

Pillar 2: Investor expectations for affected firms and their competitors

Dave Goyvaerts¹

Abstract: In 2021, the OECD announced that over 130 jurisdictions supported its “Pillar 2” proposal for a 15 percent global minimum effective tax rate for large multinational enterprises. This proposal has since been adopted unanimously by the European Union, and has come into force on 1 January 2024. We employ an event study methodology using daily 2021 stock market returns of 3.275 European firms to determine how Pillar 2 announcements affected the value of firms subject to the global minimum tax, and that of their competitors. While we find no significant impact on the stock market returns of directly affected firms, we do find a positive effect on the returns of their competitors. Our results suggest that the introduction of a global minimum tax for large multinational enterprises can be beneficial for their competitors, shedding light on the role of a minimum tax on inter-firm competition and the level playing field.

Version: February 2024

¹Department of Accounting, Corporate Finance and Taxation, Ghent University, Ghent, Belgium. Orcid: 0000-0001-5659-7510.

Correspondence Address: Dave Goyvaerts, Department of Accounting, Corporate Finance and Taxation, Ghent University, Sint Pietersplein 7, 9000 Ghent, Belgium. Email:

Dave.Goyvaerts@UGent.be.

Pillar 2: Investor expectations for affected firms and their competitors

Abstract: In 2021, the OECD announced that over 130 jurisdictions supported its “Pillar 2” proposal for a 15 percent global minimum effective tax rate for large multinational enterprises. This proposal has since been adopted unanimously by the European Union, and has come into force on 1 January 2024. We employ an event study methodology using daily 2021 stock market returns of 3,275 European firms to determine how Pillar 2 announcements affected the value of firms subject to the global minimum tax, and that of their competitors. While we find no significant impact on the stock market returns of directly affected firms, we do find a positive effect on the returns of their competitors. Our results suggest that the introduction of a global minimum tax for large multinational enterprises can be beneficial for their competitors, shedding light on the role of a minimum tax on inter-firm competition and the level playing field.

1. Introduction

International tax competition between countries in an attempt to attract foreign direct investments, combined with growing internationalization, has allowed multinational enterprises to engage in aggressive tax avoidance (Rixen, 2011). By using tax planning techniques such as the strategic selection of business locations, transfer pricing, and the strategic placement of intangible assets and debt, they have been able to reduce their effective tax rates significantly (Cooper & Nguyen, 2019). This type of tax avoidance is believed to result in an annual government revenue loss between 50 and 70 billion euro within the EU (European Parliament, 2015), and between 100 and 240 billion USD globally (OECD, 2017).

In 2021, the OECD announced that over 130 jurisdictions representing over 90 percent of the global GDP had agreed to the principle that large multinational enterprises will be subject to a global minimum effective tax rate of 15 percent (OECD, 2021). This agreement has been referred to as “arguably the most significant international economic pact of the 21st century so far” by former United States secretary of

the treasury Lawrence Summers (2021). This global minimum tax, developed by the OECD and generally referred to as “Pillar 2”, was unanimously adopted by the member states of the European Union at the end of 2022, and will come into force on 1 January 2024 (Council of the EU, 2022).

The minimum tax will apply to all multinational enterprises with a group-level turnover exceeding 750 million euro. It should ensure that these multinational enterprises will be subject to a group-level effective corporate tax rate of at least 15 percent, regardless of where they are headquartered or where their subsidiaries are located, as long as at least one entity within the group is located in a country applying the Pillar 2 rules (OECD, 2020a).

In this paper, we perform an event study analysis on the daily stock market returns in 2021 of 3,275 European listed firms to determine how announcements on the new global minimum tax have affected shareholder expectations, both for firms believed to be affected by the global minimum tax directly, and for their unaffected competitors. We contribute to the global minimum tax literature and the scarce literature on tax policy and market outcomes by being the first to investigate the impact of the new global minimum tax on competition and market outcomes. Additionally, we provide further evidence on the expected impact of the global minimum tax on directly affected firms, and are the first to empirically investigate its impact on European firms.

While we, surprisingly, find no direct negative effect of Pillar 2 announcements on the stock market returns of firms within the scope of the new global minimum tax, we do find a significant positive effect of the announcement on the returns of firms facing strong competition from firms subject to the Pillar 2 rules. This finding suggests that the introduction of the minimum tax could help to level the playing field between large, tax aggressive, multinational enterprises and their competitors, and could be beneficial to smaller domestic firms.

The rest of this paper proceeds as follows: In section 2, we give an overview of related literature, and build upon it to develop our hypotheses. Section 3 describes our dataset, methodology, and identification strategy, and is followed by the results of these analyses in section 4. Section 5 concludes.

2. Literature and hypothesis development

Because of their importance in the domain of taxation research, multiple streams of literature have emerged regarding the Pillar 2 rules. Firstly, researchers have performed ex-ante estimations of the economic impact of the new agreement on government revenue (Devereux et al., 2020; OECD, 2020b). They expect the Pillar 2 rules to generate global gains in tax revenue between 1.8 and 4.9 percent, benefitting both high and low income economies. Furthermore, they estimate that after taking the substance based income inclusion¹ into account, the actual minimum total tax on corporate profits will be at 9% in the short term and 12% in the medium term, rather than the official effective minimum tax of 15% (Devereux et al., 2022). Overall, the rules are estimated to generate 150 billion USD per year in international government revenues (OECD, 2021). Secondly, a number of studies have theoretically examined the consequences of the new rules, notably with regards to the incentives for tax avoidance and tax competition. They conclude that while the rules will reduce the incentives for tax avoidance, they still leave some room for tax competition between countries (English, 2021; Vella, Devereux & Wardell-Burrus, 2022), including low-income countries (Bush, Durst & Ogutu, 2022; Perry, 2023). A third stream of literature considers the legal aspects of the new rules and their implementation (e.g. Pinto Nogueira, 2020; De Broe & Massant, 2021; Haslehner, 2022), and the role of financial accounting standards (Eberhartinger & Winkler, 2023; Hanlon, 2023; Hanlon & Nessa, 2023).

¹ A tax deduction for tangible assets and payroll expenses included in the Pillar 2 rules.

