for low-avoidance firms, such firms did not increase wages per employee in comparison to high-avoidance firms.

[Table 6 about here]

Panel B documents the estimates for the employment effects. While results are mixed, we observe statistically significant employment increases for two treatment groups —*HighETR* firms and *SMEs* — which supports H2. In order to quantify the effect size, we have to apply the Kenney (1981) formula to account for the logarithmic dependent variable and the explanatory dummy variable in our regression. We calculate the effect size as $exp\left(\hat{\beta}_i - \frac{1}{2} \cdot Var(\hat{\beta}_i)\right) - 1$, with the coefficient estimate $\hat{\beta}_i$ and the variance $Var(\hat{\beta}_i)$ being defined as the square root of the estimated standard error.

Using this formula, we obtain an abnormal increase in the number of employees of 4.9% for *HighETR* firms and of 11.8% for *SME* firms. Considering the negative GBTR 2008 effect on the wage per employee in Panel A of Table 6, an explanation for the strong effect on employment of SMEs might be that such firms replace full-time worker with part-time workers. In line with this interpretation, we find no significant effect for the total wage cost of a firm (Appendix D, Table D6). For the other low-avoidance indicators, we find statistically insignificant estimates. The positive and significant coefficients for the *Reform* dummy in both

panels are in line with an overall increase in wages per employee and employment after the GBTR 2008. Considering the lack of a control group for Germany as a whole, *Reform* cannot be interpreted as a causal effect of the GBTR 2008.

A potential concern might be that the financial crisis 2008/2009 affected low-avoidance firms differently than high-avoidance firms. To account for that, we extend our DiD model by a third dimension to a triple difference model (DDD) as documented by Equation (2). We add firm observations from 4 neighboring countries that are part of the common European market but did not change their CIT rate significantly during the observation period (Austria, Belgium, France and Poland). This allows us to account for heterogenous effects of the financial crisis or other events for low-avoidance firms and high-avoidance firms by the $LowAvoid \times Reform$ interaction term. We identify the impact of the GBTR 2008 on wage per employee and employment by the triple interaction term $DE \times LowAvoid \times Reform$.

Table 7 reports our DDD coefficient estimates and standard errors in Panel A (log of wage per employee) and Panel B (log of employment). By adding firm information from Austria, Belgium, France and Poland, the maximum observation number of our regressions increases to 76,723. Like in Table 6, observations numbers are lower for the avoidance indicators ETR (63,573), TPS (62,031) and Index (61,048), as the ETR is only defined for observations with positive income and the calculation of the TPS and the index require information on the ETR.

In our data, we observe a large oversampling of Belgian firms (49,660 observations of 76,723) in spite of a relatively small size of the Belgian economy (Appendix B, Table B2, Panel B) . To account for that, we weight each observations of the triple difference analysis by the country-year's aggregate GDP divided by the number of firm observations in that country-year. Thus, we ensure that there is no overweighting of Belgian observations.

Confirming the results of Table 6, Panel A, we do not find in Table 7, Panel A that German low-avoidance firms abnormally increased their wages per employee. Contrary to H1, coefficient estimates for the triple difference interaction $LowAvoid \times Reform \times DE$. are in most cases negative (H1 implies a positive sign) but never statistically significant.

[Table 7 about here]

In Table 7, Panel B, we find positive and statistically significant coefficient estimates of the interaction $DE \times LowAvoid \times Reform$ for *HighETR* and *HighΔ/BVA* firms. Applying the Kennedy (1981) formula, our results suggest an abnormal increase of the workforce by 9.7% for *HighETR* firms and by 8.3% for *HighΔ/BVA* firms. For all other low-avoidance indicators, we obtain statistically insignificant estimates. Taken together, the triple difference estimates in

Table 7 confirm the main findings of Table 6. We do not find any evidence that tax cut of the GBTR 2008 increased wages of low-avoidance firms that benefitted less from this reform. However, there is some evidence that the reform resulted in an abnormal increase in employment for *HighETR* firms and *HighΔ/BVA* firms (only in triple difference regressions).

### 5.3. Robustness Tests

We conduct a wide range of additional tests to analyze the robustness of our findings. As already discussed, the financial crisis 2008/2009 might have heterogenous effects for low-avoidance firms and high-avoidance firms. While the triple difference model in Table 7 accounts for that, there might still be concern that the financial crisis affected the sample composition of low-avoidance and high-avoidance firms by increasing insolvency risk.

To assess this, we re-estimate the DiD model for a panel of "survivor" firms that can be observed in the pre-reform period and in the post-reform period, at least until 2009. Table 8 shows that these survivor estimates closely replicate our primary findings from Table 6. For the wage per employee, we still find insignificant effects for most proxies and unexpected negative effects for *Domestic* and *SME* firms in Table 8, Panel A. For the number of employees, Table 8, Panel B reports positive and (weakly) significant effects for *HighETR* firms and *SME* firms. Thus, Table 8 confirms our main findings from Table 6.

[Table 8 about here]

As second robustness test, we employ an event-study design to assess whether the wage and employment impacts of the GBTR 2008 are temporary or persistent. Recognizing that adjustments in these outcomes might require contractual renegotiations, it seems plausible that effects emerge gradually over time (Fuest et al., 2018). In addition, if estimates are affected by the financial crisis 2008/2009, this bias should decrease over time. This is due to the fact that the crisis was a short-term event with negative economic growth only in 2009, while the GBTR 2008 was persistent. An event study model allows us to separate temporary short-term effects from enduring long-term effects. In doing so, we extend the DiD specification by interacting the *LowAvoid* indicators with individual year dummies from 2008 to 2013. This specification yields an estimate of the annual treatment effect in each post-reform year:

$$\ln Y_{it} = \alpha_0 + \sum_{s=200}^{2013} \beta_s \left( LowAvoid_i \times \text{Postyear}_s \right) + \mu_i + \eta_t + \varepsilon_{it} \qquad (8)$$

[Table 9 about here]

Table 9 presents results for wage per employee (Panel A) and employment (Panel B). Confirming our findings, we detect no delayed or cumulative positive wage responses for any

low avoidance indicator. *SME* firms even show significant wage declines in several post-reform years. Thus, the data also rejects H1 when allowing for delayed responses. Employment results (Panel B) reveal positive and growing effects for *HighETR* firms and *SME*s. Applying the Kennedy (1981) formula, *HighETR* firms abnormally increase employment by 4.5% in 2009, which increases to 5.9% in 2013. Compared to large firms, SMEs increase the workforce by 9.2% in 2009 and 17.7% in 2013. As the average wage per employee of SMEs also abnormally decreases by 5.7% in 2009 and 9.1% in 2013 (Table 9, Panel A), our findings suggest that part of the SME response is due to a replacement of full-time positions by part-time positions.

We present additional robustness tests in Appendix D. In a first set of DiD tests, we re-estimate Equation (1) by adding once-lagged firm control variables. We consider the logarithm of total assets *TA*, the ratio of leverage to total assets *LEV*, cash flow divided by total assets *CF*, and earnings before interests and taxes divided by total assets *EBIT* (see also Appendix A) We report results in Table D2. Similar to Table 6, we do not find any significant evidence for an abnormal increase in the wage per employee (H1). Different from Table 6, we find no evidence for a statistically significant increase in employment after the GBTR 2008 (H2).

In a second set of DiD tests, we test the robustness of the results of Table 6 for different types of fixed effects. In Table D3, we replace the firm fixed effects by industry fixed effects and also account for year fixed effects. As a consequence of excluding firm FE, we also obtain a regression estimate for the *LowAvoid* dummy from Equation (1) (usually collinear with the firm FE). In Table D4, we use the same specification of fixed effects (industry FE and year FE), but also account for the firm control variables of Table D2. In Table D5, we consider firm fixed effects but replace the year fixed effects by a set of fixed effects for all industry-year combinations (industry-year FE). In this specification, the *Reform* dummy drops out of the regression as it is collinear to the industry-year FE.

Confirming our previous findings, we do not find any empirical evidence for H1 in the tables D3, D4 and D4. For employment, we find evidence for an abnormal increase for *SME* firms in all three tables. However, this effect is partially outweighed by the negative effect on the wage per employee for *SME* firms. For *HighETR* firms, we find a statistically significant effect in Table D5, but not in the tables D3 and D4. Hence, the effect for this type of firms is only statistically significant if firm fixed effects are included in the model.

In order to test if firms fixed effects should be added to our model, we further perform event-study specifications that consider three leads and five lags. In these models, we use the pre-reform year t-1 as reference point (per definition zero), and document a graphical representation of the results in the figures D1 (logarithm of the wage per employee) and D2 (logarithm of the

number of employees). For each of our avoidance indicators (*ETR*, *TPS*, *Δ/BVA*, *Domestic*, *SME*, *Index*), we compare the event study results of a model including firm fixed effects and year fixed effects with the results of a model including industry fixed effects and year fixed effects. Our main focus is on a common trend in the pre-reform period before the GBTR 2008. Thus, we want to find statistically insignificant coefficient estimates in the years t-3 and t-2. Overall, these tests suggest that adding firm fixed effects is beneficial for the common trends assumption. Specifically, we find a violation of the common trends assumption for the wage per employee in case of *Domestic* and *SME* firms and for the number of employees in case of *Domestic*, *SME* and *LowIndex* firms. Therefore, these tests provide some evidence that adding firm fixed effects improves the quality of our DiD regressions.

In a third set of DiD robustness tests, we use the logarithm of the total cost of employees as an alternative dependent variable. The total cost of employees is the product of the wage per employee and the number of employees. Therefore, it should encompass all effects of the GBTR 2008 on our two alternative dependent variables. We report the results in Table D6 of Appendix D. Confirming our baseline results, we find an abnormally high increase in the total cost of employees for *HighETR* firms. However, and in contrast to H1 and H2, we find negative and significant effects for the *LowTPS* firms and *LowIndex* firms.

As a fourth set of DiD robustness tests, we re-estimate our DiD tests for matched samples of low-avoidance treatment groups and high-avoidance control groups. For each avoidance indicator, we perform propensity score matching as described by Caliendo and Kopeinig (2008). We describe the matching approach and the matching covariates in more detail in Appendix D, Table D7. To assess the quality of the matching procedure, we follow Rosenbaum and Rubin 1985). We abstain from propensity score matching for the composite index for low avoidance firms and document results in Table D7. In this table, we do not find significant effects of the GBTR 2008 for the wage per employee and for the number of employees. Thus, the matched DiD results do neither support H1 nor H2.

In a fifth set of DiD tests, we account for the concern that profit shifting to tax haven countries could bias our results as this is an important tax avoidance strategy. We exclude all firms from our sample that hold subsidiaries in tax havens (see Table B3 in the Appendix). These tests in Table D8 confirm the findings of Table 6. Thus, we do not find significant incidence effects, but positive employment effects for *HighETR* firms and *SME* firms.

In a sixth set of DiD tests, we re-estimate Table 8, but only account for firms that survive until the end of our observation period (2013). This reduces the number of observations to 4,417 (*LowIndex*) to 5,204 (*Δ/BVA*). We document results in Table D9. Similar to Table D8, these

tests confirm our main findings of Table 6. Thus, we do not find evidence for H1, but some evidence for H2 (for *HighETR* firms and for *SME* firms).

The findings of Fuest et al. (2018) suggest that especially very small German firms with less than 10 employees shift corporate tax burdens on their employees. Unfortunately, our sample does not include a significant number of firms with such a small size. Nevertheless, the perform an additional DiD test in Table D10 for the smallest 25% of firm-years in our sample (defined by the number of employees). This subsample only includes firms years with less than 54 employees. The results confirm our baseline findings. We find no significant incidence effects on the wage per employee and only significant employment effects for *HighETR* firms.

We also perform additional robustness tests for the triple difference model of Equation (2) in Table 7. In a first set of triple difference tests, we enrich the standard model by control variables at the firm level and the country level. The once-lagged firm controls are identical to the DiD robustness test in Table D2. The country controls include the once-lagged logarithm of the GDP per capita and the once-lagged unemployment rate of a country. We present results in Table D11. Conforming the results of Table 6 and Table 7, we find no robust evidence for an abnormal increase in the wage per employee (H1). Different from Table 7, we find no statistically significant evidence that the GBTR 2008 abnormally increased employment (H2).

In a second set of triple difference robustness tests, we analyze the robustness of the findings of Table 7 with regard to alternative specifications of fixed effects (similar to tables D3, D4 and D4 for the DiD robustness tests). We report results in the tables D12 (triple differences with country FE, industry FE, and year FE without controls), D13 (triple difference with country FE, industry FE and year FE with controls), and D14 (triple difference with firm FE and industry-year FE without controls). Confirming our baseline results, we find again no evidence at all that the GBTR 2008 resulted in an abnormal increase in the wage per employee (H1). Regarding H2, we find an abnormal increase in employment after the GBTR 2008 for *LowIndex* firms in Table D12, no evidence for H2 and Table D13 (even a negative and significant effect for *SME* firms) and an abnormal increase in employment for *HighETR* firms, *High∆/BVA* firms and *Domestic* firms in Table D14. Therefore, and similar as for the DiD tests, employment effects remain robust only if we include firm fixed effects in our triple difference models.

As a third set of triple difference tests, we analyze alternative specifications of triple difference control groups. First, instead of using a control group of four neighbor countries (Austria, Belgium, France and Poland), we only consider France as the most similar neighboring country with regard to population and GDP. We report the results of Table D15 and only document the coefficients and standard errors for the most relevant interaction terms

*DE × Reform* and *DE × LowAvoid × Reform*. Confirming the results of Table 7, Panel A, we do find any evidence for the wage per employee (H1). We find evidence for an abnormal increase in employment for *HighETR* firms, *HighΔ/BVA* firms, *Domestic* firms, *SME* firms and *LowIndex* firms. As a second alternative specification for the control group, we use an unweighted specification of the neighboring countries, which increases the relevance of firm-years from Belgium due to oversampling. We report the results of these tests in Table D16. Confirming the findings of Table 7, we find again no evidence for incidence effects. We find an abnormal increase in employment for only Domestic firms. Overall, our results for employment effects hold for France as a control country but become weaker in an unweighted specification giving more weight to Belgium.

As a fourth set of triple difference tests in Table 17, we use the logarithm of the total cost of employees as an alternative dependent variable. We perform three alternative specifications for a standard weighted sample of neighboring countries (Panel A), a sample French observations like in Table D15 (Panel B), and a sample of unweighted observations from the four neighboring countries like in Table D16 (Panel C). In Panel A, we find evidence for an abnormal increase in the total costs of employees for *HighETR* and *HighΔ/BVA* firms. In Panel B, we find such evidence for *HighETR*, *HighΔ/BVA*, and *LowIndex* firms. In Panel C, we find corresponding evidence for *HighETR*, *HighΔ/BVA*, and *Domestic* firms. Overall, the triple difference results in Table D17 provide quite robust evidence for an abnormal increase in employment for *HighETR* and *HighΔ/BVA* firms.

## 6. Conclusion

Our study explores the relationship between tax avoidance and the incidence of the corporate income tax falling on wages and employment. Using the German Business Tax Reform 2008 (GBTR 2008) as a natural experiment, we investigate how a large tax cut of about nine percentage points affected wages and the number of employees of low-avoidance firms compared with high-avoidance firms. We expect an abnormal wage and employment response of low-avoidance firms that are more burdened by corporate taxation and benefitted more from the reform. Preliminary analyses confirm common trends between treatment and control groups and an abnormal reduction in corporate tax burdens for German firms with a low pre-reform avoidance activity.

In difference-in-differences and triple-difference regressions with six proxy variables for low-avoidance firms, we do not find any evidence for an abnormal wage response of low-avoidance firms. We find some evidence that reform resulted in an abnormal increase in

employment for *HighETR*, *HighΔ/BVA*, *Domestic*, *SME* firms. However, these results are not very robust and depend largely on specification. For example, we do not find significant results, if we add firm controls (tables D2, D4 and D11) and if we use propensity-score matched samples for DiD regressions (Table D7). In addition, the empirical support for H2 decreases if we replace firm fixed effects by industry fixed effects (only significant effects for SME firms in Table D3; no support in Table D4 and Table D13) or if we increase the relevance of the Belgian subsample in the triple difference regressions (Table D16). Hence, our results regarding employment effects should be interpreted with caution.

