Cross-border effects of a major tax reform – Evidence from the European stock market

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We analyze the effect of a major tax reform on foreign firms. While foreign firms that are active in the respective country should be directly affected, other foreign firms could also be indirectly affected through competition. On the evening of December 15th, 2017, the final version of the U.S. "Tax Cuts and Job Act" was published. With an event study design, we show that following the announcement, the European market overall exhibits positive abnormal returns. We find particularly positive market returns for the European firms that generate revenues in the United States. Our results also suggest that the European firms that face strong competition from U.S. firms exhibit significantly lower returns.

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1 Introduction

The "Tax Cuts and Job Act" [TCJA] was one of the largest tax reforms in the history of the United States. U.S. companies benefit from several elements of the TCJA, for example, from the large cut in the corporate tax rate. Less obvious are the consequences for foreign companies. These firms might also benefit if they are active in the United States. However, foreign companies could also suffer from competition effects if their peers are mainly U.S. firms. In this paper, we investigate how the TCJA has affected companies outside the United States.

The TCJA aims at improving the competitiveness of U.S. firms. However, the international discussion has focused on the potential downsides for non-U.S. firms. Politicians and business experts around the globe warned that parts of the U.S. tax reform could violate the rules of the WTO and tax treaties. For instance, even before the reform had passed, five European ministers of finance wrote a letter to Secretary Mnuchin and argued that "*the inclusion of certain less conventional international tax provisions could contravene the U.S.'s double taxation treaties and may risk having a major distortive impact on international trade*." The recent academic literature also points to potential efficiency losses and ownership distortions that result from the international provisions of the TCJA (Dharmapala 2018, Lyon and McBride 2018). However, it is also possible that some firms outside the United States actually benefit from the reform. For instance, firms that operate to some extent in the United States gain from the tax cuts or the immediate expensing under the TCJA.

We employ an event study and analyze cross-border effects of the TCJA on the European stock market. Although the legislative process of the tax reform had already started in November 2017, it became clear only on the evening of December 15th, 2017, that the final

version would pass the Senate. In this paper, we examine whether and how the European stock market reacted to the announcement.

Three main findings emerge from our analysis. First, the TCJA had a significant impact on the European stock market. We find an overall *positive* reaction of European stocks to the TCJA. The mean daily return was 0.7% immediately after the final content of the bill was published. Second, we find particularly positive returns for the European firms that generate revenues in the United States. Third, foreign firms were also indirectly affected by the reform. We find lower returns for European firms following the enactment of the TCJA if they face significant competition from U.S. firms. Thus, our results suggest that the stock market incorporated the concerns regarding competition. Accordingly, some firms benefit from the lower tax burden of their U.S. operations, and other firms lose due to tougher competition from U.S. firms in their domestic markets.

Stock market responses to tax reforms have been studied in the literature in various settings.[1] In a recent study, Wagner et al. (2018a) analyze the stock market response to the 2016 U.S. election. Both presidential candidates had very different plans regarding the tax system. The authors link the stock market response following the surprising election of Donald Trump to these differences. In a later paper, Wagner et al. (2018b) analyze stock market reactions around important dates in the legislative process of the TCJA. Both papers find that stock prices in the United States reacted accordingly to the difference between the initial and revised expectations regarding the passing and content of the reform.

These studies, however, examine the effects of tax reforms on the respective domestic stock markets. Although the international effects of national tax reforms have rarely been examined in the literature, other policy events have been discussed considering international

[1] Examples include the effects on the trading behavior of investors (Bolster et al. 1989) or the stock market behavior around ex dividend dates (Michaely 1991, Whitworth and Rao 2010).

effects. Examples include monetary policy (Aizenman et al. 2016, Eichengreen and Gupta 2014, Feldkircher and Huber 2016) and elections (Cunha and Kern 2018). The literature in these international settings often focuses on the American prominence in the financial system and thus analyzes how other countries are affected by the United States (Danzman et al. 2017, Eichengreen and Gupta 2014, Eickmeier and Ng 2015, Winecoff 2015). A study by Cunha and Kern (2018) analyzes the impact of the 2016 U.S. election on international financial markets. By using ETF data, the authors find an overall negative effect of the election on financial markets. For our study, it is interesting to note that the European countries in their study mostly exhibited only moderate negative returns of borderline or no significance following the U.S. election.