Empirical work on the impact of the introduction or announcements of the Pillar 2 rules on the behavior of firms or other stakeholders, however, is rare, and to the best of our knowledge currently limited to a recent study by Gómez-Cram and Olbert (2023). Using an event study methodology, they find that publicly listed US firms with high tax avoidance possibilities experience significant negative stock market returns following Pillar 1 and Pillar 2 announcements. We will contribute to the stream of Pillar 2 literature by providing further evidence of the impact of Pillar 2 announcements on affected firms' stock market returns. In contrast to Gómez-Cram and Olbert (2023), who investigate the effects of both Pillar 1 and Pillar 2, our identification strategy is focused on identifying the effect of Pillar 2. Furthermore, we are the first to investigate the impact on European firms.

Generally, it is assumed that a firm's share price is largely driven by the present value of the expected future cash flows for investors (see, for example, Brealey, Myers & Marcus, 2020). Whether the introduction of a global minimum tax should affect these expected future cash flows is dependent on the incidence of taxes on corporate profits. Though corporation taxes are formally assigned to the corporations themselves (the "nominal" or "statutory" incidence), their true burden (the "effective" or "economic" incidence) ultimately lies with natural persons (Devereux & Vella, 2022). While studies have shown that corporate taxes are also passed through to other stakeholders such as employees (Fuest et al., 2018), most economists, harking back to Harberger (1962)², agree that at least a part of the tax on corporate profit is borne by the shareholders, and should therefore be reflected in share prices.

This link between corporate taxes and shareholder value has been shown empirically by, among others, Desai and Hines (2002), who show that announcements of corporate inversions and expatriations (which are expected to reduce taxes) result in increased share prices, and Huesecken, Overesch and Tassius (2018), who observe significant abnormal returns following LuxLeaks disclosures.

² See Auerbach (2006) and Gravelle (2013) for historical overviews on this topic.

On the other hand, the positive effect of tax avoidance may be mitigated by a number of direct and indirect costs associated with tax planning, including agency costs, reputational risks, and increased tax uncertainty (e.g. Chen et al., 2010; Hardeck & Hertl, 2014; Hanlon & Slemrod, 2009; Rego & Wilson, 2012; Huesecken et al., 2018). However, since the introduction of the Pillar 2 rules is expected to reduce, rather than increase, tax planning activities and the associated risks, we expect these effects to be of lesser importance in this case.

Based on the tax incidence theory and the prior findings by Gómez-Cram and Olbert (2023), we believe the announcement of the Pillar 2 global minimum tax will negatively impact investors' expectations for affected firms, and formulate hypothesis H1:

Hypothesis H1: Pillar 2 announcements negatively affect the stock market returns of firms subject to the global minimum tax.

So far, studies on Pillar 2 have mainly focused on the direct tax effects arising from the global minimum tax on affected firms, on tax competition between countries, and on the expected increase in government revenue. According to the Scholes-Wolfson framework, however, which is highly regarded in taxation research (Shevlin, 2021), tax evaluation should take into account “all taxes”, “all parties” and “all costs,” including indirect effects of taxation (Scholes and Wolfson, 1992). We address this gap in the literature by empirically investigating the “all parties” aspect: the impact of the global minimum tax on competition between firms.

Besides reducing the market value of multinational firms within the scope of the global minimum tax, Pillar 2 could also have a positive impact on their unaffected competitors. In itself, a reduction in the after-tax profitability, return on investment, and value of firms affected by the Pillar 2 rules should not necessarily directly affect the market value of their competitors. Their value could, however, be affected indirectly

through changes in the real market outcomes of industries dominated by firms subject to the global minimum tax, increasing the competitive advantage of their competitors.

An explanation for this assumption can, again, be found in the tax incidence literature. Despite early empirical work suggesting that corporate taxes could result in increased product prices (Krzyzaniak & Musgrave, 1963), economists have traditionally focused on the incidence of corporate taxes on capital and labor, as described above. Recently, however, there has been a revived interest in the incidence on consumers.

Baker et al. (2020) investigate empirically whether changes in state-level corporate tax rates result in increased prices for US retail products, while Dedola et al. (2022) examine the corporate tax pass-through for Germany consumer goods. They observe that an increase in the corporate tax rate by 1 percentage point has led to an increase in retail prices by 0.24 in the US and 0.4 percent in Germany. These results suggest consumers bear a substantial part of the corporate tax burden. This conclusion is confirmed by Jacob et al. (2022), who, furthermore, find the pass-through of corporate taxes to consumers to be stronger for firms with limited access to tax avoidance opportunities or tax shields.

The impact of corporate taxes on consumer prices can, therefore, result in distortions in market outcomes. Changes in the domestic corporate tax rates of foreign firms, for example, can reduce their US competitors' market power, enticing them to invest in R&D and capital expenditures (Kim et al., 2018), while tax cuts can result in increased market shares of profitable firms compared to their loss-making competitors (Hanlon et al., 2023). Similarly, corporate tax avoidance can result in increased sales by tax aggressive firms, leading to significant increases in market concentrations (Martin et al., 2023). A reduction in tax avoidance opportunities for multinational enterprises caused by tightened transfer pricing regulations, on the other hand, has been shown to be beneficial to the sales of their national competitors (Gauss et al., 2022).

Because of these distortions in product market outcomes and the competitive position of firms, external tax policy shocks can ultimately result in changes in firm values, even if those firms are not directly subjected to the new reforms. These externalities were demonstrated in a quasi-experimental setting provided by the US' introduction of the Tax Cuts and Jobs Act in 2017, which reduced US corporations' median effective tax rates from 31.7 percent to 20.8 percent (Wagner et al., 2020). Not only did the announcement of this American reform positively affect the stock market returns of European firms with revenues in the US, but it also negatively affected the returns of firms active in European industries facing strong competition from US firms (Overesch & Pflitsch, 2021). Furthermore, this announcement caused significant spillover effects in worldwide markets, including large negative returns for Chinese firms (Gaertner et al., 2019).