Overall, we do not find much evidence that German low-avoidance firms increased wages and employment in comparison to high-avoidance firms. Hence, our results somewhat differ from Dyreng et al. (2022). An explanation for the weak empirical evidence for shifting the burden of German corporate taxation might be the strong German labor protection regulations that make it harder for employers to dismiss employees and to put pressure on employees in wage renegotiations. For the German local business tax, Fuest et al. (2018) provide such evidence especially for firms with 10 and less employees that are not affected by the German Employment Protection Act. For large firms with more than 100 employees and strong employment protection regulations, they find no significant evidence for shifting the burden of the German LBT on employees. Gstrein et al. (2025) find that employees bear on average only 10% of the burden of the German local business tax. Thus, our research is in line with previous findings suggesting that German employees only bear a very small portion of German taxes on corporate income,

We acknowledge some limitations in our study. First, our analysis relies on the German Business Tax Reform 2008 and thus might not for other time periods and countries. Most relevant, the employment regulations in Germany are stricter than in the U.S. or other countries (e.g., UK). Second, the lack of granularity on individual worker characteristics limits the exploration of employment heterogeneity effects. For example, we do not have information about employment contracts or union participation in our AMADEUS data.

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# Tables and Figures

## Table 1: Sample Selection

| Selection process | Parents | | Affiliates | | Total | |
|---|---|---|---|---|---|---|
| | Firms | Obs | | Obs. | Firms | Obs. |
| Firms identified | 331,431 | | 1,237,525 | | 1,568,956 | |
| Residence in EU-28 | 331,431 | | 1,062,510 | | 1,393,941 | |
| Data available | 303,348 | | 770,840 | | 1,074,188 | |
| Active firms | 303,348 | | 759,848 | | 1,063,196 | |
| No financial institution | 169,164 | | 543,533 | | 712,697 | |
| Not parent & subsidiary | 155,038 | | 533,296 | | 688,334 | |
| Reliable MNE status | 141,244 | | 433,591 | | 575,835 | |
| Complete accounting data | 53,406 | 307,578 | 118,408 | 607,237 | 171,814 | 914,815 |
| Tax planning incentive | 45,422 | 214,463 | 94,793 | 398,305 | 140,215 | 612,768 |
| Local GAAP statements | 42,046 | 175,357 | 90,138 | 354,482 | 132,184 | 529,839 |
| Global ultimate owner | 10,230 | 92,070 | 28,733 | 258,597 | 38,963 | 350,667 |
| Data before and after 2008 | 5,053 | 34,222 | 5,724 | 42,501 | 10,777 | 76,723 |
| German firms | 718 | 4,604 | 1,605 | 7,804 | 1,783 | 12,408 |
| Total | 718 | 4,604 | 1,605 | 7,804 | 1,783 | 12,408 |

*'Firms identified':* AMADEUS database has been searched for active firms in an EU-28 country that are marked as global ultimate owner (GUO); affiliates are all firms that are recorded in AMADEUS as a subsidiary of the GUO up to the 10th level. *'Residence in EU-28':* Affiliates where dropped if resident outside EU-28. *'Data available'*: Firms were dropped if AMADEUS does not provide the firms' company, accounting or status data. *'Active firms*': affiliate observations were dropped if not marked as 'active' (e.g., due to bankruptcy, insolvency). '*No financial institutions/insurances'*: Firms with 2-digit NACE codes 64, 65 or 66 are excluded. *'Not parent & subsidiary'*: Firms are dropped if they are a parent firm as well as a subsidiary. *'Reliable MNE status'*: A firm is classified as domestic firm if no relationship to a foreign firm is identified. A firm is categorized as MNE firm if either the parent firm or another majority owned group affiliate is resident abroad. All other firms are excluded. *'Complete accounting information'*: Observations are excluded if financial statement data is incomplete or implausible (e.g. negative fixed assets, total assets or employee costs). Additionally, observations are excluded if the reporting period does not equal 12 months, as the analysis also uses flow figures that are depending on the length of the reporting period. *'Tax planning incentive'*: Only public and private limited companies are included. All other legal forms are dropped (e.g., nonprofit organizations, public authorities). *'Local GAAP statements'*: IFRS statements are excluded. *'Global ultimate owner'*: The global ultimate owner (GUO, respectively the parent firm) can be identified and has a minimum shareholding of more than 50%; firms without a majority global ultimate owner or inconsistent data on the GUO (including foreign GUOs) are excluded.

**Table 2: Indicators for Low Avoidance Activity Before GBTR 2008**

| Indicator | Definition |
|---|---|
| *HighETR* | High (> median) pre-reform effective tax rate $ETR_{pre} = \frac{\sum_{t=2005}^{3} Tax\ expense_{it}}{\sum_{t=2005}^{3} Pre{-}tax\ income_{it}}$ |
| *LowTPS* | Low (< median) pre-reform tax planning score $TPS_{pre} = \frac{1-ETR_{pre}}{\sigma_{ETR_{pre}}}$ |
| *HighΔ/BVA* | High (> median) pre-reform *Δ/BVA* $$\Delta/BVA_{pre} = \frac{\sum_{t=2005}^{3} Tax\ expense_{it} - CITR_{it} \times Pre-tax\ income_{it}}{\sum_{t=2005}^{3} Total\ asset_{it}}$$ |
| *Domestic* | Domestic entity firm without any shareholdings of an entity located in another country |
| *SME* | Small-to-medium sized firms with fewer than 250 employees |
| *LowIndex* | Low (< median) pre-reform tax avoidance index $Pre\text{-}reform\ Index_{pre} = -ETR_z + TPS_z - \Delta/BVA_z - Domestic_z - SME_z$ |

**Table 3: Descriptive Statistics**

| **Panel A: German sample** | | | | |
|---|---|---|---|---|
| **Variable** | **Obs.** | **Mean** | **Median** | **SD** |
| Number of Employees | 12,408 | 196.322 | 98.000 | 482.632 |
| Wage/Employee (thousand USD) | 12,408 | 78.200 | 65.160 | 339.824 |
| Total Cost of Employee (thousand USD) | 12,408 | 12,691.626 | 6,076.370 | 38,464.176 |
| Total Assets (thousand USD) | 12,408 | 59,821.929 | 15,643.922 | 660,719.494 |
| Fixed Assets (thousand USD) | 12,408 | 31,828.598 | 4,061.854 | 494,667.018 |
| EBIT (thousand USD) | 12,408 | 2,933.189 | 1,203.436 | 13,976.060 |
| Debt (thousand USD) | 12,401 | 4,500.024 | 593.985 | 19,365.936 |
| Cash (thousand USD) | 11,715 | 5,514.947 | 1,044.667 | 43,250.706 |
| Long-run ETR (%) | 11,547 | 28.471% | 28.856% | 19.017% |
| Long-run Δ/BVA (%) | 12,408 | -0.343% | -0.071% | 2.489% |
| Tax Planning Score | 10,781 | 4,823.737 | 19.502 | 328,588.667 |
| SME (dummy) | 12,408 | 0.852 | 1 | 0.355 |
| Domestic (dummy) | 12,408 | 0.549 | 1 | 0.498 |
| Tax-Haven (dummy) | 11,935 | 0.036 | 0 | 0.187 |
| Tax Avoidance Index | 10,171 | 1.387 | 1.117 | 3.115 |
| GDP (billion USD) | 12,408 | 3,493.469 | 3,455.733 | 196.144 |
| Population (1,000,000) | 12,408 | 81.779 | 81.902 | 0.642 |
| GDP per capita (thousand USD) | 12,408 | 42.721 | 42.267 | 2.417 |
| Inflation Rate (%) | 12,408 | 1.689% | 2.008% | 0.711% |
| Unemployment Rate (%) | 12,408 | 7.546% | 7.500% | 1.692% |
| Statutory Corporate Tax Rate (%) | 12,408 | 32.120% | 29.480% | 4.075% |
| **Panel B: Neighboring countries** | | | | |
| **Variable** | **Obs.** | **Mean** | **Median** | **SD** |
| Number of Employees | 64,315 | 34.067 | 9.000 | 275.460 |
| Wage/Employee (thousand USD) | 64,315 | 62.894 | 56.368 | 67.888 |
| Total Cost of Employee (thousand USD) | 64,315 | 1,746.249 | 497.678 | 12,236.532 |
| Total Assets (thousand USD) | 64,315 | 12,624.322 | 2,371.432 | 154,230.793 |
| Fixed Assets (thousand USD) | 64,315 | 6,911.175 | 642.228 | 133,139.942 |
| EBIT (thousand USD) | 64,312 | 598.464 | 134.031 | 6,395.215 |
| Debt (thousand USD) | 64,315 | 1,929.868 | 419.318 | 15,805.590 |
| Cash (thousand USD) | 62,856 | 1,348.100 | 222.754 | 16,807.978 |
| Long-run ETR (%) | 59,392 | 29.362% | 28.293% | 21.236% |
| Long-run Δ/BVA (%) | 64,315 | -0.362% | -0.189% | 2.045% |
| Tax Planning Score | 54,070 | 219.665 | 10.929 | 5,118.132 |
| SME (dummy) | 64,315 | 0.983 | 1 | 0.128 |
| Domestic (dummy) | 64,315 | 0.813 | 1 | 0.390 |
| Tax-Haven (dummy) | 60,606 | 0.011 | 0 | 0.106 |
| Tax Avoidance Index | 51,016 | -0.213 | -0.706 | 2.072 |
| GDP (billion USD) | 64,315 | 896.949 | 495.161 | 859.960 |
| Population (1,000,000) | 64,315 | 22.006 | 10.920 | 21.221 |
| GDP per capita (thousand USD) | 64,315 | 42.886 | 43.309 | 6.663 |
| Inflation Rate (%) | 64,315 | 2.196% | 2.117% | 1.214% |
| Unemployment Rate (%) | 64,315 | 8.099% | 8.200% | 1.096% |
| Statutory Corporate Tax Rate (%) | 64,315 | 33.325% | 33.990% | 2.799% |

Table 3 reports descriptive statistics for the German sample (Panel A) and for the aggregate sample of neighboring countries used in the triple-difference tests (Panel B: Austria, Belgium, France, and Poland). Monetary values are deflated using the 2010 price index (base year = 100). Ratios are expressed in percent, and dummy variables are reported as means (proportion equal to one).

**Table 4: Placebo DiD Tests for Pre-Reform Period**

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Wage per Employee** | (1) | (2) | (3) | (4) | (5) | (6) |
| *Placebo06* | 0.186*** | 0.218*** | 0.196*** | 0.210*** | 0.183*** | 0.193*** |
| | (0.020) | (0.026) | (0.019) | (0.026) | (0.040) | (0.026) |
| *LowAvoid* × *Placebo06* | 0.036 | -0.027 | 0.039 | 0.010 | 0.040 | 0.023 |
| | (0.030) | (0.030) | (0.029) | (0.028) | (0.041) | (0.027) |
| Observations | 3,012 | 3,012 | 3,296 | 3,296 | 3,296 | 3,012 |
| Firms | 1,239 | 1,239 | 1,357 | 1,357 | 1,357 | 1,239 |
| R-squared | 0.816 | 0.816 | 0.809 | 0.809 | 0.809 | 0.816 |
| Adjusted R-squared | 0.688 | 0.688 | 0.675 | 0.675 | 0.675 | 0.688 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *Placebo06* | 0.084*** | 0.087*** | 0.087*** | 0.089*** | 0.127*** | 0.114*** |
| | (0.023) | (0.025) | (0.023) | (0.028) | (0.049) | (0.026) |
| *LowAvoid* × *Placebo06* | 0.030 | 0.019 | -0.019 | -0.024 | -0.062 | -0.039 |
| | (0.031) | (0.031) | (0.032) | (0.031) | (0.050) | (0.029) |
| Observations | 3,012 | 3,012 | 3,296 | 3,296 | 3,296 | 3,012 |
| Firms | 1,239 | 1,239 | 1,357 | 1,357 | 1,357 | 1,239 |
| R-squared | 0.968 | 0.968 | 0.967 | 0.967 | 0.967 | 0.968 |
| Adjusted R-squared | 0.946 | 0.946 | 0.943 | 0.943 | 0.943 | 0.946 |

Table 4 documents Placebo DiD regressions for the pre-reform period until 2008. The dependent variable is the natural logarithm of average wage per employee (Panel A) and the natural logarithm of number of employees (Panel B). The analysis relies on data of German firms for the years 2005 to 2007. Estimations are performed include firm and year fixed effects. *Placebo06* is a dummy variable for the years 2006 and 2007 and *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

**Table 5: Impact of GBTR 2008 on Tax Burden**

| **Panel A: ETR** | *HighETR* (1) | *LowTPS* (2) | *HighΔ/BVA* (3) | *Domestic* (4) | *SME* (5) | *LowIndex* (6) |
|---|---|---|---|---|---|---|
| *Reform* | 0.040*** | -0.024*** | 0.038*** | -0.027*** | 0.000 | -0.008 |
| | (0.006) | (0.006) | (0.007) | (0.009) | (0.014) | (0.007) |
| *LowAvoid × Reform* | -0.139*** | -0.012 | -0.133*** | 0.007 | -0.028** | -0.041*** |
| | (0.008) | (0.008) | (0.010) | (0.010) | (0.014) | (0.009) |
| Observations | 10,498 | 10,304 | 11,535 | 11,535 | 11,535 | 10,141 |
| Firms | 1,639 | 1,587 | 1,747 | 1,747 | 1,747 | 1,578 |
| R-squared | 0.740 | 0.699 | 0.653 | 0.629 | 0.629 | 0.704 |
| Adjusted R-squared | 0.692 | 0.644 | 0.590 | 0.562 | 0.563 | 0.649 |
| **Panel B: Δ/BVA** | *HighETR* (1) | *LowTPS* (2) | *HighΔ/BVA* (3) | *Domestic* (4) | *SME* (5) | *LowIndex* (6) |
| *Reform* | 0.014*** | 0.009*** | 0.016*** | 0.007*** | 0.007*** | 0.010*** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| *LowAvoid × Reform* | -0.015*** | -0.005*** | -0.019*** | -0.001 | -0.001 | -0.008*** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Observations | 10,498 | 10,304 | 12,408 | 12,408 | 12,408 | 10,141 |
| Firms | 1,639 | 1,587 | 1,783 | 1,783 | 1,783 | 1,578 |
| R-squared | 0.829 | 0.810 | 0.737 | 0.707 | 0.707 | 0.827 |
| Adjusted R-squared | 0.797 | 0.776 | 0.693 | 0.658 | 0.658 | 0.795 |

Table 5 documents our tests for the impact of the GBTR 2008 on the tax burden of low-avoidance firms versus the tax burden of high-avoidance forms. As dependent variables, we use long-run GAAP ETR (Panel A) and long-run Δ/BVA (Panel B). We rely on difference-in-difference regressions for the panel of German firms and include firm fixed effects and year fixed effects. *Reform* is a dummy variable for the years 2008 and thereafter. *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

**Table 6: Difference-in-Difference Tests**

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Wage per Employee** | (1) | (2) | (3) | (4) | (5) | (6) |
| *Reform* | -0.088*** | -0.076*** | -0.096*** | -0.073*** | -0.033 | -0.062*** |
| | (0.013) | (0.011) | (0.013) | (0.016) | (0.026) | (0.014) |
| *LowAvoid × Reform* | 0.013 | -0.012 | 0.019 | -0.025 | -0.063** | -0.026 |
| | (0.017) | (0.017) | (0.017) | (0.017) | (0.024) | (0.016) |
| Observations | 10,498 | 10,304 | 12,408 | 12,408 | 12,408 | 10,141 |
| Firms | 1,639 | 1,587 | 1,783 | 1,783 | 1,783 | 1,578 |
| R-squared | 0.743 | 0.742 | 0.726 | 0.726 | 0.726 | 0.759 |
| Adjusted R-squared | 0.695 | 0.694 | 0.680 | 0.680 | 0.680 | 0.714 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *Reform* | 0.151*** | 0.189*** | 0.157*** | 0.145*** | 0.064* | 0.189*** |
| | (0.018) | (0.017) | (0.019) | (0.021) | (0.034) | (0.018) |
| *LowAvoid × Reform* | 0.048** | -0.026 | 0.003 | 0.025 | 0.112*** | -0.017 |
| | (0.021) | (0.021) | (0.020) | (0.021) | (0.032) | (0.021) |
| Observations | 10,498 | 10,304 | 12,408 | 12,408 | 12,408 | 10,141 |
| Firms | 1,639 | 1,587 | 1,783 | 1,783 | 1,783 | 1,578 |
| R-squared | 0.946 | 0.945 | 0.939 | 0.939 | 0.939 | 0.950 |
| Adjusted R-squared | 0.936 | 0.935 | 0.928 | 0.928 | 0.928 | 0.940 |