The U.S. election triggered a large shift in expectations regarding the tax regime in the United States. Although the election was important for U.S. markets in terms of taxation, other differences between the candidates may have been considerably more important internationally. For instance, both candidates differed widely in terms of trade policy.[2] Thus, by focusing on the election, it is difficult to isolate the effect of tax regime expectations on foreign markets. Furthermore, Cunha and Kern (2018) focus on the overall effect of the election on a given foreign stock market. By using ETF data, it is obviously not possible to determine whether there are heterogeneous effects for different firms. Our design builds on firm-level data, and we can thus examine firm-specific reactions and potentially uncover offsetting forces.

To the best of our knowledge, no paper has yet investigated the effects of the TCJA on foreign firms. Moreover, our main contribution is the investigation of the effects of a major tax reform on foreign firms. As far as we know, we are the first to document cross-border effects of a tax reform on a foreign stock market. Regarding Japan's adoption of a territorial tax system in 2009, a recent paper by Bradley et al. (2018) finds significant market reactions for Japanese

[2] See Noland et al. 2016 for a detailed review of the different trade policies.

firms. However, they conclude that the cross-border spillovers from the reform were insignificant.

In a recent paper, Kim et al. (2018) examine the effect of corporate tax cuts outside the United States on the competitive situation of U.S. domestic manufacturers. They find that foreign corporate tax cuts affect the profitability of U.S. firms negatively, thus indicating increased competition. Although we focus on a stock market reaction, our study closely relates to Kim et al. (2018). We also examine cross-border effects of a foreign tax reform. However, we investigate the opposite direction by focusing on the cross-border effects of a U.S. reform. In accordance with Kim et al. (2018), our findings suggest that investors believe the competitive situation to change due to a foreign tax reform. Therefore, we provide a first answer to their call for research that examines the cross-border effects of the TCJA.

Our study has policy implications. The TCJA started a discussion regarding whether other countries need to react for maintaining a competitive tax system. One fundamental aspect of this discussion is the question whether and how firms outside the United States are affected by the TCJA. Our results indicate that investors indeed expect that the TCJA affects firms in Europe and that domestic firms could especially suffer from tougher U.S. competition.

This paper proceeds as follows. The next section discusses the TCJA with respect to its potential international effects and derives our hypothesis. Section 3 contains explorative statistics and describes our empirical strategy. Section 4 presents our empirical results and various robustness checks. Section 5 concludes.

2 Cross-border effects of the TCJA

The legislative process for the TCJA started as the bill was introduced by Congressman Kevin Brady to the House of Representatives on November 2nd, 2017 and ended when President Donald J. Trump signed it into law on December 22nd, 2017. On the afternoon of December

15th, 2017, Senators Marco Rubio and Bob Corker declared that they were going to back the final bill of the TCJA. Until then, it was far from certain that the reform would pass the Senate in 2017 and when it would take effect. As the *Financial Times* put it, *"Party leaders [were] operating on razor-thin margins […] with no support from Democrats."* Without convincing the two Republican Senators Rubio and Corker, the bill would possibly not have made it through the two chambers in 2017.

After the senators' statements, investors learned that the bill was most likely going to pass the following week and signed into law by the President before Christmas. Even more important was that investors learned the final content of the bill. The Senate and the House had passed different versions of the TCJA before. However, the two versions significantly differed in some important parts. For instance, the House bill suggested that the corporate tax rate cut becomes effective in 2018, whereas the Senate amendment delayed it to tax year 2019. The final version of the tax reform followed the House version and took effect in 2018.

Let us briefly discuss the main features of the bill regarding international operations. The corporate tax cut from 35% to 21% constitutes the most striking feature of the TCJA. Due to the territorial tax system in most European countries, the European firms that operate in the United States directly benefit from the lower corporate tax rate on their U.S. profits. Additionally, the bill features immediate expensing of certain new capital investments. The immediate expensing might also benefit the European firms that operate in the United States.

The TCJA also imposed a "Base Erosion and Anti-Abuse Tax" (BEAT) that targets international transfers. The final income tax due is the maximum of either the regular tax liability or 5% on income ignoring all deductible payments to international affiliates (10% in 2019 through 2025 and 12.5% thereafter). An important detail is that transfers regarding the costs of goods sold (COGS) are excluded from the calculation of BEAT. European firms may be directly affected by the BEAT regime since it applies to both U.S. and foreign-parented

groups. Therefore, we expect it to have a negative effect not only on international European firms active in the United States but also on U.S. firms with international supply chains. However, the previously proposed versions by the House and Senate provided even stricter rules and probably would have harmed international firms even more.[3] Therefore, this final version of the BEAT regime could be seen as a lesser evil. Alltogether, we expect that the European firms that are active in the United States benefit from the final version of the TCJA. This leads to the following hypothesis:

H1: European firms that have significant U.S. operations benefit from the final version of the TCJA. Their stock prices should react positively to the final version of the TCJA.