Based on these observations, we hypothesise that investors will expect the introduction of the global minimum tax to have a positive effect on the competitiveness of firms which are not subject to the new rules themselves, but who are active in industries dominated by firms subject to the global minimum tax. This should be reflected in the firm value and stock market returns of the competing firms.

Hypothesis H2: Pillar 2 announcements positively affect the stock market returns of firms facing competition from firms subject to the global minimum tax.

3. Data and methodology

Our hypotheses will be tested empirically using an event study methodology to investigate how the daily stock market returns of European listed firms were affected on dates when an important announcement regarding the Pillar 2 rules was made. The firms will be subdivided into three categories. *Pillar 2* firms are all firms subject to the announced Pillar 2 rules. We expect a negative announcement effect for these

firms, following hypothesis *H1*. *High Competition* firms, on the other hand, are all firms not subject to the announced Pillar 2 rules, but which are expected to face strong competition from *Pillar 2 firms*. Based on hypothesis *H2*, we expect a positive announcement effect for these firms. Finally, the control or reference group consists of all firms which are not considered to be *Pillar 2* or *High Competition* firms.

Solely relying on data from stock market listed firms to determine how much competition a firm faces from *Pillar 2* firms, however, could be problematic. The Pillar 2 rules will apply to all firms with a group level consolidated revenue exceeding 750 million euro, including non-listed firms. Listed firms could therefore also face competition from non-listed Pillar 2 firms. By only using data on listed firms, this aspect of inter-firm competition would be neglected, and our competition measure would systematically underestimate the true competition.

For that reason, we start by collecting data on a wider sample of firms using Bureau Van Dijk's Orbis Europe database, which contains firm-level accounting data on over 19 million European listed and non-listed enterprises. We collect data on all large³ and very large⁴ active European entities with available financial accounting data for 2019. We focus on annual accounts from 2019 since this precedes our 2021 event dates (described below), and because we believe 2020 data might be heavily distorted due to the impact of the Covid-19 pandemic. Because we will calculate competition on an entity-by-entity basis, we collect unconsolidated (i.e.: entity-level) annual accounts. This step results in a sample of 475.009 entities.

We consider entities in our sample to belong to Pillar 2 firms if the group-level consolidated revenue reported by the global ultimate owner (with an ownership percentage of at least 50,01%) exceeds 750 million euro. If the group-level consolidated revenue is unavailable, we use the sum of the revenue

³ Large entities are entities exceeding more than one of the following thresholds: revenue exceeding 10 million euro, assets exceeding 20 million euro, more than 150 employees.

⁴ Very large entities are entities listed on the stock market of entities exceeding more than one of the following thresholds: revenue exceeding 100 million euro, assets exceeding 200 million euro, more than 1000 employees.

reported by each entity with the same global ultimate owner to determine whether the Pillar 2 threshold is breacher. This is shown in equation (1), where *Pillar 2 Entity*_{*e,f*} is a dummy variable equal to 1 if an entity *e* of firm *f* is part of a Pillar 2 firm, and equal to 0 if it is not.

$$Pillar\ 2\ Entity_{e,f} \in \{0,1\} \quad (1)$$

We determine the dominance of Pillar 2 entities in each industry-country pair *i,c* in Europe by dividing the sum of all revenue reported by Pillar 2 entities in an industry-country pair (using 4 digit NACE industry classifications) by the sum of the total revenue reported by all entities in that industry-country pair. This is described in equation (2), where *Revenue*_{*i,c,e,f*} represents the revenue generated by entity *e* of firm *f* in industry-country pair *i,c*, and *Pillar 2 Dominance*_{*i,c*} equals the dominance of Pillar 2 entities in the total revenue of industry-country pair *i,c*.

$$Pillar\ 2\ Dominance_{i,c} = \frac{\sum_{e,f}(Pillar\ 2\ Entity_{e,f} * Revenue_{i,c,e,f})}{\sum_{e,f} Revenue_{i,c,e,f}} \quad (2)$$

The Pillar 2 Dominance is then used to determine the total competition faced by each firm (across all its entities) from Pillar 2 entities (equation (4)). We do this by multiplying *Revenue*_{*i,c,e,f*} generated by entity *e* of firm *f* in industry-country pair *i,c* by that industry-country pair's Pillar 2 dominance. These products are then summed across all entities *e* of firm *f*, and divided this by the total revenue generated by the firm.

$$Pillar\ 2\ Competition_f = \frac{\sum_{e,f}(Pillar\ 2\ Dominance_{i,c} * Revenue_{i,c,e,f})}{\sum_{e,f} Revenue_{e,f}} \quad (3)$$

Firms with *Pillar 2 Competition*_{*f*} larger than 0,5 are considered to face strong competition from Pillar 2 firms, and are classified as high competition firms as seen in equation (4).

$$High\ Competition_f = Pillar\ 2\ Competition_f > 0,5 \quad (4)$$

In the next step, we collect stock market data using the Refinitiv Eikon database. We link each listed firm in our sample collected from Orbis Europe to the corresponding entry in Eikon using the International Securities Identification Number (ISIN) of the firm's Global Ultimate Owner. This allows us to identify 3.275 European firms included in both databases, consisting of 969 *Pillar 2* firms (29,6%), 1.027 *High Competition* firms (31,4%), and 1.279 control firms (39%). For each of these firms, we collect the total return adjusted closing prices for each trading day in the year 2021.

Finally, we use these closing prices to estimate the regression described in equation (5). $Return_{f,t}$ equals the stock market return for firm f on day t . $Pillar2_f$ and $HighComp_f$ represent time-invariant dummy variables which equals 1 if the firm is a *Pillar 2* or *High Competition* firm, respectively, while $EventDate_t$ is a firm-invariant dummy variable which is equal to 1 on event dates. The interaction effects $EventDate_t * Pillar2_f$ and $EventDate_t * HighComp_f$ indicate whether the stock market returns were higher or lower for *Pillar 2* and *High Competition* firms on event dates, and will be used to test our hypotheses $H1$ (for *Pillar 2* firms) and $H2$ (for *High Competition* firms).

$$Return_{f,t} = \alpha + \beta_1 Pillar2_f + \beta_2 HighComp_f + \beta_3 EventDate_t + \beta_4 EventDate_t * Pillar2_f + \beta_5 EventDate_t * HighComp_f + \varepsilon_f \quad (5)$$

The event dates in this analysis are dates in 2021 on which an important announcement related to the introduction of Pillar 2 and the global minimum tax was made. We follow the event dates defined by Gómez-Cram and Olbert (2023) in their event study on the impact of Pillar 1 and Pillar 2 announcements on U.S. firms. These dates are summarized described in Table 1. If an announcement was made on a non-trading date, we use the next trading day as our event date. Because we believe it may take some time for investors to accurately assess the impact of the announcement on firms, especially with regard to the competition aspect, we will not only test for announcement effects on the date of announcement itself, but we will also look at cumulative effects for the date of announcement and several days following the announcements.