Table 6 presents the baseline results of the difference-in-difference analysis. Dependent variables are the natural logarithm of the average wage per employee (Panel A) and the natural logarithm of the number of employees (Panel B). The analysis relies on the data of German firms and includes firm fixed effects and year fixed effects. *Reform* is a dummy variable for the years 2008 and thereafter. *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

**Table 7: Triple Difference Tests (really correct estimates???)**

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Wage per Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *Reform* | -0.064*** | -0.051*** | -0.066*** | -0.070** | -0.038 | -0.038*** |
| | (0.018) | (0.014) | (0.019) | (0.029) | (0.041) | (0.015) |
| *LowAvoid* × *Reform* | 0.019 | -0.007 | 0.005 | 0.009 | -0.027 | -0.019 |
| | (0.017) | (0.016) | (0.019) | (0.029) | (0.039) | (0.017) |
| *DE* × *Reform* | -0.049*** | -0.047*** | -0.055*** | -0.026 | -0.022 | -0.048*** |
| | (0.019) | (0.017) | (0.019) | (0.032) | (0.044) | (0.018) |
| *DE* × *LowAvoid* × *Reform* | -0.003 | -0.009 | 0.019 | -0.035 | -0.033 | -0.003 |
| | (0.024) | (0.024) | (0.026) | (0.034) | (0.046) | (0.023) |
| Observations | 63,573 | 62,031 | 76,723 | 76,723 | 76,723 | 61,048 |
| Number of Firms | 9,840 | 9,445 | 10,777 | 10,777 | 10,777 | 9,424 |
| $R^2$ | 0.862 | 0.862 | 0.836 | 0.836 | 0.836 | 0.867 |
| Adjusted $R^2$ | 0.837 | 0.837 | 0.809 | 0.809 | 0.809 | 0.842 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *Reform* | 0.127*** | 0.109*** | 0.128*** | 0.122*** | -0.038 | 0.142*** |
| | (0.022) | (0.019) | (0.022) | (0.035) | (0.066) | (0.021) |
| *LowAvoid* × *Reform* | -0.046** | -0.013 | -0.083*** | -0.050 | 0.130** | -0.059*** |
| | (0.021) | (0.021) | (0.023) | (0.035) | (0.065) | (0.021) |
| *DE* × *Reform* | -0.002 | 0.052** | -0.002 | -0.011 | 0.075 | 0.025 |
| | (0.025) | (0.023) | (0.025) | (0.039) | (0.071) | (0.023) |
| *DE* × *LowAvoid* × *Reform* | 0.098*** | -0.008 | 0.084*** | 0.077* | -0.024 | 0.034 |
| | (0.031) | (0.031) | (0.032) | (0.042) | (0.073) | (0.031) |
| Observations | 63,573 | 62,031 | 76,723 | 76,723 | 76,723 | 61,048 |
| Number of Firms | 9,840 | 9,445 | 10,777 | 10,777 | 10,777 | 9,424 |
| $R^2$ | 0.970 | 0.969 | 0.964 | 0.964 | 0.964 | 0.971 |
| Adjusted $R^2$ | 0.964 | 0.964 | 0.958 | 0.958 | 0.958 | 0.965 |

Table 7 presents the baseline results of the triple difference analysis. Dependent variables are the natural logarithm of the average wage per employee (Panel A) and the natural logarithm of the number of employees (Panel B). The analysis relies on the data of German firms and firms in four neighboring countries (Austria, Belgium, France, Poland) and includes firm fixed effects and year fixed effects. *Reform* is a dummy variable for the years 2008 and thereafter. *DE* is a dummy variable for German firms and *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

## Table 8: DiD Tests for Survivor Firms

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Wage per Employee** | (1) | (2) | (3) | (4) | (5) | (6) |
| *Reform* | -0.082*** | -0.067*** | -0.090*** | -0.063*** | -0.030 | -0.057*** |
| | (0.014) | (0.012) | (0.014) | (0.016) | (0.027) | (0.015) |
| *LowAvoid × Reform* | 0.018 | -0.012 | 0.022 | -0.033* | -0.060** | -0.029 |
| | (0.018) | (0.018) | (0.0189) | (0.018) | (0.025) | (0.018) |
| Observations | 8,663 | 8,533 | 10,268 | 10,268 | 10,268 | 8,398 |
| Firms | 1,301 | 1,266 | 1,400 | 1,400 | 1,400 | 1,265 |
| R-squared | 0.717 | 0.711 | 0.700 | 0.700 | 0.701 | 0.724 |
| Adjusted R-squared | 0.667 | 0.660 | 0.653 | 0.653 | 0.653 | 0.675 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *Reform* | 0.131*** | 0.166*** | 0.137*** | 0.120*** | 0.052 | 0.177*** |
| | (0.020) | (0.019) | (0.020) | (0.022) | (0.035) | (0.019) |
| *LowAvoid × Reform* | 0.044* | -0.027 | -0.003 | 0.031 | 0.102*** | -0.029 |
| | (0.023) | (0.023) | (0.022) | (0.023) | (0.034) | (0.023) |
| Observations | 8,663 | 8,533 | 10,268 | 10,268 | 10,268 | 8,398 |
| Firms | 1,301 | 1,266 | 1,400 | 1,400 | 1,400 | 1,265 |
| R-squared | 0.942 | 0.941 | 0.935 | 0.935 | 0.935 | 0.944 |
| Adjusted R-squared | 0.932 | 0.931 | 0.924 | 0.924 | 0.925 | 0.934 |

Table 8 presents DiD results for a panel of "survivor" firms that we observe until at least 2010. Dependent variables are the natural logarithm of the average wage per employee (Panel A) and the natural logarithm of the number of employees (Panel B). The analysis relies on the data of German firms and includes firm fixed effects and year fixed effects. *Reform* is a dummy variable for the years 2008 and thereafter and *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

**Table 9: DiD Tests with Year-Specific Effects**

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Wage per Employee** | (1) | (2) | (3) | (4) | (5) | (6) |
| *LowAvoid × 2008* | 0.013 | -0.008 | 0.012 | -0.031* | -0.024 | -0.014 |
| | (0.018) | (0.018) | (0.017) | (0.017) | (0.027) | (0.018) |
| *LowAvoid × 2009* | 0.028 | -0.039 | 0.021 | -0.034 | -0.058** | -0.033 |
| | (0.025) | (0.024) | (0.023) | (0.023) | (0.029) | (0.024) |
| *LowAvoid × 2010* | 0.002 | -0.021 | 0.011 | -0.018 | -0.073** | -0.025 |
| | (0.020) | (0.020) | (0.018) | (0.019) | (0.029) | (0.019) |
| *LowAvoid × 2011* | 0.011 | 0.009 | 0.027 | -0.016 | -0.085** | -0.026 |
| | (0.023) | (0.023) | (0.024) | (0.026) | (0.040) | (0.020) |
| *LowAvoid × 2012* | 0.006 | 0.007 | 0.028 | -0.015 | -0.058 | -0.025 |
| | (0.021) | (0.022) | (0.021) | (0.021) | (0.037) | (0.021) |
| *LowAvoid × 2013* | 0.026 | -0.008 | 0.019 | -0.041* | -0.095*** | -0.043** |
| | (0.022) | (0.022) | (0.022) | (0.022) | (0.034) | (0.021) |
| Observations | 10,498 | 10,304 | 12,408 | 12,408 | 12,408 | 10,141 |
| Firms | 1,639 | 1,587 | 1,783 | 1,783 | 1,783 | 1,578 |
| R-squared | 0.743 | 0.742 | 0.726 | 0.726 | 0.726 | 0.759 |
| Adjusted R-squared | 0.695 | 0.694 | 0.680 | 0.680 | 0.680 | 0.714 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *LowAvoid × 2008* | 0.031* | -0.027 | -0.006 | 0.020 | 0.048 | -0.013 |
| | (0.018) | (0.018) | (0.017) | (0.017) | (0.029) | (0.018) |
| *LowAvoid × 2009* | 0.044* | -0.027 | 0.000 | 0.038 | 0.089** | -0.012 |
| | (0.023) | (0.023) | (0.024) | (0.025) | (0.045) | (0.023) |
| *LowAvoid × 2010* | 0.041* | -0.030 | 0.000 | 0.023 | 0.160*** | -0.013 |
| | (0.024) | (0.024) | (0.023) | (0.024) | (0.042) | (0.024) |
| *LowAvoid × 2011* | 0.056* | -0.035 | 0.012 | 0.026 | 0.133*** | -0.031 |
| | (0.029) | (0.029) | (0.027) | (0.028) | (0.042) | (0.027) |
| *LowAvoid × 2012* | 0.068** | -0.026 | 0.008 | 0.011 | 0.105*** | -0.024 |
| | (0.029) | (0.030) | (0.026) | (0.027) | (0.034) | (0.029) |
| *LowAvoid × 2013* | 0.058* | 0.000 | 0.014 | 0.042 | 0.164*** | -0.015 |
| | (0.031) | (0.031) | (0.032) | (0.032) | (0.045) | (0.031) |
| Observations | 10,498 | 10,304 | 12,408 | 12,408 | 12,408 | 10,141 |
| Firms | 1,639 | 1,587 | 1,783 | 1,783 | 1,783 | 1,578 |
| R-squared | 0.946 | 0.945 | 0.939 | 0.939 | 0.939 | 0.950 |
| Adjusted R-squared | 0.936 | 0.935 | 0.928 | 0.928 | 0.929 | 0.940 |

Table 9 presents DiD results with year-specific estimates of treatment effects. Dependent variables are the natural logarithm of the average wage per employee (Panel A) and the natural logarithm of the number of employees (Panel B). The analysis relies on the data of German firms and includes firm fixed effects and year fixed effects. The interaction terms *LowAvoid × Postyear (e.g., LowAvoid × 2008)* identify treatment effects for each post-reform year and *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

## Figure 1: Graphical Analysis of German Wages and Employment

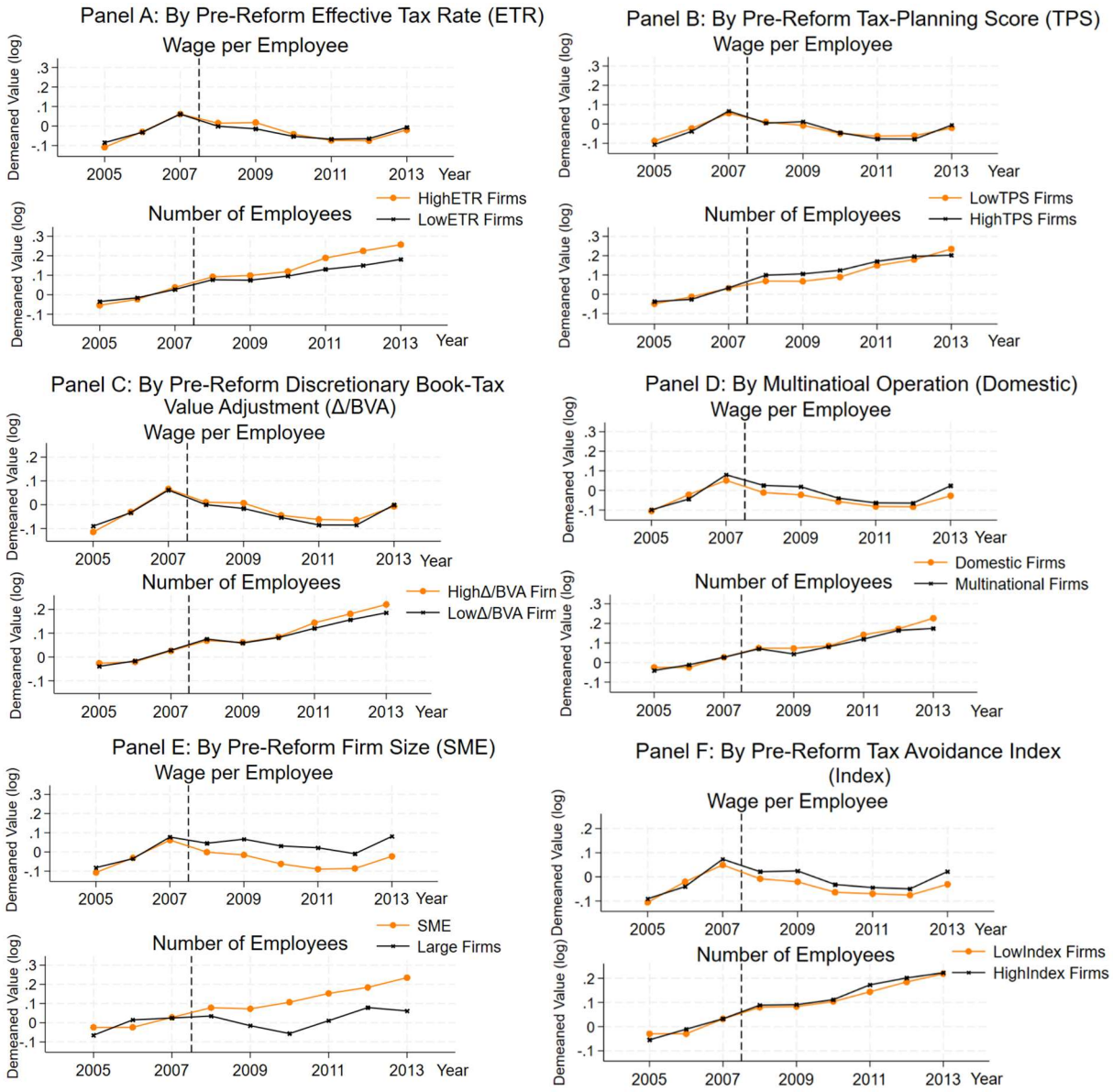



Figure 1 provides a graphical representation of the development the logarithm of the wage per employee and the logarithm of the employee number in the AMADEUS firm data for low-avoidance firms versus high-avoidance firms. We define low-avoidance firms by six alternative indicators (HighETR, LowTPS, HighΔ/BVA, Domestic, SME and LowIndex). We scale our variables by the average value before treatment.