The second channel through which foreign firms could be affected is competition from U.S. firms. Suppose that a European firm is competing with a U.S. firm in an international market. If the TCJA has increased the competitiveness of the U.S. firm in the international market, the European firm may have a more difficult time competing. This simple example suggests that firms may be indirectly affected by foreign tax reforms due to the change in their relative competitiveness.

Indeed, one of the major aims of the TCJA was to make U.S. firms internationally more competitive. First, U.S. firms benefit from the large corporate tax cuts and immediate expensing of new investments. Moreover, the TCJA changes the U.S. tax system from a worldwide system to a territorial tax system. The profits earned by foreign subsidiaries are in general no longer subject to U.S. taxation on repatriation. An exception to the territorial system constitutes the so-called "Global Intangible Low Tax Income" (GILTI) earned by controlled foreign corporations (CFCs). Fifty percent of the modified income of a CFC may be subject to U.S.

[3] The Senate version proposed a similar regime with a 10% tax rate instead of 5% in 2018. The House version proposed an excise tax on any intercompany deductible payments including COGS depending on the net income ratio of the foreign affiliate.

taxation if it exceeds a certain return depending on the "qualified business assets". Effectively, this rule applies only if the corporate tax rate of the foreign country is lower than 13.125% (from 2026 onwards 16.4%). In a recent paper, Lyon and McBride (2018) argue that the GILTI regime may at least partly offset the benefits of the territorial system and thus could diminish the gain in international competitiveness of U.S. firms.

Additionally, the final bill introduced the so-called "Foreign Derived Intangible Income" (FDII). Intangible income received by a U.S. firm from goods and services used outside the United States is effectively taxed at a lower rate of 13.125%. This rule is officially meant to incentivize U.S. multinationals to relocate intellectual property to the United States. However, since the reduced tax rate only applies to foreign sales and services, it could also be seen as an export subsidy. Therefore, it is not surprising that this rule is highly discussed concerning potential WTO violations. Whether or not FDII violates international standards, U.S. firms can benefit from this special tax rate if they generate income from foreign activities.

The lower tax rates, the change to a territorial system and FDII altogether strongly improve the competitiveness of U.S. firms in foreign markets. As a result, investors may expect European firms to face tougher competition from U.S. firms in the future. This discussion leads to Hypothesis 2:

H2: European firms that compete heavily with U.S. firms lose from the TCJA because U.S. firms gain competitiveness following the TCJA.

3 Empirical strategy

3.1 Event Study Design

In our examination, we follow the common event study methodology discussed in detail by MacKinlay (1997). We first describe the relevant event and the corresponding event

windows. Then, we need to define the expected return as the return that would have been expected in the absence of the event. We chose the publication of the final version of the TCJA on the afternoon of December 15th, 2017 as our event and the statements of Senators Rubio and Corker, which also occurred around this time. Importantly, due to the time zone difference, the European market had already closed for the weekend as these statements occurred. In fact, as the European stock market closed on December 15th, it was not clear that the TCJA would pass anytime soon.

Bloomberg, for instance, wrote on December 15th that "*Secondly it remains unclear if there is enough support among Republican senators to get the deal done. In the last 24 hours, Senators Marco Rubio, Bob Corker, Mike Lee, Jeff Flake and Susan Collins have all said they are undecided on the vote.*" This setting allows us to identify the earliest possible reaction of the European market to the event as Monday, December 18th.

If stock markets respond efficiently, we can only expect a price reaction if new information becomes available. We acknowledge that since previous versions of the TCJA had already passed the House and Senate, markets most likely expected that some tax reform would pass in the United States. However, the two previous versions of the TCJA differed, especially in the parts relevant to international firms. Most importantly, it became clear during our event that the reform would take effect in 2018 and that the final version included the FDII, BEAT and GILTI regimes described above. Therefore, the final version revealed new information. To examine the potential effects on other important dates during the legislative process, we analyze additional events in Section 4.3, namely, the introduction (passing) of the House Bill on November 2nd (November 17th) and the passing of the Senate version on December 4th.

Following the event study literature, we use abnormal returns as our variable of interest in most of the following analysis. Abnormal returns are calculated according to (1).