[TABLE 1]

4. Results

The (preliminary) results of the analyses described above are shown in Table 2 (using an ordinary least squares regression) and Table 3 (using a firm fixed effects specification). In both tables, *Pillar 2* is a time invariant dummy variable equal to 1 if a firm has a group-level annual revenue exceeding 750 million euro, and is therefore expected to be subject to the announced global minimum tax. *High Comp* is a time invariant dummy equal to 1 for firms which are not expected to be subject to the global minimum tax, but which are believed to face strong competition from *Pillar 2 firms*. *Event* is a dummy variable equal to 1 on event days. In column (1) of each table, an “event day” is the day on which one of the Pillar 2 announcements described in Table 1 was made. If an announcement was made on a non-trading day, the next trading day was chosen as the event day. Since it may take markets some time to properly absorb the news, we also look at longer term effects in columns (2) to (10), which show the cumulative results for the event day and the following 1 to 9 trading days.

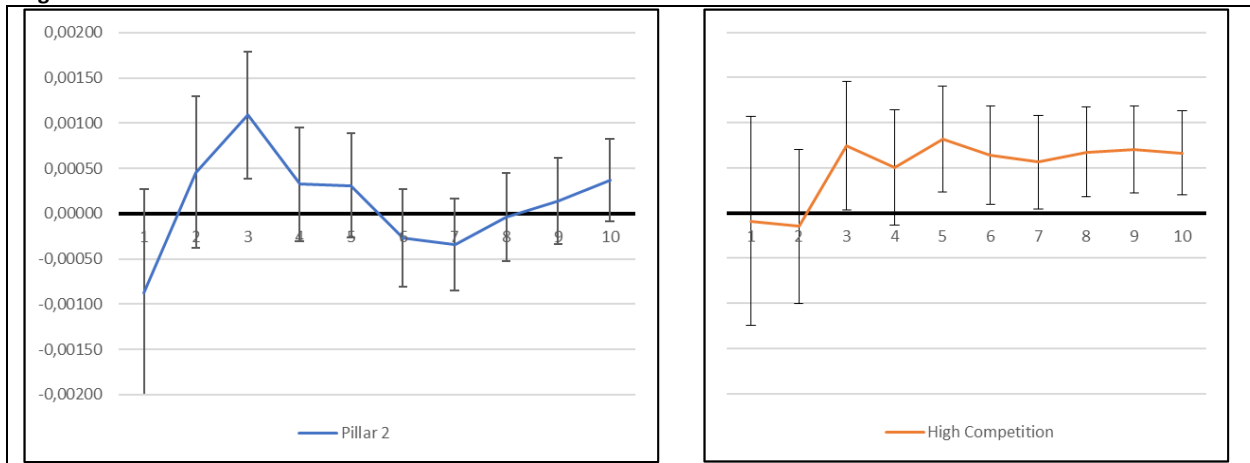
[TABLE 2]

[TABLE 3]

The results of both specifications are highly similar. Despite the insignificant negative coefficient observed for *Event* for the 1 Day regression in column (1), we observe a significant positive effect (ranging from $p < 0,10$ to $p < 0,001$) for this variable in columns (2) to (10), which suggests that markets generally regarded announcements about the global minimum tax, and perhaps about the battle against excessive tax avoidance and harmful tax competition in general, as a positive event.

Interestingly, and in contrast to the observations made by Gómez-Cram and Olbert (2023), we find no evidence to support hypothesis *H1*. While the announced of the global minimum tax was assumed to negatively affect the expected future cash flows for shareholders of Pillar 2 firms, and thereby their stock market returns, we find no significant ($p > 0,10$) negative coefficients for the interaction *Pillar 2 * Event*. On the contrary, we observe a significant ($p < 0,01$) positive effect in column (3) in both Table 2 and Table 3, which indicates a relative increase in the stock market value of Pillar 2 firms for the event day and the next to trading days, cumulatively. This is also shown graphically in the left-hand panel of Figure 1, which shows the cumulative evolution over time of the *Pillar 2* coefficient using a 95% confidence interval. Possible explanations for this unexpected result will be discussed in the next section.

Figure 1.



Main firm fixed effects estimation results for Pillar 2 firms (left) and High Competition firms (right).

Hypothesis *H2*, on the other hand, is supported by our results. While it appears to take investors a few days to appreciate the indirect effect the announced global minimum tax may have on competing firms, we observe a significant positive cumulative effect for *High Comp * Event* from day 3 onward (with the exception of a marginally insignificant effect in column (4)). This suggests that average returns were higher for *High Comp* firms following Pillar 2 announcements. This result is also shown graphically in the right-hand panel of Figure 1 using a 95% confidence interval. This result suggests that investors believe that the introduction of a global minimum tax for multinational enterprises will lead to a beneficial outcome for

smaller or domestic firms competing with the multinational enterprises subject to the announced Pillar 2 rules.