Source: Authors‘ own Illustrations, Amadeus Database

# Appendices

## Appendix A: Variable Definitions

| *Variable* | *Definition* |
|---|---|
| *Dependent Variables* | |
| $Ln\ Wage_{it}$ | Natural logarithm of the average wage per employee of a firm *i* at time *t* in thousands of U.S. dollars. |
| $Ln\ Empl_{it}$ | Natural logarithm of the number of employees in a firm *i* at time *t* |
| $Ln\ Staff_{it}$ | Natural logarithm of the total cost of employees in a firm *i* at time *t* |
| $ETR_{it}$ | Long-run effective tax rate of firm *i* at time *t* $ETR_{it} = \frac{\sum_{t=2005,2008,2011}^{3} Tax\ payment_{it}}{\sum_{t=2005}^{3} Pre-tax\ income_{it}}$ |
| $\Delta/BVA_{it}$ | Henry and Sansing (2018) measure adjusted by book values $\Delta/BVA_{it} = \frac{\sum_{t=2005,2008,2011}^{3} Tax\ payment_{it} - CITR_{it} \times Pre-tax\ income_{it}}{\sum_{t=2005,2008,2011}^{3} Total\ asset_{it}}$ |
| *Independent variables* | |
| $DE_i$ | Dummy variable with value of 1 if the firm is located in Germany and 0 otherwise. |
| $Reform_t$ | Time dummy variable with value of 1 for all the years after the tax reform (2008 to 2013) and "0" for the pre- GBTR 2008 (2005-2007). |
| $LowAvoid_i$ | Dummy variable with value of 1 for treatment groups and 0 for control groups. |
| $HighETR_i$ | Dummy variable with value of 1 if the firms' pre-reform effective tax rate is higher than the median ETR value of the sample. |
| $LowTPS_i$ | Dummy variable with value of 1 if the firms' pre-reform tax-planning score is lower than the median value of the sample. |
| $High\Delta/BVA_i$ | Dummy variable with value of 1 if the firms' pre-reform *Δ/BVA* is higher than the median value of the sample. |
| $Domestic_i$ | Dummy variable with the value of 1 for domestic firms and 0 for multinational enterprises. |
| $SME_i$ | Dummy variable with the value of 1 for small-to-medium sized firms with fewer than 250 employees and 0 for large firms. |
| $LowIndex_i$ | Dummy variable with value of 1 if the firms' pre-reform tax avoidance index is lower than the median value of the sample. |
| $Placebo06_t$ | Time dummy variable with value of 1 for year 2006 and 2007 |
| $Placebo07_t$ | Time dummy variable with value of 1 for year 2007 |
| *Control Variables* | |
| $Total\ Assets_{t-1}$ | Natural logarithm of the total assets of a firm *i* at time *t-1* in thousand U.S. $ |
| $Lev_{t-1}$ | Ratio of long-term debt to total assets of a firm *i* at time *t-1* |
| $CF_{t-1}$ | Ratio of operating cash flow to total assets of a firm *i* at time *t-1* |
| $ROA_{t-1}$ | Ratio of EBIT to total assets of a firm *i* at time *t-1* |
| $GDPpc_{t-1}$ | Natural logarithm of the GDP per capita of a country *c* at time *t-1* in thousand U.S. $ |
| $Unempl_{t-1}$ | Unemployment rate of a country *c* at time *t-1* |

## Appendix B: Additional Descriptive Statistics

Table B1, Panel A provides a comprehensive overview of the distribution of observations for each country over the sample period (2005–2013). Each row corresponds to a specific country, while each column represents a year. Belgium stands out with the highest number of observations (49,660), followed by France (40,812). Germany contributes 25,204 observations, Poland 7,123 observations and Austria as a relatively small country only 128 observations. Table 2, Panel B documents the development of statutory corporate income tax rates in all five countries over time. The only country with a relevant CIT rate in the observation period is Germany as a consequence of the GBTR 2008. Small yearly changes in the German CIT rates result from changes in average local business tax rates in Germany that are set by the German municipalities.

**Table B1: Sample Distribution and Corporate Tax Rates**

**Panel A: Sample Distribution**

| Country | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Austria | 3 | 3 | 20 | 16 | 17 | 13 | 8 | 10 | 7 | 97 |
| Belgium | 5,552 | 5,992 | 6,201 | 5,863 | 5,758 | 5,680 | 5,456 | 5,371 | 3,787 | 49,660 |
| Germany | 644 | 1,370 | 1,708 | 1,677 | 1,684 | 1,603 | 1,463 | 1,465 | 794 | 12,408 |
| France | 713 | 1,588 | 1,608 | 1,412 | 1,354 | 1,419 | 1,187 | 1,014 | 949 | 12,244 |
| Poland | 309 | 334 | 344 | 345 | 366 | 286 | 195 | 100 | 35 | 2,314 |
| Total | 8,221 | 9,287 | 9,881 | 9,313 | 9,179 | 9,001 | 8,309 | 7,960 | 5,572 | 76,723 |

**Panel B: Statutory Corporate Income Tax Rates**

| Country | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | Average |
|---|---|---|---|---|---|---|---|---|---|---|
| Austria | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% |
| Belgium | 34.0% | 34.0% | 34.0% | 34.0% | 34.0% | 34.0% | 34.0% | 34.0% | 34.0% | 34.0% |
| Germany | 38.3% | 38.3% | 38.5% | 29.5% | 29.4% | 29.4% | 29.4% | 29.5% | 29.6% | 32.4% |
| France | 33.8% | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% | 33.4% |
| Poland | 19.0% | 19.0% | 19.0% | 19.0% | 19.0% | 19.0% | 19.0% | 19.0% | 19.0% | 19.0% |

Table B1, Panel A reports the number of observations for each country and each year. Panel B reports the corporate income statutory tax rates that include the top federal rates as well as average local taxes and surtaxes by country and year. Tax rates are taken from KPMG (2006) and KPMG's corporate tax rate tables available at: https://home.kpmg/xx/en/home/services/tax/tax-tools-and-resources/tax-rates-online/corporate-tax-rates-table.html.

**Table B2: Additional Descriptive Statistics: Full Sample and Neighbor Countries**

| **Panel A: Full sample** | | | | |
|---|---|---|---|---|
| **Variable** | **Obs.** | **Mean** | **Median** | **SD** |
| Number of Employees | 76,723 | 60.307 | 12.000 | 323.797 |
| Wage/Employee (thousand USD) | 76,723 | 65.370 | 57.556 | 150.233 |
| Total Cost of Employee (thousand USD) | 76,723 | 3,516.386 | 678.758 | 19,519.551 |
| Total Assets (thousand USD) | 76,723 | 20,257.338 | 3,083.012 | 301,393.906 |
| Fixed Assets (thousand USD) | 76,723 | 10,940.936 | 824.304 | 233,482.810 |
| EBIT (thousand USD) | 76,720 | 976.061 | 172.448 | 8,161.613 |
| Debt (thousand USD) | 76,716 | 2,345.329 | 425.712 | 16,460.537 |
| Cash (thousand USD) | 74,571 | 2,002.706 | 263.903 | 23,114.417 |
| Long-run ETR (%) | 70,939 | 29.216% | 28.445% | 20.893% |
| Long-run Δ/BVA (%) | 76,723 | -0.359% | -0.170% | 2.123% |
| Tax Planning Score | 64,851 | 985.058 | 11.842 | 134,062.266 |
| SME (dummy) | 76,723 | 0.962 | 1.000 | 0.191 |
| Domestic (dummy) | 76,723 | 0.770 | 1.000 | 0.421 |
| Tax-Haven (dummy) | 72,541 | 0.015 | 0.000 | 0.124 |
| Tax Avoidance Index | 61,187 | 0.053 | -0.644 | 2.355 |
| GDP (billion USD) | 76,723 | 1,316.870 | 503.520 | 1,241.033 |
| Population (1,000,000) | 76,723 | 31.673 | 11.048 | 29.359 |
| GDP per capita (thousand USD) | 76,723 | 42.859 | 43.309 | 6.178 |
| Inflation Rate (%) | 76,723 | 2.114% | 2.008% | 1.163% |
| Unemployment Rate (%) | 76,723 | 8.010% | 7.900% | 1.229% |
| Statutory Corporate Tax Rate (%) | 76,723 | 33.130% | 33.990% | 3.074% |
| **Panel B: Austria** | | | | |
| **Variable** | **Obs.** | **Mean** | **Median** | **SD** |
| Number of Employees | 97 | 114.691 | 75.000 | 164.186 |
| Wage/Employee (thousand USD) | 97 | 78.221 | 68.932 | 39.288 |
| Total Cost of Employee (thousand USD) | 97 | 7,502.709 | 4,810.142 | 10,879.574 |
| Total Assets (thousand USD) | 97 | 28,577.441 | 15,926.388 | 34,585.425 |
| Fixed Assets (thousand USD) | 97 | 14,272.338 | 4,097.236 | 23,692.810 |
| EBIT (thousand USD) | 97 | 1,849.702 | 847.278 | 2,964.148 |
| Debt (thousand USD) | 97 | 4,789.795 | 574.219 | 8,722.000 |
| Cash (thousand USD) | 91 | 1,522.694 | 692.313 | 1,891.313 |
| Long-run ETR (%) | 92 | 22.310% | 25.024% | 10.708% |
| Long-run Δ/BVA (%) | 97 | -0.119% | 0.013% | 1.035% |
| Tax Planning Score | 90 | 133.635 | 24.444 | 307.101 |
| SME (dummy) | 97 | 0.918 | 1.000 | 0.277 |
| Domestic (dummy) | 97 | 0.268 | 0.000 | 0.445 |
| Tax-Haven (dummy) | 82 | 0.000 | 0.000 | 0.000 |
| Tax Avoidance Index | 88 | 1.513 | 1.428 | 2.317 |
| GDP (billion USD) | 97 | 403.996 | 404.805 | 20.946 |
| Population (1,000,000) | 97 | 8.349 | 8.343 | 0.059 |
| GDP per capita (thousand USD) | 97 | 48.390 | 48.518 | 2.564 |
| Inflation Rate (%) | 97 | 2.096% | 2.169% | 0.902% |
| Unemployment Rate (%) | 97 | 4.406% | 4.400% | 0.371% |
| Statutory Corporate Tax Rate (%) | 97 | 25.000% | 25.000% | 0.000% |

| **Panel C: Belgium** | | | | |
|---|---|---|---|---|
| **Variable** | **Obs.** | **Mean** | **Median** | **SD** |
| Number of Employees | 49,660 | 15.832 | 7.000 | 99.998 |
| Wage/Employee (thousand USD) | 49,660 | 59.091 | 55.871 | 40.564 |
| Total Cost of Employee (thousand USD) | 49,660 | 928.251 | 395.388 | 4,294.369 |
| Total Assets (thousand USD) | 49,660 | 5,888.266 | 1,992.575 | 42,837.805 |
| Fixed Assets (thousand USD) | 49,660 | 2,546.759 | 531.033 | 25,975.745 |
| EBIT (thousand USD) | 49,658 | 332.413 | 121.646 | 1,761.722 |
| Debt (thousand USD) | 49,660 | 1,086.995 | 346.538 | 6,526.740 |
| Cash (thousand USD) | 48,855 | 934.980 | 194.939 | 15,105.759 |
| Long-run ETR (%) | 45,834 | 31.225% | 29.715% | 21.606% |
| Long-run Δ/BVA (%) | 49,660 | -0.271% | -0.168% | 1.932% |
| Tax Planning Score | 42,070 | 248.290 | 9.773 | 5,723.775 |
| SME (dummy) | 49,660 | 0.997 | 1.000 | 0.056 |
| Domestic (dummy) | 49,660 | 0.827 | 1.000 | 0.379 |
| Tax-Haven (dummy) | 47,149 | 0.005 | 0.000 | 0.072 |
| Tax Avoidance Index | 39,569 | -0.367 | -0.743 | 2.072 |
| GDP (billion USD) | 49,660 | 483.190 | 484.313 | 30.518 |
| Population (1,000,000) | 49,660 | 10.807 | 10.796 | 0.235 |
| GDP per capita (thousand USD) | 49,660 | 44.713 | 44.283 | 2.693 |
| Inflation Rate (%) | 49,660 | 2.309% | 2.189% | 1.265% |
| Unemployment Rate (%) | 49,660 | 7.789% | 7.900% | 0.517% |
| Statutory Corporate Tax Rate (%) | 49,660 | 33.990% | 33.990% | 0.000% |
| **Panel D: France** | | | | |
| **Variable** | **Obs.** | **Mean** | **Median** | **SD** |
| Number of Employees | 12,244 | 78.490 | 17.000 | 574.075 |
| Wage/Employee (thousand USD) | 12,244 | 86.503 | 65.155 | 128.459 |
| Total Cost of Employee (thousand USD) | 12,244 | 4,838.979 | 1,140.108 | 26,366.775 |
| Total Assets (thousand USD) | 12,244 | 38,413.958 | 4,724.715 | 341,045.772 |
| Fixed Assets (thousand USD) | 12,244 | 24,086.287 | 1,170.942 | 299,812.184 |
| EBIT (thousand USD) | 12,244 | 1,407.853 | 178.817 | 13,795.730 |
| Debt (thousand USD) | 12,244 | 4,784.445 | 786.800 | 33,216.660 |
| Cash (thousand USD) | 11,647 | 3,018.338 | 424.875 | 23,519.724 |
| Long-run ETR (%) | 11,251 | 23.238% | 23.743% | 19.542% |
| Long-run Δ/BVA (%) | 12,244 | -0.827% | -0.425% | 2.528% |
| Tax Planning Score | 9,793 | 126.775 | 14.653 | 1,964.827 |
| SME (dummy) | 12,244 | 0.960 | 1.000 | 0.195 |
| Domestic (dummy) | 12,244 | 0.757 | 1.000 | 0.429 |
| Tax-Haven (dummy) | 11,204 | 0.037 | 0.000 | 0.190 |
| Tax Avoidance Index | 9,308 | 0.291 | -0.412 | 1.877 |
| GDP (billion USD) | 12,244 | 2,661.835 | 2,676.078 | 180.416 |
| Population (1,000,000) | 12,244 | 64.494 | 64.375 | 0.865 |
| GDP per capita (thousand USD) | 12,244 | 41.263 | 40.706 | 2.619 |
| Inflation Rate (%) | 12,244 | 1.602% | 1.684% | 0.712% |
| Unemployment Rate (%) | 12,244 | 8.892% | 8.900% | 0.810% |
| Statutory Corporate Tax Rate (%) | 12,244 | 33.400% | 33.330% | 0.173% |

| **Panel E: Poland** | | | | |
|---|---|---|---|---|
| **Variable** | **Obs.** | **Mean** | **Median** | **SD** |
| Number of Employees | 2,314 | 186.949 | 100.000 | 329.198 |
| Wage/Employee (thousand USD) | 2,314 | 18.948 | 15.164 | 14.447 |
| Total Cost of Employee (thousand USD) | 2,314 | 2,695.273 | 1,550.080 | 3,928.510 |
| Total Assets (thousand USD) | 2,314 | 20,055.946 | 9,096.055 | 41,809.447 |
| Fixed Assets (thousand USD) | 2,314 | 9,387.734 | 3,080.241 | 24,750.897 |
| EBIT (thousand USD) | 2,313 | 1,973.297 | 667.348 | 7,472.693 |
| Debt (thousand USD) | 2,314 | 4,794.249 | 2,075.418 | 11,020.442 |
| Cash (thousand USD) | 2,263 | 1,663.515 | 424.480 | 7,453.549 |
| Long-run ETR (%) | 2,215 | 22.200% | 20.311% | 13.147% |
| Long-run Δ/BVA (%) | 2,314 | 0.129% | 0.122% | 0.862% |
| Tax Planning Score | 2,117 | 84.176 | 21.876 | 253.175 |
| SME (dummy) | 2,314 | 0.813 | 1.000 | 0.390 |
| Domestic (dummy) | 2,314 | 0.832 | 1.000 | 0.374 |
| Tax-Haven (dummy) | 2,171 | 0.011 | 0.000 | 0.102 |
| Tax Avoidance Index | 2,051 | 0.406 | -0.876 | 2.382 |
| GDP (billion USD) | 2,314 | 458.662 | 477.106 | 65.128 |
| Population (1,000,000) | 2,314 | 38.117 | 38.126 | 0.042 |
| GDP per capita (thousand USD) | 2,314 | 12.034 | 12.516 | 1.714 |
| Inflation Rate (%) | 2,314 | 2.914% | 2.707% | 1.124% |
| Unemployment Rate (%) | 2,314 | 10.727% | 9.600% | 3.362% |
| Statutory Corporate Tax Rate (%) | 2,314 | 19.000% | 19.000% | 0.000% |

Table B2 reports additional descriptive statistics for the full sample (Panel A) and for each sample of neighboring countries used in the triple-difference tests (Panel B: Austria, Panel C: Belgium, Panel D: France, and Panel E: Poland). Monetary values are deflated using the 2010 price index (base year = 100). Ratios are expressed in percent, and dummy variables are reported as means (proportion equal to one).

**Table B3: List of Tax Haven Jurisdictions**

In a report issued in 2009, the OECD identified the blacklist of non-cooperative jurisdictions:

| | | |
|---|---|---|
| Andorra | Dominica | St Kitts and Nevis |
| Anguilla | Gibraltar | St Lucia |
| Antigua and Barbuda | Grenada | St Vincent & Grenadines |
| Antilles | Liberia | Samoa |
| Aruba | Liechtenstein | San Marino |
| Bahamas | Marshall Islands | Turks and Caicos Islands |
| Bahrain | Monaco | Vanuatu |
| Belize | Montserrat | |
| Bermuda | Nauru | |
| British Virgin Islands | Netherlands | |
| Cayman Islands | Niue | |
| Cook Islands | Panama | |

**Appendix C: Multicollinearity Tests for Tax Avoidance Indicators**

The following tests provide evidence for potential multicollinearity among tax avoidance measures. As clearly documented by the variance inflation factors of a value about 1, there is no problematic degree of multicollinearity amount the various measures of tax avoidance. That holds for the unadjusted measures in Panel A as well as for the standardized tax avoidance measures in Panel B.