(1) $AR_{it} = R_{it} - E\,[R_{it}|\,X]$

AR_{it} is the abnormal return, R_{it} is the observed return and $E\,[R_{it}|\,X]$ is the expected return in the absence of the event, each for firm *i* in period *t*. For longer event windows, we compute cumulative abnormal returns (CARs) as the sum of the abnormal returns of firm *i* during the respective event window. Different ways of computing the expected returns have been developed in the literature. For the main part of our analysis, we follow the most common approach to compute the expected return by using a market model described in (2).

(2) $R_{it} = \alpha_i + \beta_i \cdot MR_t + \epsilon_{it}$

MR_t is the market return. We estimate the parameters α_i, β_i for each firm with the data from the year previous to our event. Our estimation window is given by December 15th, 2016 to December 15th, 2017. We chose the STOXX Global 1800 as the market portfolio. It contains 600 firms from Europe, America and the Asia-Pacific region. We obtain the abnormal return as the difference of the observed return and the fitted values from (2).

In addition to the market model, other approaches to compute expected returns are employed in the literature. Section 4.2 provides additional robustness checks that consider different model specifications to compute abnormal returns.

Our empirical approach relies on multiple data sources. First, we obtain data on the stock prices of European firms from *Compustat Global*. To determine whether a firm is operating in the United States, we collect segment data on revenues from the *Thomson Reuters Eikon* database. Information is available for 2,797 European firms. To construct a measure of competition, we additionally gather data from *Eurostat*. *Eurostat* provides data on revenue and the number of employees of U.S.-controlled companies for European industries. Following the literature, we exclude penny stocks (stock price below 1€). Moreover, to ensure a reasonable estimation of the market model, we only keep the firms that are actively traded and that have at

least 100 observations in the estimation window. We also eliminate firms with missing control variables. Lastly, we truncate all returns at the 1% and 99% levels to ensure that our results are not driven by outliers.[4] Our final sample contains 1,718 firms. Please refer to Table 1 for a detailed overview of the sample selection.

[Insert Table 1 about here]

Table 2 shows descriptive statistics for our final sample. Despite the discussed international concerns regarding the TCJA, the European stock market reacted *positively* to the final version of the bill. The mean return on December 18th was 0.68%, and the mean abnormal return was 0.45%. The cumulative abnormal returns (gross returns) increased for the one-week window[5] and the one-month window to 0.76% (1.08%) and 2.21% (3.84%), respectively.

[Insert Table 2 about here]

The remainder of this paper attempts to determine whether firms were differently affected by the reform and whether prices reacted according to our hypotheses derived above. To this end, we perform regressions based on two main models. We obtain geographical segment data from the *Thomson Reuters Eikon* database to determine whether a firm is active in the United States. Unfortunately, the reporting of segment data is not completely coherent among companies. Companies report on the country level, the continental level or other regional constructs.[6] This constitutes a challenge if we want to identify the proportion of revenues generated in the United States. For instance, if a company reports revenues in North America, we do not observe which revenue amount is generated in the United States. Therefore,

[4] SRP GROUPE SA constitutes an outlier example. The company revised downwards their annual profit expectations on the event date. The stock price fell by 22% in response. This reaction was due to the announcement rather than the developments regarding the TCJA and should thus be excluded in our analysis.
[5] If not otherwise noted, one week refers to the window from December 18th to December 27th because most of the European stock exchanges were closed on December 25th and 26th.
[6] Examples include the reporting of "Foreign vs Domestic revenue", "revenues generated in the NAFTA region", or "revenues generated in EMEA."

we consider a dummy variable rather than relying on the exact revenue value. The dummy is set to 1 if the company either reports to have revenues in the United States or if it reports revenues in (North) America. Generally, our dummy variable indicates whether a firm is likely to operate in the United States. As shown in Table 2, 55% of the firms in our sample are likely to be active in the United States. The model used to test Hypothesis 1 is given by (3).

$$(3) \quad CAR_{it} = \beta_0 + \beta_1 \cdot US\ Activity_i + \gamma \cdot X$$

CAR_{it} is the (cumulative) abnormal return of firm *i* at time *t*, *US Activity* is the dummy variable that indicates the firms that generate revenues in the United States and *X* is a vector of control variables and country fixed effects. We include country fixed effects because the event may have a different impact on firms from different countries. For instance, Cunha and Kern (2018) have shown that stock markets react differently to U.S. events depending on their countries' financial ties to the United States. Depending on the specification, *X* also includes industry fixed effects based on the NACE classification. Following Wagner et al. (2018a), we include market capitalization, profitability and sales growth as control variables, which are obtained from *Compustat*.[7]

Regarding Hypothesis 1, we expect that $\beta_1 > 0$. The European firms that are active in the United States should benefit from the final version of the TCJA.