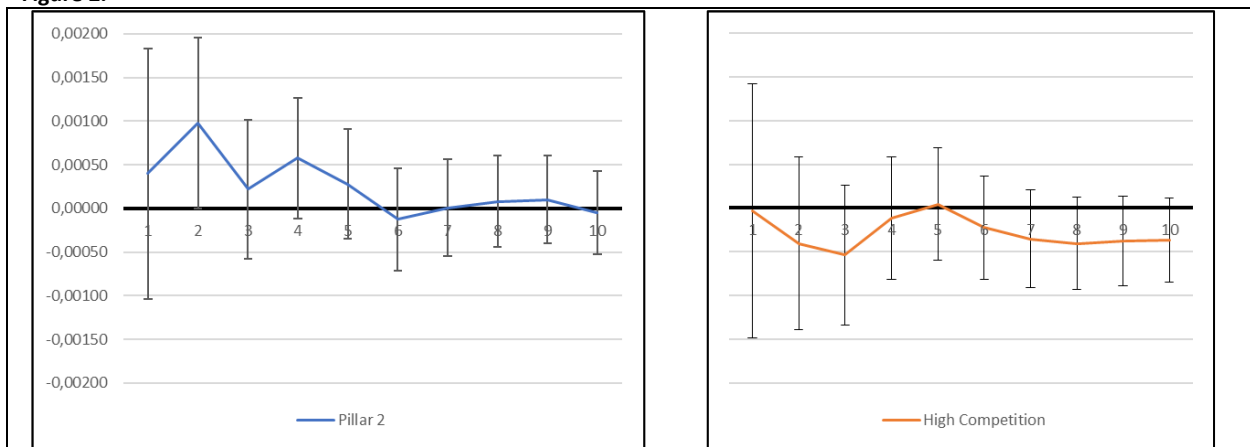
We perform placebo analyses to test whether our observed results could be caused by a specification error, rather than by the actual reactions to the Pillar 2 announcements described in Table 1. In these analyses, we use the same dataset, model specification and variables as in our main analyses shown in Table 2 and Table 3, but using placebo event dates. Rather than use the dates of Pillar 2 announcements, we use event dates 10 days prior to the actual announcements. We disregard any placebo announcements where the placebo date would be within ten days from a real Pillar 2 announcement to prevent overlap with actual events.

The results of these placebo analyses are shown in Table 4 and Table 5, graphically in Figure 2. With the exception of a marginally significant positive effect for *Placebo event * Pillar 2*, we find no significant effects for the interaction effects of interest for *Pillar 2* or *High Comp*. This suggests that the results (and notably the positive and stable effect for *High Competition* firms) found in Table 2 and Table 3 were driven by Pillar 2 announcements, as intended, rather than by specification errors.

[TABLE 4]

[TABLE 5]

Figure 2.



Placebo firm fixed effects estimation results for Pillar 2 firms (left) and High Competition firms (right).

5. Conclusion

In this paper, we use an event study methodology to investigate the effects of Pillar 2 announcements in 2021 on the stock market returns of 3.275 European listed firms.

To the best of our knowledge, we are the first to shed light on the overlooked effect of a global minimum tax on inter-firm competition and the level playing field. We find significantly positive Pillar 2 announcement effects on the stock market returns of firms which are not expected to be subject to the tax themselves, but which are believed to face strong competition from Pillar 2 firms. This suggests that investors believe the introduction of a global minimum tax for large multinational enterprises will be beneficial to their smaller competitors. This result could be highly useful for lawmakers when evaluating the costs and benefits of the Pillar 2 rules.

While our results indicate that the market saw the announcements surrounding the global minimum tax as positive events in general, it is surprising that we do not observe a significant negative effect of the announcements on the value of firms which are expected to be subject to the minimum tax. On the contrary, we find a brief but significant positive effect when looking at the cumulative effect on the date of announcement and the following two days. There could be a number of explanations for this observation.

Firstly, it is possible that investors in the affected multinational enterprises had expected a more negative announcement surrounding the minimum tax, and were underwhelmed by the actual announcement. Secondly, it is possible that the positive effect on day 3 is caused by a market correction after a negative short term announcement reaction. While we do not observe a significant negative short term effect using our current model specification, the insignificant but negative coefficient observed for *Event * Pillar 2* on the date of announcement could offer some indication of this effect.

The third explanation, and seemingly the most likely, is that not all firms subject to the global minimum tax are affected in the same way. While all firms with a group-level consolidated annual revenue exceeding 750 million euro would fall within the scope of Pillar 2, highly tax aggressive firms are more likely to see a significant increase in their effective tax rate than less tax aggressive firms, who might already be subject to an effective corporate tax rate of at least 15 percent in each country. This heterogeneity between firms is currently unaccounted for in our model. We aim to resolve this issue in future versions of this paper by introducing firm-specific measures of tax aggressiveness into our specification, in line with existing literature (e.g.: Gómez-Cram & Olbert, 2023).

References

- Auerbach, A. J. (2006). Who bears the corporate tax? A review of what we know. *Tax policy and the economy*, 20, 1-40.
- Baker, S. R., Sun, S. T., & Yannelis, C. (2020). *Corporate taxes and retail prices* (No. w27058). National Bureau of Economic Research.
- Brealey, R. A, Myers, S. C, & Marcus, A. J. (2020). *Fundamentals of corporate finance*. 10th ed. New York: McGraw-Hill Education.
- Bush, J., Durst, M., & Ogutu, M. M. (2022). Impact of the Oecd Inclusive Framework's Pillar 2 on Developing Countries: a Focus on Tax Incentives.
- Chen, S., Chen, X., Cheng, Q., & Shevlin, T. (2010). Are family firms more tax aggressive than non-family firms?. *Journal of financial economics*, 95(1), 41-61.
- Cooper, M., & Nguyen, Q. T. (2019). Understanding the interaction of motivation and opportunity for tax planning inside US multinationals: A qualitative study. *Journal of World Business*, 54(6), 101023.
- Council of the EU (2022). International taxation: Council reaches agreement on a minimum level of taxation for largest corporations. <https://www.consilium.europa.eu/en/press/press-releases/2022/12/12/international-taxation-council-reaches-agreement-on-a-minimum-level-of-taxation-for-largest-corporations/>
- De Broe, L., & Massant, M. (2021). Are the OECD/G20 Pillar Two GloBE-Rules Compliant with the Fundamental Freedoms?. *EC Tax Review*, 30(3).
- Dedola, L., Osbat, C., & Reinelt, T. (2022). Tax thy neighbour: Corporate tax pass-through into downstream consumer prices in a monetary union.
- Desai, M. A., & Hines Jr, J. R. (2002). Expectations and expatriations: Tracing the causes and consequences of corporate inversions. *National Tax Journal*, 55(3), 409-440.
- Devereux, M. P., Bares, F., Clifford, S., Freedman, J., Güçeri, İ., McCarthy, M., ... & Vella, J. (2020). The OECD Global Anti-Base Erosion Proposal. PwC report, Oxford University Centre for Business Taxation, January.
- Devereux, M. P., Paraknewitz, J., Simmler, M. (2020). Empirical evidence on the Global Minimum Tax: What is a critical mass and how large is the Substance-Based Income Exclusion? Working paper, Oxford University Centre for Business Taxation, January.
- Devereux, M., & Vella, J. (2022). Issues of fairness in taxing corporate profit. *LSE Public Policy Review*, 2(4).
- Eberhartinger, E., & Winkler, G. (2023). Pillar Two and the Accounting Standards. *Intertax*, 51(2).
- Englisch, J. (2021). International Effective Minimum Taxation—analysis of GloBE (Pillar Two). Available at SSRN 3829104.
- European Parliament. Directorate General for Parliamentary Research Services. (2015). Bringing transparency, coordination and convergence to corporate tax policies in the European Union. II, Evaluation of the European added value of the recommendations in the ECON legislative own-initiative draft report. Publications Office.