**Panel A: Unadjusted Measures**

**Correlation Matrix**

| Variables | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| $ETR_{pre}$ | 1.000 | | | | |
| $TPS_{pre}$ | -0.044 | 1.000 | | | |
| $\Delta/BVA_{pre}$ | 0.554 | -0.018 | 1.000 | | |
| Domestic | -0.002 | -0.008 | 0.019 | 1.000 | |
| SME | 0.052 | -0.026 | 0.005 | 0.149 | 1.000 |

**Variance Inflation Factors**

| | VIF | 1/VIF |
|---|---|---|
| SME | 1.023 | .977 |
| Domestic | 1.023 | .977 |
| TPS | 1.001 | .999 |
| Δ/BVA | 1.001 | .999 |
| Mean VIF | 1.012 | |

**Panel B: Standardized Measures**

**Correlation Matrix**

| Variables | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| $ETR_z$ | 1.000 | | | | |
| $TPS_z$ | -0.008 | 1.000 | | | |
| $\Delta/BVA_z$ | 0.132 | -0.018 | 1.000 | | |
| $Domestic_z$ | -0.019 | -0.008 | 0.019 | 1.000 | |
| $SME_z$ | 0.015 | -0.026 | 0.005 | 0.149 | 1.000 |

**Variance Inflation Factors**

| | VIF | 1/VIF |
|---|---|---|
| $SME_z$ | 1.023 | .977 |
| $Domestic_z$ | 1.023 | .977 |
| $TPS_z$ | 1.001 | .999 |
| $\Delta/BVA_z$ | 1.001 | .999 |
| Mean VIF | 1.012 | |

## Appendix D: Additional Robustness Checks

In Appendix D, we report additional regression results and robustness tests that have not been reported yet in our main paper. We begin with additional tests showing that our results are robust to the inclusion of additional control variables. In detail, we consider the following regression control variables at the firm level: logarithm of total assets, the logarithm of turnover and the logarithm of EBIT. The results confirm out main findings. Thus, we do not find statistically significant increases in wages, but a statistically significant increase in the number of employees ranging from

**Table D1: Placebo Tests with Treatment Year 2007**

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Wage per Employee** | (1) | (2) | (3) | (4) | (5) | (6) |
| *Placebo07* | 0.104*** | 0.128*** | 0.108*** | 0.139*** | 0.112*** | 0.126*** |
| | (0.016) | (0.023) | (0.014) | (0.022) | (0.035) | (0.020) |
| *LowAvoid* × *Placebo07* | 0.012 | -0.035 | 0.016 | -0.044* | 0.004 | -0.033 |
| | (0.024) | (0.024) | (0.025) | (0.025) | (0.038) | (0.023) |
| Observations | 3,012 | 3,012 | 3,296 | 3,296 | 3,296 | 3,012 |
| Firms | 1,239 | 1,239 | 1,357 | 1,357 | 1,357 | 1,239 |
| R-squared | 0.816 | 0.817 | 0.809 | 0.809 | 0.809 | 0.816 |
| Ajusted R-squared | 0.687 | 0.688 | 0.675 | 0.676 | 0.675 | 0.688 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *Placebo07* | 0.048*** | 0.066*** | 0.056*** | 0.050*** | 0.038 | 0.057*** |
| | (0.015) | (0.018) | (0.013) | (0.016) | (0.040) | (0.015) |
| *LowAvoid*× *Placebo07* | 0.028 | -0.010 | -0.004 | 0.008 | 0.019 | 0.009 |
| | (0.022) | (0.022) | (0.022) | (0.022) | (0.042) | (0.022) |
| Observations | 3,012 | 3,012 | 3,296 | 3,296 | 3,296 | 3,012 |
| Firms | 1,239 | 1,239 | 1,357 | 1,357 | 1,357 | 1,239 |
| R-squared | 0.968 | 0.968 | 0.967 | 0.967 | 0.967 | 0.968 |
| Adjusted R-squared | 0.946 | 0.946 | 0.943 | 0.943 | 0.943 | 0.946 |

Table D1 documents a robustness check for the Placebo DiD regressions in Table 4. The dependent variable is the natural logarithm of average wage per employee (Panel A) and the natural logarithm of number of employees (Panel B). The analysis relies on data of German firms for the years 2005 to 2007. Estimations are performed include firm and year fixed effects. *Placebo07* is a dummy variable for the year 2007 and *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

**Table D2: DiD Tests with Firm Controls**

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Wage per employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *Reform* | -0.082*** | -0.079*** | -0.100*** | -0.091*** | -0.071*** | -0.075*** |
| | (0.016) | (0.015) | (0.015) | (0.016) | (0.027) | (0.018) |
| *LowAvoid × Reform* | -0.008 | -0.018 | 0.009 | -0.009 | -0.031 | -0.021 |
| | (0.017) | (0.018) | (0.016) | (0.016) | (0.027) | (0.018) |
| *TA* | -0.007 | -0.007 | 0.014 | 0.014 | 0.015 | -0.006 |
| | (0.032) | (0.032) | (0.026) | (0.026) | (0.026) | (0.033) |
| *Lev* | -0.027 | -0.028 | -0.011 | -0.010 | -0.012 | -0.029 |
| | (0.020) | (0.020) | (0.019) | (0.019) | (0.018) | (0.020) |
| *CF* | -0.052 | -0.052 | -0.004 | -0.002 | -0.001 | -0.079 |
| | (0.079) | (0.080) | (0.059) | (0.059) | (0.059) | (0.080) |
| *EBIT* | 0.035 | 0.038 | 0.096 | 0.096 | 0.095 | 0.045 |
| | (0.066) | (0.068) | (0.078) | (0.078) | (0.078) | (0.068) |
| Observations | 8,472 | 8,304 | 10,123 | 10,123 | 10,123 | 8,141 |
| Number of Firms | 1,531 | 1,487 | 1,714 | 1,714 | 1,714 | 1,456 |
| $R^2$ | 0.803 | 0.798 | 0.796 | 0.796 | 0.796 | 0.812 |
| Adjusted $R^2$ | 0.759 | 0.753 | 0.754 | 0.754 | 0.754 | 0.771 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *Reform* | 0.089*** | 0.107*** | 0.100*** | 0.080*** | 0.065** | 0.117*** |
| | (0.018) | (0.017) | (0.018) | (0.020) | (0.033) | (0.018) |
| *LowAvoid × Reform* | 0.029 | -0.007 | -0.008 | 0.030 | 0.039 | -0.011 |
| | (0.020) | (0.020) | (0.019) | (0.019) | (0.031) | (0.019) |
| *TA* | 0.254*** | 0.256*** | 0.234*** | 0.235*** | 0.233*** | 0.243*** |
| | (0.035) | (0.036) | (0.033) | (0.033) | (0.033) | (0.035) |
| *Lev* | -0.012 | -0.010 | -0.024 | -0.024 | -0.022 | -0.011 |
| | (0.024) | (0.025) | (0.031) | (0.031) | (0.031) | (0.025) |
| *CF* | 0.046 | 0.053 | -0.017 | -0.020 | -0.020 | 0.089 |
| | (0.084) | (0.086) | (0.067) | (0.067) | (0.067) | (0.087) |
| *EBIT* | 0.070 | 0.069 | 0.108 | 0.107 | 0.109 | 0.042 |
| | (0.077) | (0.079) | (0.071) | (0.071) | (0.071) | (0.078) |
| Observations | 8,472 | 8,304 | 10,123 | 10,123 | 10,123 | 8,141 |
| Number of Firms | 1,531 | 1,487 | 1,714 | 1,714 | 1,714 | 1,456 |
| $R^2$ | 0.962 | 0.961 | 0.958 | 0.958 | 0.958 | 0.965 |
| Adjusted $R^2$ | 0.954 | 0.953 | 0.950 | 0.950 | 0.950 | 0.957 |

Table D2 presents the additional results of the DiD analysis in Table 6. We enrich the model by the once-lagged firm control variables: logarithm of total assets *TA*, leverage ratio *LEV*, cash flow divided by total assets *CF* and EBIT divided by total assets *EBIT* (see also Appendix A for variable definitions). Dependent variables are the natural logarithm of the average wage per employee (Panel A) and the natural logarithm of the number of employees (Panel B). The analysis relies on the data of German firms and includes firms fixed effects and year fixed effects. *Reform* is a dummy variable for the years 2008 and thereafter. *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

**Table D3: DiD Tests with Industry FE and Year FE**

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Wage per Employee** | (1) | (2) | (3) | (4) | (5) | (6) |
| *LowAvoid* | -0.012 | -0.009 | -0.019 | -0.119*** | 0.111*** | -0.027 |
| | (0.025) | (0.025) | (0.024) | (0.024) | (0.037) | (0.024) |
| *Reform* | -0.062*** | -0.046*** | -0.062*** | -0.043** | -0.001 | -0.048** |
| | (0.017) | (0.017) | (0.016) | (0.018) | (0.028) | (0.019) |
| *LowAvoid × Reform* | 0.023 | -0.003 | 0.015 | -0.024 | -0.058** | -0.009 |
| | (0.020) | (0.020) | (0.018) | (0.018) | (0.026) | (0.020) |
| Observations | 10,519 | 10,325 | 12,408 | 12,408 | 12,408 | 10,171 |
| Number of Firms | 1,660 | 1,608 | 1,783 | 1,783 | 1,783 | 1,608 |
| $R^2$ | 0.121 | 0.126 | 0.129 | 0.143 | 0.131 | 0.126 |
| Adjusted $R^2$ | 0.119 | 0.124 | 0.127 | 0.142 | 0.129 | 0.124 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *LowAvoid* | -0.095 | 0.111* | -0.057 | -0.299*** | -1.912*** | -0.591*** |
| | (0.058) | (0.057) | (0.054) | (0.055) | (0.057) | (0.054) |
| *Reform* | 0.345*** | 0.366*** | 0.337*** | 0.327*** | 0.100** | 0.319*** |
| | (0.039) | (0.038) | (0.035) | (0.035) | (0.040) | (0.040) |
| *LowAvoid × Reform* | -0.016 | -0.040 | -0.022 | -0.009 | 0.149*** | -0.005 |
| | (0.036) | (0.035) | (0.028) | (0.028) | (0.034) | (0.036) |
| Observations | 10,519 | 10,325 | 12,408 | 12,408 | 12,408 | 10,171 |
| Number of Firms | 1,660 | 1,608 | 1,783 | 1,783 | 1,783 | 1,608 |
| $R^2$ | 0.173 | 0.172 | 0.178 | 0.191 | 0.439 | 0.233 |
| Adjusted $R^2$ | 0.170 | 0.170 | 0.176 | 0.189 | 0.438 | 0.231 |

Table D3 presents robustness tests for the DiD analysis in Table 6. Instead of firm fixed effects, we use industry fixed effects. Dependent variables are the natural logarithm of the average wage per employee (Panel A) and the natural logarithm of the number of employees (Panel B). The analysis relies on the data of German firms and includes industry fixed effects and year fixed effects. *Reform* is a dummy variable for the years 2008 and thereafter. *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

**Table D4: DiD Tests with Industry FE, Year FE and Firm Controls**

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Wage per Employee** | (1) | (2) | (3) | (4) | (5) | (6) |
| *LowAvoid* | 0.002 | -0.011 | 0.007 | -0.064*** | 0.340*** | 0.041* |
| | (0.025) | (0.025) | (0.024) | (0.024) | (0.040) | (0.025) |
| *Reform* | -0.141*** | -0.125*** | -0.144*** | -0.128*** | -0.086*** | -0.125*** |
| | (0.020) | (0.019) | (0.018) | (0.019) | (0.033) | (0.021) |
| *LowAvoid × Reform* | 0.026 | 0.001 | 0.021 | -0.003 | -0.060* | -0.008 |
| | (0.022) | (0.022) | (0.020) | (0.020) | (0.032) | (0.022) |
| *TA* | 0.110*** | 0.106*** | 0.116*** | 0.108*** | 0.156*** | 0.112*** |
| | (0.010) | (0.009) | (0.009) | (0.009) | (0.010) | (0.010) |
| *LEV* | -0.226*** | -0.220*** | -0.209*** | -0.196*** | -0.237*** | -0.234*** |
| | (0.038) | (0.038) | (0.035) | (0.035) | (0.035) | (0.039) |
| *CF* | -0.279* | -0.264* | -0.296** | -0.303** | -0.216* | -0.275* |
| | (0.152) | (0.154) | (0.124) | (0.122) | (0.122) | (0.161) |
| *EBIT* | 0.406*** | 0.422*** | 0.367*** | 0.369*** | 0.292*** | 0.443*** |
| | (0.121) | (0.120) | (0.107) | (0.105) | (0.106) | (0.125) |
| Observations | 8,561 | 8,388 | 10,171 | 10,171 | 10,171 | 8,246 |
| Number of Firms | 1,620 | 1,571 | 1,762 | 1,762 | 1,762 | 1,561 |
| $R^2$ | 0.218 | 0.216 | 0.230 | 0.233 | 0.261 | 0.219 |
| Adjusted $R^2$ | 0.215 | 0.213 | 0.227 | 0.231 | 0.259 | 0.216 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *LowAvoid* | 0.063 | 0.089 | 0.057 | 0.003 | -1.388*** | -0.278*** |
| | (0.055) | (0.056) | (0.053) | (0.053) | (0.062) | (0.054) |
| *Reform* | 0.055 | 0.048 | 0.041 | 0.031 | -0.006 | 0.050 |
| | (0.041) | (0.040) | (0.036) | (0.037) | (0.042) | (0.043) |
| *LowAvoid × Reform* | -0.052 | -0.026 | -0.017 | 0.001 | 0.063 | -0.008 |
| | (0.041) | (0.042) | (0.036) | (0.036) | (0.039) | (0.042) |
| *TA* | 0.499*** | 0.503*** | 0.480*** | 0.478*** | 0.290*** | 0.464*** |
| | (0.025) | (0.025) | (0.024) | (0.024) | (0.023) | (0.026) |
| *LEV* | -0.120 | -0.140 | -0.177** | -0.176** | -0.043 | -0.092 |
| | (0.086) | (0.087) | (0.079) | (0.079) | (0.072) | (0.086) |
| *CF* | 0.598 | 0.532 | 0.805*** | 0.779** | 0.360 | 0.519 |
| | (0.375) | (0.383) | (0.307) | (0.309) | (0.276) | (0.394) |
| *EBIT* | -0.267 | -0.207 | -0.322 | -0.318 | 0.037 | -0.321 |
| | (0.291) | (0.302) | (0.246) | (0.247) | (0.222) | (0.299) |
| Observations | 8,561 | 8,388 | 10,171 | 10,171 | 10,171 | 8,246 |
| Number of Firms | 1,620 | 1,571 | 1,762 | 1,762 | 1,762 | 1,561 |
| $R^2$ | 0.393 | 0.402 | 0.384 | 0.384 | 0.506 | 0.415 |
| Adjusted $R^2$ | 0.391 | 0.400 | 0.382 | 0.382 | 0.504 | 0.413 |

Table D4 presents robustness tests for the DiD analysis in Table 6. Instead of firm fixed effects, we use industry fixed effects and enrich the model by once-lagged firm control variables (logarithm of total assets *TA*, leverage ratio *LEV*, cash flow divided by total assets *CF* and earnings before interests and taxes divided by total assets *EBIT*). Dependent variables are the natural logarithm of the average wage per employee (Panel A) and the natural logarithm of the number of employees (Panel B). The analysis relies on the data of German firms and includes industry fixed effects and year fixed effects. *Reform* is a dummy variable for the years 2008 and thereafter. *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