- Fuest, C., Peichl, A., & Siegloch, S. (2018). Do higher corporate taxes reduce wages? Micro evidence from Germany. *American Economic Review*, 108(2), 393-418.
- Gaertner, F. B., Hoopes, J. L., & Williams, B. M. (2020). Making only America great? Non-US market reactions to US tax reform. *Management Science*, 66(2), 687-697.
- Gauß, P., Kortenhaus, M., Riedel, N., & Simmler, M. (2022). *Leveling the Playing Field: Constraints on Multinational Profit Shifting and the Performance of National Firms*. University of Oxford, Saïd Business School, Centre for Business Taxation.
- Gravelle, J. (2013). Corporate tax incidence: review of general equilibrium estimates and analysis. *National Tax Journal*, 66(1), 185-214.
- Hanlon, M. (2023). The use of accounting information in the tax base in the Pillar 2 global minimum tax: a discussion of the rules, potential problems, and possible alternatives. *Fiscal Studies*, 44(1), 37-52.
- Hanlon, M., & Nessa, M. (2023). The Use of Financial Accounting Information in the OECD BEPS 2.0 Project: A Discussion of the Rules and Concerns. *National Tax Journal*, 76(1), 193-232.
- Hanlon, M., Shroff, N., & Yoon, R. (2023). Asymmetric Effects of Taxes on Product Market Outcomes. *Available at SSRN 4121571*.
- Hanlon, M., & Slemrod, J. (2009). What does tax aggressiveness signal? Evidence from stock price reactions to news about tax shelter involvement. *Journal of Public Economics*, 93(1-2), 126-141.
- Harberger, A. C. (1962). The incidence of the corporation income tax. *Journal of Political Economy*, 70(3), 215-240.
- Hardeck, I., & Hertl, R. (2014). Consumer reactions to corporate tax strategies: Effects on corporate reputation and purchasing behavior. *Journal of business ethics*, 123, 309-326.
- Haslehner, W. (2022). Is There a Need for a Directive on Pillar Two? A Few Normative Comments. *Intertax, International Tax Review*, 50(6/7), 527-530.
- Huesecken, B., Overesch, M., & Tassius, A. (2018). Effects of disclosing tax avoidance: Capital market reaction to LuxLeaks. *Available at SSRN 2848757*.
- Jacob, M., Müller, M. A., & Wulff, T. (2022). Do consumers pay the corporate tax?.
- Kim, J., Nessa, M., & Wilson, R. J. (2021). How do reductions in foreign country corporate tax rates affect US domestic manufacturing firms?. *The Accounting Review*, 96(3), 287-311.
- Krzyzaniak, M., & Musgrave, R. A. (1963). The shifting of the corporation income tax: An empirical study of its short-run effect upon the rate of return. (*No Title*).
- Martin, J., Parenti, M., & Toubal, F. (2023). Corporate tax avoidance and sales: micro evidence and aggregate implications.
- OECD (2017). Background Brief – Inclusive Framework on BEPS, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, Paris.
- OECD (2020a), Tax Challenges Arising from Digitalisation – Report on Pillar Two Blueprint: Inclusive Framework on BEPS, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, Paris.

OECD (2020b), Tax Challenges Arising from Digitalisation – Economic Impact Assessment: Inclusive Framework on BEPS, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, Paris.

OECD (2021). International community strikes a ground-breaking tax deal for the digital age. <https://www.oecd.org/tax/beps/international-community-strikes-a-ground-breaking-tax-deal-for-the-digital-age.htm>

Overesch, M., & Pflitsch, M. (2021). Cross-border effects of a major tax reform—Evidence from the European stock market. *National Tax Journal*, 74(1), 75-106.

Perry, V. (2023). Pillar 2, Tax Competition, and Low Income Sub-Saharan African Countries. *Intertax*, 51(2).

Pinto Nogueira, J. F. (2020). GloBE and EU Law: Assessing the Compatibility of the OECD's Pillar II Initiative on a Minimum Effective Tax Rate with EU Law and Implementing It within the Internal Market. *World tax journal.- Amsterdam*, 12(3), 465-498.

Rego, S. O., & Wilson, R. (2012). Equity risk incentives and corporate tax aggressiveness. *Journal of Accounting Research*, 50(3), 775-810.

Rixen, T. (2011). From double tax avoidance to tax competition: Explaining the institutional trajectory of international tax governance. *Review of International Political Economy*, 18(2), 197-227.

Scholes, M., and M. Wolfson. 1992. *Taxes and Business Strategy: A Planning Approach*. Englewood Cliffs, N.J.: Prentice Hall.

Shevlin, T. (2021). An overview of academic tax accounting research drawing on U.S. multinational taxation. UC Irvine. Retrieved from <https://escholarship.org/uc/item/6q31b7jd>

Summers, L. (2021, October 31). A triumph for Detroit over Davos. *The Washington Post*. <https://www.theguardian.com/fashion/2018/may/22/just-not-blonde-how-the-diversity-push-is-failing-australian-fashion>

Vella, J., Devereux, M. P., & Wardell-Burrus, H. (2022). Pillar 2's Impact on Tax Competition. Available at SSRN.

Wagner, A. F., Zeckhauser, R. J., & Ziegler, A. (2020). The Tax Cuts and Jobs Act: Which Firms Won? Which Lost? (No. w27470). National Bureau of Economic Research

Table 1. Event dates

Event Date Definitions	
Date	Event
15 and 16 January 2021	Public consultation meeting on OECD Pillar 1 and 2 Blueprints.
31 March 2021	Joe Biden speech mentions support of global minimum tax for the first time.
1 July 2021	130 countries agree on global minimum tax.
10 July 2021	G20 Leaders formally agree on global minimum tax.
8 October 2021	OECD defines Pillar 1 and 2 size thresholds, 136 countries agree.
13 October 2021	G20 Leaders endorse thresholds.
20 December 2021	Publication of Pillar 1 and 2 model rules.

Table 2. Results of main ordinary least squares regression on daily stock market returns in 2021.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Event estimation	1 Day	2 Days	3 Days	4 Days	5 Days	6 Days	7 Days	8 Days	9 Days	10 Days
(Intercept)	0,00003 (0,00007)	-0,00005 (0,00007)	-0,00011 (0,00008)	-0,00020 ** (0,00008)	-0,00023 ** (0,00008)	-0,00009 (0,00008)	-0,00010 (0,00008)	-0,00018 * (0,00008)	-0,00012 (0,00008)	-0,00012 (0,00008)
Pillar 2	0,00034 ** (0,00010)	0,00027 ** (0,00010)	0,00021 (0,00011)	0,00024 * (0,00011)	0,00022 * (0,00011)	0,00028 * (0,00011)	0,00033 ** (0,00011)	0,00027 * (0,00011)	0,00025 * (0,00012)	0,00016 (0,00012)
High Comp	-0,00006 (0,00011)	-0,00008 (0,00011)	-0,00015 (0,00011)	-0,00013 (0,00011)	-0,00019 (0,00011)	-0,00022 (0,00011)	-0,00022 (0,00011)	-0,00025 * (0,00012)	-0,00026 * (0,00012)	-0,00030 * (0,00012)
Event	-0,00023 (0,00042)	0,00146 *** (0,00030)	0,00148 *** (0,00025)	0,00160 *** (0,00023)	0,00144 *** (0,00021)	0,00043 * (0,00020)	0,00039 * (0,00019)	0,00069 *** (0,00018)	0,00038 * (0,00017)	0,00040 * (0,00017)
Event * Pillar 2	-0,00086 (0,00059)	0,00049 (0,00043)	0,00111 ** (0,00036)	0,00036 (0,00032)	0,00034 (0,00030)	-0,00024 (0,00028)	-0,00031 (0,00026)	0,00000 (0,00025)	0,00016 (0,00024)	0,00042 (0,00023)
Event * High Comp	0,00002 (0,00006)	0,00000 (0,00044)	0,00087 * (0,00037)	0,00064 (0,00033)	0,00095 ** (0,00003)	0,00078 ** (0,00028)	0,00071 ** (0,00027)	0,00082 ** (0,00026)	0,00083 *** (0,00025)	0,00084 *** (0,00024)
Observations	673.442	673.271	670.483	667.713	664.966	662.237	659.534	656.882	654.857	654.765
Firm Fixed Effects	No	No	No	No	No	No	No	No	No	No

The dependent variable is the daily total return adjusted stock market return of the listed firms in our sample. Pillar 2 and High Comp are dummy variables. Pillar 2 is equal to 1 if a firm has a group-level revenue exceeding 750 million euro, while High Comp is equal to 1 if a firm has a group-level revenue of less than 750 million euro, but faces strong competition from Pillar 2 firms. Event is a dummy variable equal to 1 on event days. In column (1), event days are days on which a Pillar 2 announcement was made. In columns (2) to (10), cumulative results are shown for the day of announcement and the following 1 to 9 days, respectively.

Significance levels: ***: $p < 0,001$; **: $p < 0,01$; *: $p < 0,05$. Standard errors are reported between brackets.

Table 3. Results of main firm fixed effects regression on daily stock market returns in 2021.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Event estimation	1 Day	2 Days	3 Days	4 Days	5 Days	6 Days	7 Days	8 Days	9 Days	10 Days
Event	-0,00021 (0,00041)	0,00150 *** (0,00030)	0,00151 *** (0,00025)	0,00164 *** (0,00023)	0,00148 *** (0,00021)	0,00046 * (0,00020)	0,00043 * (0,00018)	0,00073 *** (0,00018)	0,00041 * (0,00017)	0,00046 ** (0,00017)
Event * Pillar 2	-0,00087 (0,00058)	0,00046 (0,00043)	0,00109 ** (0,00036)	0,00033 (0,00032)	0,00031 (0,00029)	-0,00027 (0,00027)	-0,00034 (0,00026)	-0,00004 (0,00025)	0,00014 (0,00024)	0,00037 (0,00023)
Event * High Comp	-0,00009 (0,00059)	-0,00015 (0,00044)	0,00075 * (0,00036)	0,00050 (0,00033)	0,00081 ** (0,00030)	0,00064 * (0,00028)	0,00056 * (0,00026)	0,00067 ** (0,00025)	0,00070 ** (0,00025)	0,00067 ** (0,00024)
Observations	673.442	673.271	670.483	667.713	664.966	662.237	659.534	656.882	654.857	654.765
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

The dependent variable is the daily total return adjusted stock market return of the listed firms in our sample. Pillar 2 and High Comp are dummy variables. Pillar 2 is equal to 1 if a firm has a group-level revenue exceeding 750 million euro, while High Comp is equal to 1 if a firm has a group-level revenue of less than 750 million euro, but faces strong competition from Pillar 2 firms. Event is a dummy variable equal to 1 on event days. In column (1), event days are days on which a Pillar 2 announcement was made. In columns (2) to (10), cumulative results are shown for the day of announcement and the following 1 to 9 days, respectively.