**Table D5: DiD Tests with Firm FE and Industry-Year FE**

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Wage per Employee** | (1) | (2) | (3) | (4) | (5) | (6) |
| *LowAvoid × Reform* | 0.014 | -0.024 | 0.020 | -0.014 | -0.085*** | -0.027 |
| | (0.016) | (0.018) | (0.016) | (0.017) | (0.028) | (0.017) |
| Observations | 10,494 | 10,300 | 12,407 | 12,407 | 12,407 | 10,137 |
| Number of Firms | 1,639 | 1,587 | 1,783 | 1,783 | 1.783 | 1,578 |
| $R^2$ | 0.750 | 0.750 | 0.733 | 0.733 | 0.733 | 0.126 |
| Adjusted $R^2$ | 0.699 | 0.699 | 0.683 | 0.683 | 0.684 | 0.124 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *LowAvoid × Reform* | 0.045** | -0.013 | 0.003 | 0.024 | 0.131*** | -0.012 |
| | (0.020) | (0.020) | (0.020) | (0.021) | (0.036) | (0.021) |
| Observations | 10,494 | 10,300 | 12,407 | 12,407 | 12,407 | 10,137 |
| Number of Firms | 1,639 | 1,587 | 1,783 | 1,783 | 1,783 | 1,578 |
| $R^2$ | 0.949 | 0.948 | 0.941 | 0.941 | 0.941 | 0.952 |
| Adjusted $R^2$ | 0.938 | 0.937 | 0.930 | 0.930 | 0.930 | 0.942 |

Table D5 presents robustness tests for the DiD analysis in Table 6. Instead of year fixed effects, we use industry-year fixed effects. Dependent variables are the natural logarithm of the average wage per employee (Panel A) and the natural logarithm of the number of employees (Panel B). The analysis relies on the data of German firms and includes firm fixed effects and industry-year fixed effects. *Reform* is a dummy variable for the years 2008 and thereafter. *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

**Table D6: DiD Tests for Total Cost of Employees**

| | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| *Reform* | 0.063*** | 0.112*** | 0.062*** | 0.072*** | 0.031 | 0.126*** |
| | (0.017) | (0.016) | (0.016) | (0.018) | (0.028) | (0.016) |
| *LowAvoid × Reform* | 0.061*** | -0.038* | 0.023 | 0.001 | 0.049 | -0.043** |
| | (0.020) | (0.020) | (0.020) | (0.020) | (0.029) | (0.020) |
| Observations | 10,498 | 10,304 | 12,408 | 12,408 | 12,408 | 10,141 |
| Firms | 1,639 | 1,587 | 1,783 | 1,783 | 1,783 | 1,578 |
| R-squared | 0.956 | 0.956 | 0.943 | 0.943 | 0.943 | 0.956 |
| Adjusted R-squared | 0.948 | 0.948 | 0.933 | 0.933 | 0.933 | 0.948 |

Table D6 presents robustness tests for the DiD analysis in Table 6. The dependent variable is the natural logarithm of the total expenses for employees. The analysis relies on the data of German firms and includes firm fixed effects and industry-year fixed effects. *Reform* is a dummy variable for the years 2008 and thereafter. *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

**Table D7: DiD Tests for Matched Sample**

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *LowIndex* |
|---|---|---|---|---|---|
| **Wage per Employee** | (1) | (2) | (3) | (4) | (5) |
| *Reform* | -0.083*** | -0.065*** | -0.099*** | -0.074*** | -0.055*** |
| | (0.014) | (0.011) | (0.013) | (0.017) | (0.014) |
| *LowAvoid × Reform* | 0.024 | -0.013 | 0.022 | -0.027 | -0.034** |
| | (0.017) | (0.017) | (0.017) | (0.018) | (0.017) |
| Observations | 9,350 | 9,392 | 11,875 | 11,591 | 9,336 |
| Firms | 1,349 | 1,355 | 1,676 | 1,641 | 1,344 |
| R-squared | 0.747 | 0.749 | 0.731 | 0.729 | 0.749 |
| Adjusted R-squared | 0.704 | 0.707 | 0.687 | 0.684 | 0.706 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *LowIndex* |
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) |
| *Reform* | 0.160*** | 0.186*** | 0.162*** | 0.158*** | 0.181*** |
| | (0.019) | (0.017) | (0.019) | (0.022) | (0.018) |
| *Low Avoid × Reform* | 0.026 | -0.026 | -0.005 | 0.008 | -0.015 |
| | (0.021) | (0.021) | (0.019) | (0.020) | (0.021) |
| Observations | 9,350 | 9,392 | 11,875 | 11,591 | 9,336 |
| Firms | 1,349 | 1,355 | 1,676 | 1,641 | 1,344 |
| R-squared | 0.947 | 0.948 | 0.942 | 0.936 | 0.947 |
| Adjusted R-squared | 0.938 | 0.940 | 0.932 | 0.926 | 0.938 |

Table D7 presents robustness tests for the DiD analysis in Table 6. Instead of our baseline samples, we use pre-matched of *LowAvoid* treatment and control groups. Dependent variables are the natural logarithm of the average wage per employee (Panel A) and the natural logarithm of the number of employees (Panel B). The analysis relies on the data of German firms and includes firm fixed effects and industry-year fixed effects. *Reform* is a dummy for the years 2008 and thereafter. *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

The matched sample has been generated by propensity score matching. The propensity score represents the ex-ante probability of receiving the treatment (i.e., having low tax avoidance opportunity), predicted by pre-treatment characteristics (Z). The scores are estimated using the logit model Pr (D=1|Z) =Φ($Z^T\omega$), where D equals 1 if a firm has a *low avoidance activity,* and ω represents the parameters estimated via maximum likelihood. The covariates (Z) comprise the following observable firm characteristics in 2007: a) industry code on the two digit level, b) legal form, c) total assets, d) fixed assets, e) EBIT, f) employee cost and g) shareholders' funds. For ETR as tax avoidance proxy, we further use h) turnover as additional matching criterion. As explained below, this is necessary to meet Rubin's (2001) balance criterion.

To assess the quality of the matching procedure, we follow Rosenbaum and Rubin (1985) and compute the standardized bias (B) for each covariate $x_k$ as $B = \frac{M_T(x_k) - M_C(x_k)}{\sqrt{\frac{1}{2}(V_T(x_k) + V_C(x_k))}} \times 100\%$, where $M_T(x_k)$ and $M_C(x_k)$ represent the means of covariate $x_k$ in the treatment and control group and $V_T(x_k)$ and $V_C(x_k)$ denote their corresponding sample variances of both groups. The standardized bias measures the difference

in covariate means between the two groups relative to a pooled measure of variability. Rubin (2001) suggests that a standardized bias below 20–25% indicates an acceptable covariate balance. To further assess the quality of the matching, we also examine the ratio of the variances $\left(\frac{V_T(x_k)}{V_C(x_k)}\right)$ for continuous covariates, with a value close to one indicating similar distributional spreads across treatment and control units (Caliendo and Kopeinig, 2008).

**Table D8: DiD Tests for Non-Haven Sample**

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Wage per Employee** | (1) | (2) | (3) | (4) | (5) | (6) |
| *Reform* | -0.086*** | -0.080*** | -0.093*** | -0.069*** | -0.030 | -0.060*** |
| | (0.014) | (0.012) | (0.014) | (0.017) | (0.028) | (0.014) |
| *LowAvoid × Reform* | 0.009 | -0.004 | 0.016 | -0.028 | -0.065** | -0.029* |
| | (0.017) | (0.017) | (0.017) | (0.018) | (0.025) | (0.016) |
| Observations | 9,889 | 9,715 | 11,500 | 11,500 | 11,500 | 9,568 |
| Firms | 1,516 | 1,472 | 1,626 | 1,626 | 1,626 | 1,464 |
| R-squared | 0.740 | 0.742 | 0.721 | 0.721 | 0.721 | 0.761 |
| Adjusted R-squared | 0.693 | 0.696 | 0.674 | 0.674 | 0.675 | 0.717 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *Reform* | 0.156*** | 0.196*** | 0.160*** | 0.155*** | 0.077** | 0.191*** |
| | (0.019) | (0.018) | (0.019) | (0.022) | (0.035) | (0.018) |
| *LowAvoid × Reform* | 0.048** | -0.031 | 0.010 | 0.016 | 0.104*** | -0.017 |
| | (0.021) | (0.021) | (0.021) | (0.022) | (0.033) | (0.021) |
| Observations | 9,889 | 9,715 | 11,500 | 11,500 | 11,500 | 9,568 |
| Firms | 1,516 | 1,472 | 1,626 | 1,626 | 1,626 | 1,464 |
| R-squared | 0.945 | 0.944 | 0.937 | 0.937 | 0.937 | 0.949 |
| Adjusted R-squared | 0.934 | 0.934 | 0.926 | 0.926 | 0.926 | 0.939 |

Table D7 presents robustness tests for the DiD analysis in Table 6. Instead of our baseline sample, we use a sample of firms without subsidiaries in tax haven countries. Dependent variables are the natural logarithm of the average wage per employee (Panel A) and the natural logarithm of the number of employees (Panel B). The analysis relies on the data of German firms and includes firm fixed effects and industry-year fixed effects. *Reform* is a dummy for the years 2008 and thereafter. *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level

**Table D9: DiD Tests for Balanced Panel of Survivor Firms**

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Wage per Employee** | (1) | (2) | (3) | (4) | (5) | (6) |
| *Reform* | -0.060*** | -0.068*** | -0.071*** | -0.053*** | -0.050* | -0.056*** |
| | (0.015) | (0.014) | (0.016) | (0.017) | (0.030) | (0.017) |
| *LowAvoid* × *Reform* | -0.015 | 0.001 | 0.001 | -0.035* | -0.026 | -0.022 |
| | (0.019) | (0.019) | (0.020) | (0.020) | (0.027) | (0.019) |
| Observations | 4,561 | 4,499 | 5,204 | 5,204 | 5,204 | 4,416 |
| Firms | 598 | 585 | 632 | 632 | 632 | 585 |
| R-squared | 0.779 | 0.776 | 0.748 | 0.748 | 0.748 | 0.803 |
| Adjusted R-squared | 0.745 | 0.743 | 0.713 | 0.713 | 0.713 | 0.773 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *Reform* | 0.129*** | 0.178*** | 0.148*** | 0.123*** | 0.090** | 0.176*** |
| | (0.025) | (0.025) | (0.026) | (0.025) | (0.042) | (0.023) |
| *LowAvoid* × *Reform* | 0.078*** | -0.027 | 0.018 | 0.067** | 0.084** | 0.002 |
| | (0.030) | (0.031) | (0.030) | (0.031) | (0.042) | (0.033) |
| Observations | 4,561 | 4,499 | 5,204 | 5,204 | 5,204 | 4,416 |
| Firms | 598 | 585 | 632 | 632 | 632 | 585 |
| R-squared | 0.957 | 0.956 | 0.950 | 0.950 | 0.950 | 0.960 |
| Adjusted R-squared | 0.950 | 0.950 | 0.943 | 0.943 | 0.943 | 0.953 |

Table D9 presents robustness tests for the DiD analysis of survivor firms in Table 9. We restrict the analysis to firms that we can observe over the whole observation period. Dependent variables are the natural logarithm of the average wage per employee (Panel A) and the natural logarithm of the number of employees (Panel B). The analysis relies on the data of German firms and includes firm fixed effects and industry-year fixed effects. *Reform* is a dummy for the years 2008 and thereafter. *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

**Table D10: DiD Tests for Small Firms (lower 25%)**

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *LowIndex* |
|---|---|---|---|---|---|
| **Wage per Employee** | (1) | (2) | (3) | (4) | (6) |
| *Reform* | -0.108*** | -0.122*** | -0.132*** | -0.139*** | -0.129*** |
| | (0.030) | (0.025) | (0.029) | (0.031) | (0.024) |
| *LowAvoid × Reform* | -0.022 | -0.005 | 0.005 | 0.016 | 0.018 |
| | (0.028) | (0.029) | (0.028) | (0.029) | (0.029) |
| Observations | 2,672 | 2,610 | 3,118 | 3,118 | 3,118 |
| Firms | 464 | 446 | 508 | 508 | 508 |
| R-squared | 0.836 | 0.851 | 0.821 | 0.821 | 0.821 |
| Adjusted R-squared | 0.801 | 0.819 | 0.785 | 0.785 | 0.785 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *LowIndex* |
| **Number of Employees** | (1) | (2) | (3) | (4) | (6) |
| *Reform* | 0.136** | 0.231*** | 0.165*** | 0.156*** | 0.218*** |
| | (0.055) | (0.049) | (0.049) | (0.047) | (0.048) |
| *LowAvoid × Reform* | 0.109** | -0.063 | 0.044 | 0.055 | -0.017 |
| | (0.049) | (0.047) | (0.045) | (0.047) | (0.021) |
| Observations | 2,672 | 2,610 | 3,118 | 3,118 | 3,118 |
| Firms | 464 | 446 | 508 | 508 | 508 |
| R-squared | 0.886 | 0.881 | 0.872 | 0.872 | 0.872 |
| Adjusted R-squared | 0.862 | 0.856 | 0.847 | 0.847 | 0.847 |

Table XX presents the baseline results of the difference-in-difference analysis for small firms with below 54 employees. Dependent variables are the natural logarithm of the average wage per employee (Panel A) and the natural logarithm of the number of employees (Panel B). The analysis relies on the data of German firms and includes firm fixed effects and year fixed effects. *Reform* is a dummy variable for the years 2008 and thereafter. *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

**Table D11: Triple Difference Tests with Firm and Country Controls**

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Wage per employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *Reform* | 0.041 | 0.063* | 0.073** | 0.085** | 0.156*** | 0.046 |
| | (0.029) | (0.033) | (0.035) | (0.039) | (0.052) | (0.034) |
| *LowAvoid × Reform* | 0.018 | -0.026* | 0.002 | -0.016 | -0.081*** | -0.016 |
| | (0.015) | (0.015) | (0.015) | (0.018) | (0.030) | (0.015) |
| *DE × Reform* | -0.037** | -0.056*** | -0.066*** | -0.072*** | -0.114*** | -0.047** |
| | (0.018) | (0.019) | (0.018) | (0.023) | (0.041) | (0.019) |
| *DE × LowAvoid × Reform* | -0.028 | 0.007 | 0.006 | 0.008 | 0.050 | -0.003 |
| | (0.023) | (0.023) | (0.021) | (0.024) | (0.040) | (0.023) |
| *TA* | 0.019 | 0.019 | 0.034** | 0.033** | 0.034** | 0.016 |
| | (0.018) | (0.018) | (0.015) | (0.015) | (0.015) | (0.019) |
| *LEV* | -0.007 | -0.007 | -0.001 | -0.000 | -0.002 | -0.009 |
| | (0.021) | (0.021) | (0.019) | (0.019) | (0.019) | (0.022) |
| *CF* | -0.087 | -0.086 | -0.056 | -0.055 | -0.055 | -0.104 |
| | (0.068) | (0.069) | (0.076) | (0.076) | (0.075) | (0.071) |
| *EBIT* | 0.117** | 0.122** | 0.191** | 0.191** | 0.191** | 0.129** |
| | (0.059) | (0.060) | (0.088) | (0.088) | (0.088) | (0.061) |
| *GDPPC* | -0.747*** | -0.759*** | -0.951*** | -0.946*** | -0.983*** | -0.636*** |
| | (0.221) | (0.225) | (0.260) | (0.260) | (0.263) | (0.219) |
| *UNEMP* | -0.683 | -0.714 | -1.041** | -1.038** | -1.014* | -0.538 |
| | (0.441) | (0.449) | (0.521) | (0.521) | (0.519) | (0.435) |
| Observations | 50,110 | 48,750 | 60,807 | 60,807 | 60,807 | 47,812 |
| Number of Firms | 9,017 | 8,665 | 10,006 | 10,006 | 10,006 | 8,586 |
| $R^2$ | 0.901 | 0.900 | 0.886 | 0.886 | 0.886 | 0.904 |
| Adjusted $R^2$ | 0.880 | 0.878 | 0.863 | 0.863 | 0.863 | 0.883 |

| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *Reform* | -0.022 | -0.026 | -0.022 | -0.036 | -0.175*** | 0.002 |
| | (0.028) | (0.029) | (0.026) | (0.034) | (0.048) | (0.030) |
| *LowAvoid* × *Reform* | -0.006 | 0.002 | -0.029 | -0.002 | 0.135*** | -0.014 |
| | (0.018) | (0.018) | (0.018) | (0.025) | (0.042) | (0.018) |
| *DE* × *Reform* | 0.013 | 0.034* | 0.017 | 0.008 | 0.125** | 0.024 |
| | (0.021) | (0.019) | (0.019) | (0.028) | (0.052) | (0.020) |
| *DE* × *LowAvoid* × *Reform* | 0.037 | -0.008 | 0.022 | 0.038 | -0.099* | 0.003 |
| | (0.028) | (0.027) | (0.026) | (0.032) | (0.053) | (0.026) |
| *TA* | 0.274*** | 0.279*** | 0.283*** | 0.284*** | 0.284*** | 0.266*** |
| | (0.022) | (0.022) | (0.021) | (0.021) | (0.021) | (0.022) |
| *LEV* | -0.044* | -0.040* | -0.053* | -0.055* | -0.052* | -0.041* |
| | (0.023) | (0.023) | (0.029) | (0.029) | (0.029) | (0.023) |
| *CF* | -0.071 | -0.074 | -0.066 | -0.067 | -0.068 | -0.040 |
| | (0.067) | (0.068) | (0.059) | (0.059) | (0.059) | (0.069) |
| *EBIT* | 0.144** | 0.151** | 0.113** | 0.110** | 0.111** | 0.120* |
| | (0.061) | (0.062) | (0.054) | (0.054) | (0.054) | (0.062) |
| *GDPPC* | 0.139 | 0.126 | 0.137 | 0.137 | 0.192 | 0.093 |
| | (0.169) | (0.172) | (0.156) | (0.155) | (0.153) | (0.176) |
| *UNEMP* | -1.249*** | -1.316*** | -1.249*** | -1.262*** | -1.295*** | -1.257*** |
| | (0.405) | (0.410) | (0.363) | (0.363) | (0.362) | (0.412) |
| Observations | 50,110 | 48,750 | 60,807 | 60,807 | 60,807 | 47,812 |
| Number of Firms | 9,017 | 8,665 | 10,006 | 10,006 | 10,006 | 8,586 |
| $R^2$ | 0.979 | 0.979 | 0.977 | 0.977 | 0.977 | 0.980 |
| Adjusted $R^2$ | 0.974 | 0.974 | 0.972 | 0.972 | 0.972 | 0.976 |