Significance levels: ***: $p < 0,001$; **: $p < 0,01$; *: $p < 0,05$. Standard errors are reported between brackets.

Table 4. Results of placebo ordinary least squares regression on daily stock market returns in 2021

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Event estimation	1 Day	2 Days	3 Days	4 Days	5 Days	6 Days	7 Days	8 Days	9 Days	10 Days
(Intercept)	0,00004 (0,00007)	-0,00001 (0,00007)	0,00005 (0,00007)	0,00003 (0,00008)	0,00010 (0,00008)	0,00008 (0,00008)	0,00010 (0,00008)	0,00008 (0,00008)	0,00004 (0,00008)	0,00004 (0,00008)
Pillar 2	0,00031 *** (0,00010)	0,00026 * (0,00010)	0,00028 ** (0,00010)	0,00026 * (0,00011)	0,00028 ** (0,00011)	0,00032 ** (0,00011)	0,00030 ** (0,00011)	0,00029 ** (0,00011)	0,00029 * (0,00011)	0,00029 ** (0,00011)
High Comp	-0,00005 (0,00011)	-0,00006 (0,00011)	-0,00004 (0,00011)	-0,00005 (0,00011)	-0,00006 (0,00011)	-0,00003 (0,00011)	-0,00001 (0,00011)	0,00001 (0,00011)	0,00002 (0,00011)	0,00000 (0,00011)
Placebo event	-0,00088 (0,00053)	0,00106 ** (0,00035)	-0,00023 (0,00029)	-0,00006 (0,00025)	-0,00063 ** (0,00023)	-0,00033 (0,00021)	-0,00044 * (0,00020)	-0,00027 (0,00019)	-0,00004 (0,00018)	0,00007 (0,00017)
Placebo event * Pillar 2	0,00033 (0,00074)	0,00095 (0,00050)	0,00019 (0,00041)	0,00054 (0,00035)	0,00024 (0,00032)	-0,00016 (0,00030)	-0,00003 (0,00028)	0,00005 (0,00027)	0,00007 (0,00026)	-0,00005 (0,00024)
Placebo event * High Comp	-0,00021 (0,00075)	-0,00050 (0,00051)	-0,00060 (0,00041)	-0,00018 (0,00036)	-0,00001 (0,00033)	-0,00029 (0,00030)	-0,00042 (0,00029)	-0,00047 (0,00027)	-0,00044 (0,00026)	-0,00041 (0,00025)
Observations	673.442	673.275	673.121	672.976	672.836	672.699	672.565	672.437	672.315	672.196
Firm Fixed Effects	No	No	No	No	No	No	No	No	No	No

The dependent variable is the daily total return adjusted stock market return of the listed firms in our sample. Pillar 2 and High Comp are dummy variables. Pillar 2 is equal to 1 if a firm has a group-level revenue exceeding 750 million euro, while High Comp is equal to 1 if a firm has a group-level revenue of less than 750 million euro, but faces strong competition from Pillar 2 firms. Placebo event is a dummy variable equal to 1 on placebo event days. In column (1), placebo event days are days 10 days prior to a day on which a Pillar 2 announcement was made. In columns (2) to (10), cumulative results are shown for the placebo event day and the following 1 to 9 days, respectively.

Significance levels: ***: $p < 0,001$; **: $p < 0,01$; *: $p < 0,05$. Standard errors are reported between brackets.

Table 5. Results of placebo firm fixed effects regression on daily stock market returns in 2021.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Event estimation	1 Day	2 Days	3 Days	4 Days	5 Days	6 Days	7 Days	8 Days	9 Days	10 Days
Placebo event	-0,00095 <i>(0,00052)</i>	0,00102 ** <i>(0,00035)</i>	-0,00025 <i>(0,00029)</i>	-0,00010 <i>(0,00025)</i>	-0,00067 ** <i>(0,00023)</i>	-0,00036 <i>(0,00021)</i>	-0,00048 * <i>(0,00020)</i>	-0,00030 <i>(0,00019)</i>	-0,00008 <i>(0,00018)</i>	0,00007 <i>(0,00017)</i>
Placebo event * Pillar 2	0,00040 <i>(0,00073)</i>	0,00098 * <i>(0,00050)</i>	0,00022 <i>(0,00040)</i>	0,00058 <i>(0,00035)</i>	0,00028 <i>(0,00032)</i>	-0,00013 <i>(0,00030)</i>	0,00001 <i>(0,00028)</i>	0,00008 <i>(0,00027)</i>	0,00010 <i>(0,00026)</i>	-0,00004 <i>(0,00024)</i>
Placebo event * High Comp	-0,00003 <i>(0,00074)</i>	-0,00040 <i>(0,00051)</i>	-0,00054 <i>(0,00041)</i>	-0,00011 <i>(0,00036)</i>	0,00005 <i>(0,00033)</i>	-0,00022 <i>(0,00030)</i>	-0,00035 <i>(0,00029)</i>	-0,00040 <i>(0,00027)</i>	-0,00038 <i>(0,00026)</i>	-0,00037 <i>(0,00025)</i>
Observations	673.442	673.275	673.121	672.976	672.836	672.699	672.565	672.437	672.315	672.196
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

The dependent variable is the daily total return adjusted stock market return of the listed firms in our sample. Pillar 2 and High Comp are dummy variables. Pillar 2 is equal to 1 if a firm has a group-level revenue exceeding 750 million euro, while High Comp is equal to 1 if a firm has a group-level revenue of less than 750 million euro, but faces strong competition from Pillar 2 firms. Placebo event is a dummy variable equal to 1 on placebo event days. In column (1), placebo event days are days 10 days prior to a day on which a Pillar 2 announcement was made. In columns (2) to (10), cumulative results are shown for the placebo event day and the following 1 to 9 days, respectively. Significance levels: ***: $p < 0,001$; **: $p < 0,01$; *: $p < 0,05$. Standard errors are reported between brackets.