Table D10 presents robustness checks of the triple difference analysis in Table 7. We enrich the model by once-lagged firm controls variables (logarithm of total assets *TA*, leverage ratio *LEV*, cash flow divided by total assets *CF* and earnings before interests and taxes divided by total assets *EBIT*) and once-lagged country controls (logarithm of GDP per capita GDPPC and unemployment rate UNEMP; for variable definitions see also Appendix A). Dependent variables are the natural logarithm of the average wage per employee (Panel A) and the natural logarithm of the number of employees (Panel B). The analysis relies on the data of German firms and firms in four neighboring countries (Austria, Belgium, France, Poland) and includes firm fixed effects and year fixed effects. *Reform* is a dummy variable for the years 2008 and thereafter. *DE* is a dummy variable for German firms and *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

**Table D12: Triple Difference Tests with Country FE, Industry FE, and Year FE**

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Wage per employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *LowAvoid* | -0.043 | 0.061* | -0.035 | -0.099*** | 0.118*** | -0.029 |
| | (0.035) | (0.032) | (0.033) | (0.038) | (0.036) | (0.031) |
| *Reform* | -0.061* | -0.030 | -0.071** | -0.068** | -0.030 | -0.046* |
| | (0.031) | (0.024) | (0.028) | (0.033) | (0.037) | (0.024) |
| *LowAvoid × Reform* | -0.005 | -0.066** | 0.012 | -0.000 | -0.033 | -0.025 |
| | (0.033) | (0.034) | (0.028) | (0.034) | (0.036) | (0.030) |
| *DE × LowAvoid* | 0.028 | -0.060 | 0.004 | -0.052 | -0.018 | -0.020 |
| | (0.044) | (0.041) | (0.042) | (0.045) | (0.051) | (0.040) |
| *DE × Reform* | -0.077*** | -0.087*** | -0.064*** | -0.042 | -0.050 | -0.066*** |
| | (0.028) | (0.029) | (0.023) | (0.036) | (0.041) | (0.026) |
| *DE × LowAvoid × Reform* | 0.036 | 0.061 | 0.009 | -0.024 | -0.018 | 0.017 |
| | (0.040) | (0.040) | (0.035) | (0.039) | (0.045) | (0.037) |
| Observations | 63,731 | 62,149 | 76,723 | 76,723 | 76,723 | 61,187 |
| Number of Firms | 9,998 | 9,563 | 10,777 | 10,777 | 10,777 | 9,563 |
| $R^2$ | 0.401 | 0.405 | 0.380 | 0.389 | 0.381 | 0.403 |
| Adjusted $R^2$ | 0.401 | 0.405 | 0.380 | 0.389 | 0.381 | 0.403 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *LowAvoid* | 0.475*** | 0.028 | 0.367*** | -0.629*** | -2.839*** | -0.084 |
| | (0.074) | (0.072) | (0.069) | (0.106) | (0.109) | (0.070) |
| *Reform* | 0.343*** | 0.373*** | 0.361*** | 0.382*** | -0.032 | 0.416*** |
| | (0.051) | (0.044) | (0.043) | (0.094) | (0.086) | (0.051) |
| *LowAvoid × Reform* | -0.033 | -0.075 | -0.097 | -0.110 | 0.275*** | -0.158** |
| | (0.077) | (0.073) | (0.063) | (0.093) | (0.089) | (0.077) |
| *DE × LowAvoid* | -0.586*** | 0.075 | -0.418*** | 0.351*** | 0.939*** | -0.511*** |
| | (0.096) | (0.095) | (0.091) | (0.119) | (0.124) | (0.090) |
| *DE × Reform* | -0.019 | -0.037 | -0.041 | -0.059 | 0.161* | -0.102** |
| | (0.054) | (0.049) | (0.042) | (0.097) | (0.090) | (0.052) |
| *DE × LowAvoid × Reform* | 0.024 | 0.050 | 0.068 | 0.095 | -0.116 | 0.172** |
| | (0.088) | (0.083) | (0.071) | (0.099) | (0.096) | (0.087) |
| Observations | 63,731 | 62,149 | 76,723 | 76,723 | 76,723 | 61,187 |
| Number of Firms | 9,998 | 9,563 | 10,777 | 10,777 | 10,777 | 9,563 |
| $R^2$ | 0.432 | 0.419 | 0.429 | 0.445 | 0.561 | 0.436 |
| Adjusted $R^2$ | 0.431 | 0.419 | 0.429 | 0.445 | 0.561 | 0.436 |

Table D11 presents robustness checks of the triple difference analysis in Table 7. We replace the firm fixed effects by country fixed effects and industry fixed effects. Dependent variables are the natural logarithm of the average wage per employee (Panel A) and the natural logarithm of the number of employees (Panel B). The analysis relies on the data of German firms and firms in four neighboring countries (Austria, Belgium, France, Poland) and includes country fixed effects, industry fixed effects, and year fixed effects. *Reform* is a dummy variable for the years 2008 and thereafter. *DE* is a dummy variable for German firms and *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

**Table D13: Triple Difference Tests with Country FE, Industry FE, Year FE and Controls**

| **Panel A:** **Wage per Employee** | *HighETR* (1) | *LowTPS* (2) | *HighΔ/BVA* (3) | *Domestic* (4) | *SME* (5) | *LowIndex* (6) |
|---|---|---|---|---|---|---|
| *LowAvoid* | -0.090*** | 0.048 | -0.063* | 0.002 | 0.409*** | -0.029 |
| | (0.034) | (0.031) | (0.037) | (0.033) | (0.042) | (0.033) |
| *Reform* | 0.111 | 0.165** | 0.115* | 0.171** | 0.243** | 0.095 |
| | (0.070) | (0.081) | (0.061) | (0.070) | (0.094) | (0.075) |
| *LowAvoid* × *Reform* | 0.027 | -0.060 | 0.035 | -0.049 | -0.114** | 0.000 |
| | (0.037) | (0.042) | (0.034) | (0.032) | (0.045) | (0.036) |
| *DE* × *LowAvoid* | 0.091** | -0.045 | 0.063 | -0.107*** | -0.130** | 0.037 |
| | (0.043) | (0.043) | (0.042) | (0.040) | (0.052) | (0.039) |
| *DE* × *Reform* | -0.126*** | -0.162*** | -0.121*** | -0.162*** | -0.191*** | -0.113*** |
| | (0.036) | (0.047) | (0.028) | (0.042) | (0.062) | (0.040) |
| *DE* × *LowAvoid* × *Reform* | -0.002 | 0.057 | -0.019 | 0.044 | 0.055 | -0.014 |
| | (0.044) | (0.048) | (0.039) | (0.039) | (0.056) | (0.042) |
| *TA* | 0.081*** | 0.078*** | 0.090*** | 0.082*** | 0.114*** | 0.076*** |
| | (0.007) | (0.007) | (0.007) | (0.007) | (0.008) | (0.007) |
| *LEV* | -0.244*** | -0.233*** | -0.222*** | -0.200*** | -0.248*** | -0.252*** |
| | (0.039) | (0.040) | (0.035) | (0.035) | (0.035) | (0.040) |
| *CF* | -0.219* | -0.174 | -0.163 | -0.146 | -0.116 | -0.218 |
| | (0.132) | (0.134) | (0.118) | (0.115) | (0.116) | (0.142) |
| *EBIT* | 0.347** | 0.322** | 0.276** | 0.267** | 0.231* | 0.336** |
| | (0.143) | (0.147) | (0.128) | (0.129) | (0.131) | (0.150) |
| *GDPPC* | -1.432*** | -1.474** | -1.494*** | -1.485*** | -1.504*** | -1.177** |
| | (0.552) | (0.572) | (0.494) | (0.493) | (0.508) | (0.524) |
| *UNEMP* | -2.294** | -2.460** | -2.323** | -2.318** | -2.220** | -1.866* |
| | (1.160) | (1.200) | (1.002) | (1.003) | (1.010) | (1.066) |
| Observations | 50,626 | 49,223 | 61,223 | 61,223 | 61,223 | 48,342 |
| Number of Firms | 9,533 | 9,138 | 10,422 | 10,422 | 10,422 | 9,116 |
| $R^2$ | 0.469 | 0.469 | 0.457 | 0.460 | 0.468 | 0.467 |
| Adjusted $R^2$ | 0.468 | 0.469 | 0.456 | 0.459 | 0.468 | 0.466 |

| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *LowAvoid* | 0.329*** | 0.050 | 0.197*** | -0.195*** | -1.781*** | 0.081 |
| | (0.058) | (0.055) | (0.057) | (0.060) | (0.091) | (0.058) |
| *Reform* | -0.075 | -0.054 | -0.116 | -0.160** | -0.365*** | -0.037 |
| | (0.086) | (0.076) | (0.078) | (0.079) | (0.117) | (0.088) |
| *LowAvoid × Reform* | -0.059 | -0.076 | -0.040 | 0.023 | 0.255*** | -0.137 |
| | (0.087) | (0.085) | (0.075) | (0.062) | (0.098) | (0.098) |
| *DE × LowAvoid* | -0.275*** | 0.054 | -0.124 | 0.260*** | 0.616*** | -0.271*** |
| | (0.082) | (0.080) | (0.077) | (0.080) | (0.100) | (0.077) |
| *DE × Reform* | 0.050 | 0.027 | 0.061 | 0.093 | 0.288*** | -0.000 |
| | (0.066) | (0.059) | (0.053) | (0.065) | (0.101) | (0.065) |
| *DE × LowAvoid × Reform* | 0.017 | 0.059 | 0.031 | -0.016 | -0.209** | 0.134 |
| | (0.097) | (0.095) | (0.082) | (0.072) | (0.106) | (0.105) |
| *TA* | 0.579*** | 0.586*** | 0.555*** | 0.549*** | 0.430*** | 0.576*** |
| | (0.016) | (0.016) | (0.016) | (0.016) | (0.015) | (0.016) |
| *LEV* | -0.207*** | -0.243*** | -0.302*** | -0.315*** | -0.169** | -0.188** |
| | (0.080) | (0.081) | (0.075) | (0.075) | (0.070) | (0.080) |
| *CF* | 0.015 | -0.173 | 0.202 | 0.130 | -0.056 | -0.169 |
| | (0.259) | (0.272) | (0.202) | (0.208) | (0.197) | (0.275) |
| *EBIT* | 0.528** | 0.724*** | 0.450** | 0.480** | 0.672*** | 0.671*** |
| | (0.230) | (0.244) | (0.189) | (0.200) | (0.185) | (0.243) |
| *GDPPC* | 0.494 | 0.360 | 0.753* | 0.762* | 0.674* | 0.585 |
| | (0.444) | (0.457) | (0.433) | (0.439) | (0.399) | (0.445) |
| *UNEMP* | 0.192 | -0.115 | 0.875 | 0.835 | 0.490 | 0.551 |
| | (1.152) | (1.166) | (1.031) | (1.032) | (0.962) | (1.125) |
| Observations | 50,626 | 49,223 | 61,223 | 61,223 | 61,223 | 48,342 |
| Number of Firms | 9,533 | 9,138 | 10,422 | 10,422 | 10,422 | 9,116 |
| $R^2$ | 0.631 | 0.629 | 0.620 | 0.620 | 0.665 | 0.632 |
| Adjusted $R^2$ | 0.631 | 0.629 | 0.620 | 0.620 | 0.665 | 0.632 |

Table D12 presents robustness checks of the triple difference analysis in Table 7. We replace the firm fixed effects by country fixed effects and industry fixed effects and enrich the model by once-lagged firm controls variables (logarithm of total assets *TA*, leverage ratio *LEV*, cash flow divided by total assets *CF* and earnings before interests and taxes divided by total assets *EBIT*) and once-lagged country controls (logarithm of GDP per capita GDPPC and unemployment rate UNEMP; for variable definitions see also Appendix A). Dependent variables are the natural logarithm of the average wage per employee (Panel A) and the natural logarithm of the number of employees (Panel B). The analysis relies on the data of German firms and firms in four neighboring countries (Austria, Belgium, France, Poland) and includes firm fixed effects and year fixed effects. *Reform* is a dummy variable for the years 2008 and thereafter. *DE* is a dummy variable for German firms and *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

**Table D14: Triple Difference Tests with Firm FE and Industry-Year FE**

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Wage per employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *DE × Reform* | -0.059*** | -0.054*** | -0.063*** | -0.042* | -0.016 | -0.056*** |
| | (0.017) | (0.015) | (0.016) | (0.023) | (0.044) | (0.016) |
| *DE × LowAvoid × Reform* | -0.000 | -0.011 | 0.023 | -0.018 | -0.044 | -0.000 |
| | (0.023) | (0.023) | (0.023) | (0.026) | (0.045) | (0.022) |
| Observations | 63,571 | 62,029 | 76,721 | 76,721 | 76,721 | 61,046 |
| Number of Firms | 9,840 | 9,445 | 10,777 | 10,777 | 10,777 | 9,424 |
| $R^2$ | 0.864 | 0.864 | 0.838 | 0.838 | 0.838 | 0.869 |
| Adjusted $R^2$ | 0.839 | 0.839 | 0.811 | 0.811 | 0.811 | 0.845 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *DE × Reform* | 0.009 | 0.059*** | 0.014 | 0.011 | 0.069 | 0.035 |
| | (0.025) | (0.022) | (0.025) | (0.032) | (0.071) | (0.023) |
| *DE × LowAvoid × Reform* | 0.092*** | -0.003 | 0.075** | 0.065* | -0.009 | 0.034 |
| | (0.030) | (0.030) | (0.030) | (0.036) | (0.073) | (0.029) |
| Observations | 63,571 | 62,029 | 76,721 | 76,721 | 76,721 | 61,046 |
| Number of Firms | 9,840 | 9,445 | 10,777 | 10,777 | 10,777 | 9,424 |
| $R^2$ | 0.970 | 0.970 | 0.965 | 0.965 | 0.965 | 0.972 |
| Adjusted $R^2$ | 0.965 | 0.964 | 0.959 | 0.959 | 0.959 | 0.966 |

Table D14 presents robustness tests of the triple difference analysis in Table 7. We replace the year fixed effects by industry-year fixed effects. Dependent variables are the natural logarithm of the average wage per employee (Panel A) and the natural logarithm of the number of employees (Panel B). The analysis relies on the data of German firms and French firms and includes firm fixed effects and industry-year fixed effects. *Reform* is a dummy variable for the years 2008 and thereafter. *DE* is a dummy variable for German firms and *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

**Table D15: Triple Difference Tests with France**

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Wage per Employee** | (1) | (2) | (3) | (4) | (5) | (6) |
| *DE × Reform* | -0.089*** | -0.067*** | -0.098*** | -0.062*** | 0.025 | -0.073*** |
| | (0.017) | (0.016) | (0.015) | (0.024) | (0.064) | (0.017) |
| *DE × LowAvoid × Reform* | 0.022 | -0.020 | 0.046** | -0.024 | -0.112* | 0.001 |
| | (0.023) | (0.023) | (0.023) | (0.026) | (0.066) | (0.022) |
| Observations | 20,096 | 19,652 | 24,652 | 24,652 | 24,652 | 19,386 |
| Firms | 3,524 | 3,396 | 3,944 | 3,944 | 3,944 | 3,382 |
| R-squared | 0.788 | 0.787 | 0.758 | 0.758 | 0.758 | 0.796 |
| Adjusted R-squared | 0.742 | 0.742 | 0.712 | 0.712 | 0.712 | 0.753 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *DE × Reform* | 0.022 | 0.077*** | 0.023 | 0.016 | -0.018 | 0.032 |
| | (0.027) | (0.023) | (0.024) | (0.034) | (0.058) | (0.024) |
| *DE × LowAvoid × Reform* | 0.099*** | -0.007 | 0.090*** | 0.077** | 0.104* | 0.064* |
| | (0.034) | (0.034) | (0.032) | (0.038) | (0.060) | (0.033) |
| Observations | 20,096 | 19,652 | 24,652 | 24,652 | 24,652 | 19,386 |
| Firms | 3,524 | 3,396 | 3,944 | 3,944 | 3,944 | 3,382 |
| R-squared | 0.968 | 0.967 | 0.962 | 0.962 | 0.962 | 0.969 |
| Adjusted R-squared | 0.961 | 0.960 | 0.954 | 0.954 | 0.954 | 0.963 |

Table D14 presents robustness tests of the triple difference analysis in Table 7. As a control country, we only consider France, which in our view is the most similar country compared to Germany. Dependent variables are the natural logarithm of the average wage per employee (Panel A) and the natural logarithm of the number of employees (Panel B). The analysis relies on the data of German firms and French firms and includes firm fixed effects and year fixed effects. *Reform* is a dummy variable for the years 2008 and thereafter. *DE* is a dummy variable for German firms and *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

**Table D16: Triple Difference Tests (Unweighted)**

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Wage per Employee** | (1) | (2) | (3) | (4) | (5) | (6) |
| *DE × Reform* | -0.051*** | -0.039*** | -0.056*** | -0.044*** | -0.039 | -0.034** |
| | (0.012) | (0.012) | (0.010) | (0.016) | (0.035) | (0.013) |
| *DE × LowAvoid × Reform* | 0.008 | -0.016 | 0.022 | -0.010 | -0.016 | -0.019 |
| | (0.018) | (0.018) | (0.017) | (0.019) | (0.036) | (0.017) |
| Observations | 63,573 | 62,031 | 76,723 | 76,723 | 76,723 | 61,048 |
| Firms | 9,840 | 9,445 | 10,777 | 10,777 | 10,777 | 9,424 |
| R-squared | 0.834 | 0.833 | 0.808 | 0.809 | 0.809 | 0.839 |
| Adjusted R-squared | 0.803 | 0.803 | 0.777 | 0.777 | 0.777 | 0.809 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
| **Number of Employees** | (1) | (2) | (3) | (4) | (5) | (6) |
| *DE × Reform* | 0.000 | 0.027* | -0.001 | -0.032 | 0.018 | 0.010 |
| | (0.017) | (0.016) | (0.016) | (0.021) | (0.058) | (0.016) |
| *DE × LowAvoid × Reform* | 0.034 | -0.019 | 0.033 | 0.067*** | 0.013 | 0.007 |
| | (0.023) | (0.024) | (0.022) | (0.025) | (0.059) | (0.023) |
| Observations | 63,573 | 62,031 | 76,723 | 76,723 | 76,723 | 61,048 |
| Firms | 9,840 | 9,445 | 10,777 | 10,777 | 10,777 | 9,424 |
| R-squared | 0.970 | 0.970 | 0.964 | 0.964 | 0.964 | 0.971 |
| Adjusted R-squared | 0.964 | 0.964 | 0.958 | 0.958 | 0.958 | 0.966 |

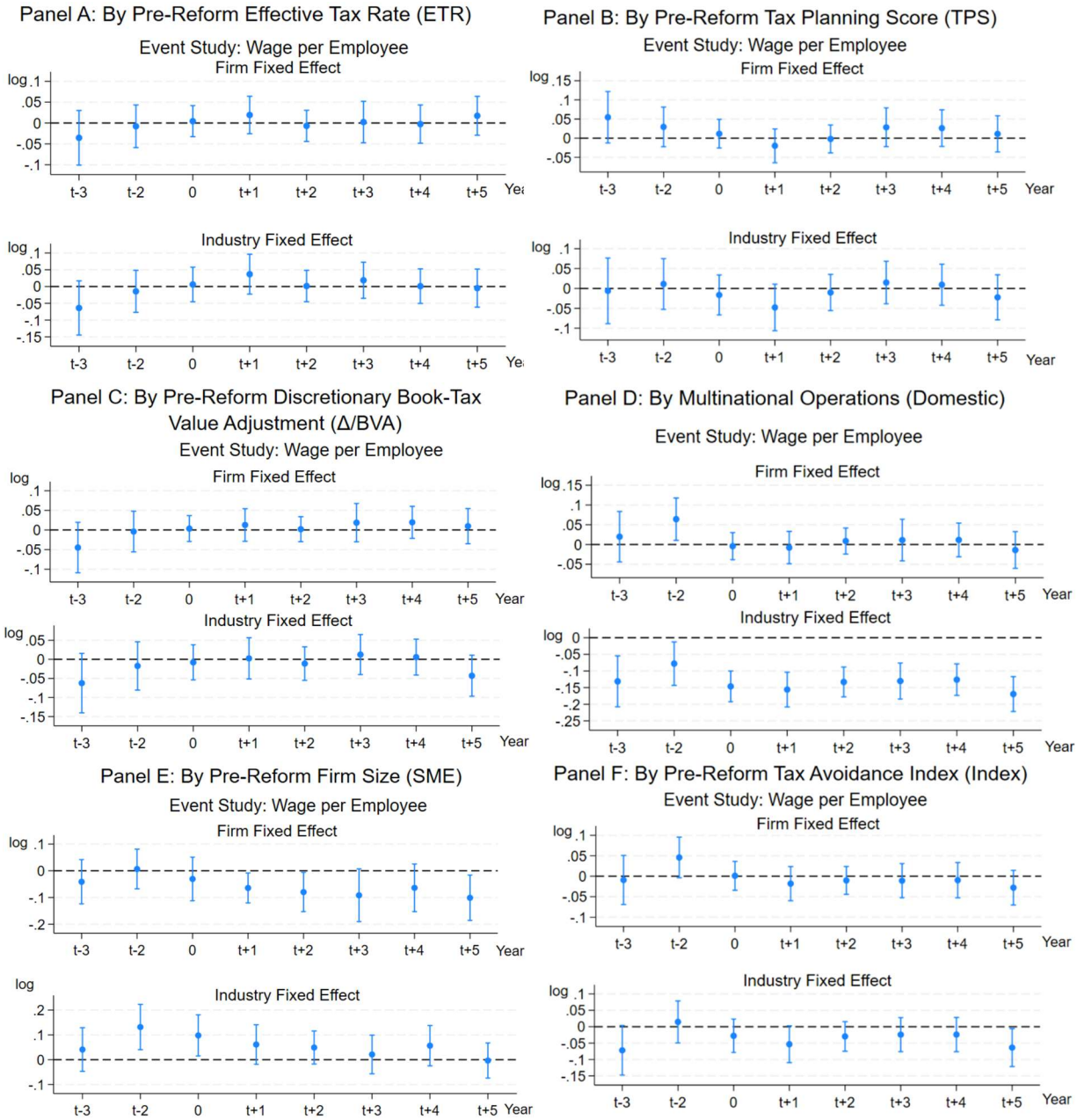
Table D15 presents robustness tests of the triple difference analysis in Table 7. Instead of weighting observations by the ratio of GDP to the number of observations for a specific country, we do not weight observations. Dependent variables are the natural logarithm of the average wage per employee (Panel A) and the natural logarithm of the number of employees (Panel B). The analysis relies on the data of German firms and firms in four neighboring countries (Austria, Belgium, France, Poland) and includes firm fixed effects and year fixed effects. *Reform* is a dummy variable for the years 2008 and thereafter. *DE* is a dummy variable for German firms and *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

## Table D17: Triple Difference Tests for Total Employee Costs

| **Panel A:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
|---|---|---|---|---|---|---|
| **Full Sample** | (1) | (2) | (3) | (4) | (5) | (6) |
| *DE × LowAvoid × Reform* | 0.095*** | -0.016 | 0.102*** | 0.042 | -0.057 | 0.030 |
| | (0.029) | (0.029) | (0.029) | (0.033) | (0.064) | (0.029) |
| Observations | 63,573 | 62,031 | 76,723 | 76,723 | 76,723 | 61,048 |
| Firms | 9,840 | 9,445 | 10,777 | 10,777 | 10,777 | 9,424 |
| R-squared | 0.972 | 0.972 | 0.963 | 0.963 | 0.963 | 0.973 |
| Adjusted R-squared | 0.966 | 0.966 | 0.957 | 0.957 | 0.957 | 0.967 |
| **Panel B:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
| **France** | (1) | (2) | (3) | (4) | (5) | (6) |
| *DE × LowAvoid × Reform* | 0.121*** | -0.028 | 0.135*** | 0.053 | -0.008 | 0.066** |
| | (0.032) | (0.032) | (0.032) | (0.038) | (0.068) | (0.032) |
| Observations | 20,096 | 19,652 | 24,652 | 24,652 | 24,652 | 19,386 |
| Firms | 3,524 | 3,396 | 3,944 | 3,944 | 3,944 | 3,382 |
| R-squared | 0.970 | 0.970 | 0.961 | 0.961 | 0.961 | 0.971 |
| Adjusted R-squared | 0.964 | 0.964 | 0.953 | 0.953 | 0.953 | 0.965 |
| **Panel C:** | *HighETR* | *LowTPS* | *HighΔ/BVA* | *Domestic* | *SME* | *LowIndex* |
| **Full Sample (Unweighted)** | (1) | (2) | (3) | (4) | (5) | (6) |
| *DE × LowAvoid × Reform* | 0.042* | -0.035 | 0.056** | 0.057** | -0.003 | -0.012 |
| | (0.023) | (0.023) | (0.022) | (0.025) | (0.053) | (0.023) |
| Observations | 63,573 | 62,031 | 76,723 | 76,723 | 76,723 | 61,048 |
| Firms | 9,840 | 9,445 | 10,777 | 10,777 | 10,777 | 9,424 |
| R-squared | 0.968 | 0.968 | 0.961 | 0.961 | 0.961 | 0.970 |
| Adjusted R-squared | 0.963 | 0.963 | 0.954 | 0.954 | 0.954 | 0.964 |

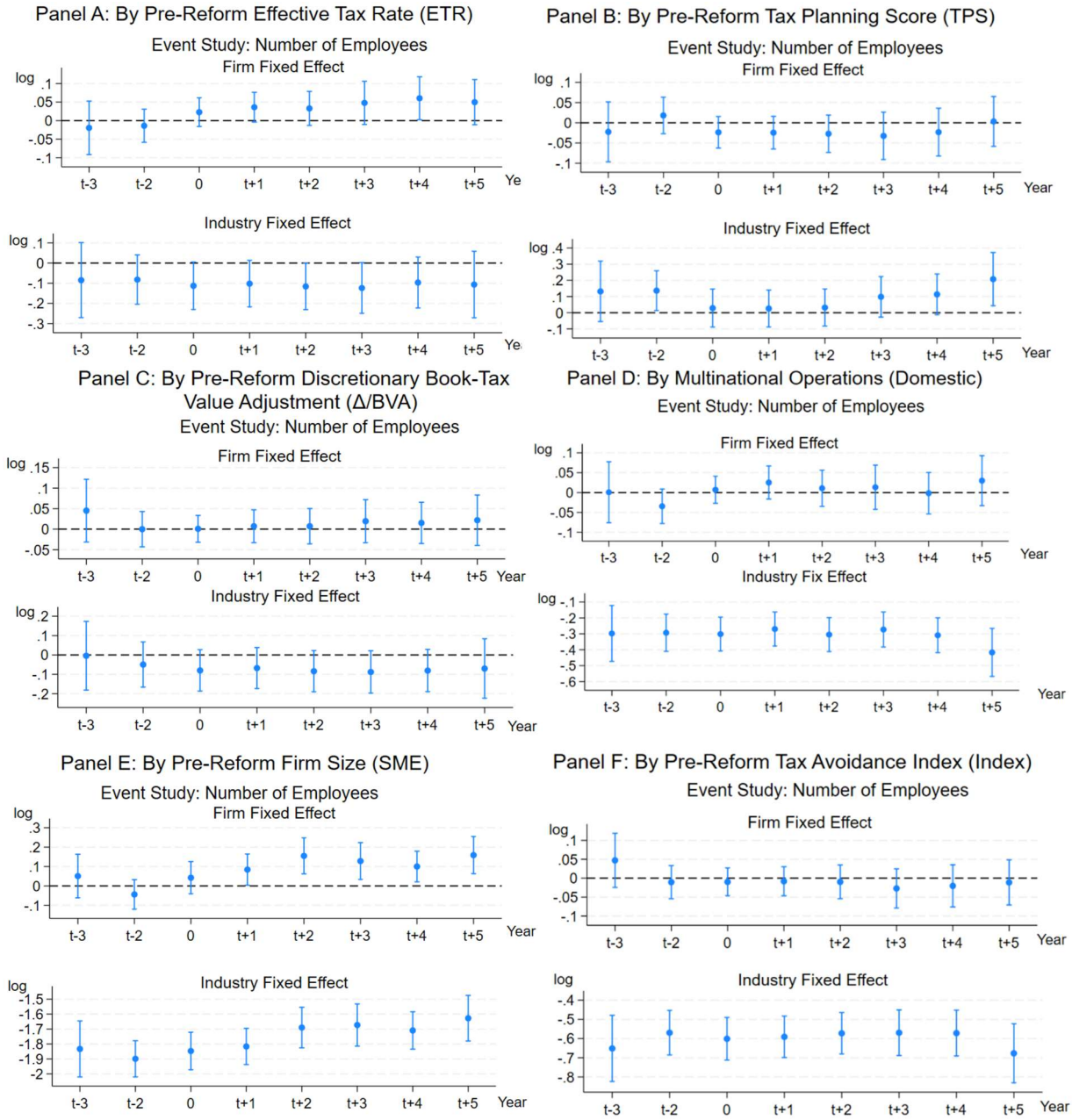
Table D16 presents the baseline results of the triple difference analysis in Table 7. The dependent variable is the natural logarithm of the total cost of employees. In Panel A, we use the full sample of Germany and four neighboring countries and account for oversampling by GDP/sampling weights. In Panel B, we only consider observations from Germany and France and also account for weights. In Panel C, we use the full sample without any weighting. The analysis relies on the data of German firms and firms in four neighboring countries (Austria, Belgium, France, Poland) and includes firm fixed effects and year fixed effects. *Reform* is a dummy variable for the years 2008 and thereafter. *DE* is a dummy variable for German firms and *LowAvoid* is a dummy variable for low avoidance firms. We define low avoidance by six avoidance indicators defined in Table 2. We report heteroscedasticity-robust standard errors that are clustered at the firm level in parentheses. ***, **, and * refer to significant results on the 1%, 5%, and 10% level.

**Figure D1: Event Study Tests of Fixed Effects for Wage per Employee**




Source: Authors‘ own Illustrations, Amadeus Database

## Figure D2: Event Study Tests of Fixed Effects for Number of Employees




Source: Authors‘ own Illustrations, Amadeus Database

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