The second channel through which the TCJA could affect European firms is competition. Competition is difficult to measure. We rely on *Eurostat* data to construct a ratio that indicates how prone a European firm is to competition from U.S. firms. We proxy potential U.S. competition by the market share of U.S.-controlled companies in a certain European industry (two-digit NACE codes). For this, we obtain aggregated data of the number of

[7] *Market Capitalization* is the logarithm of shares outstanding x share price (adjusted for stock splits and dividends), *Growth* equals the growth rate of sales, and *Profitability* is given by pretax income / total assets.

employees [NoE] by industry in the E.U. from *Eurostat*. *Eurostat* provides these aggregated numbers for most of the two-digit industry NACE codes.[8] Additionally, *Eurostat* provides the NoE of U.S.-controlled companies by industry. For each of the available NACE codes, we compute the following ratio:

$$US\ Comp\ EU_j = \frac{NoE\ of\ US\ Controlled\ Companies\ in\ the\ EU_j}{Total\ NoE\ in\ the\ EU_j}$$

j corresponds to the two-digit NACE industries.[9] We compute the competition ratio for the 63 different industries in our sample. As part of our robustness checks in Section 4.2, we also consider an alternative competition ratio based on revenues. Please note that *US Comp EU* is based on European industries. Accordingly, it can only approximate the competitive situation of the European market. However, the European market is highly important for most European firms.[10] As shown in Table 2, the average firm in our sample operates in an industry with an approximate share of 5.6 % U.S. competitors. We use the following model to test Hypothesis 2:

$$(4) \qquad CAR_{it} = \beta_0 + \beta_1 \cdot US\ Activity_i + \beta_2 \cdot US\ Comp\ EU_j + \gamma \cdot X$$

$US\ Comp\ EU_j$ is the competition ratio j that corresponds to the NACE classification of firm i, and all other notations from (3) carry over. With respect to Hypothesis 1, we still expect that $\beta_1 > 0$. If European firms lose because of tougher competition from U.S. firms following the TCJA, we expect this effect to be particular pronounced for the firms that already face relatively high competition from U.S. firms. Therefore, we expect that $\beta_2 < 0$.

[8] For some NACE codes, Eurostat provides only country-level information on the number of employees for some European countries. In these cases, we construct the competition ratio by using the available data on the number of employees. We use the most recent data from 2015. If the data is only available in a previous year, we use the most recent available data.

[9] Compustat does only provide data on NAICS codes, but not on NACE codes. Therefore, we rely on correspondence tables obtained from Eurostat to merge the competition ratio to the firms in our sample.

[10] In 2017 EU-firms exported 3,347 € billion to other EU-countries compared to 1,879 € billion to the rest of the world (https://ec.europa.eu/eurostat/statisticsexplained/index.php?title=International_trade_in_goods).

3.2 Explorative Analysis

Figure 1 and Figure 2 provide first evidence for our hypotheses. In Figure 1 we split our sample using the *US Activity* variable and plot abnormal returns around the event date. *Panel A* shows that the firms that are active in the United States (black line) had higher returns compared to the firms that are not (grey line) on each day after the event until December, 22nd. The difference is largest immediately after the event on December, 18th. For *Panel B* we additionally split our sample at the median of the competition ratio *US comp EU*. Dashed lines indicate the firms with a competition ratio above the median. In line with our hypothesis, firms which are active to some extent in the United States *and* face low competition from U.S. firms in their domestic markets exhibit the largest positive returns following the event. For both, the firms that are active in the United States and the firms that are not, lower competition ratios are associated with higher returns after the event.

[Insert Figure 1 about here]

Figure 2 plots cumulative abnormal returns following the event for a longer time horizon. *Panel A* shows that firms that are active in the United States exhibit higher cumulative abnormal returns after the event. Analogously to Figure 1, *Panel B* of Figure 2 shows that lower competition ratios are associated with higher cumulative abnormal returns. Figure 2 suggests that these findings are highly persistent. The discussed differences remain approximately constant throughout the month after the event. This indicates that the findings in Figure 1 are not likely to be driven by a short-term market overreaction to our event.

[Insert Figure 2 about here]

4 Empirical results

4.1 U.S. activity and competition

Our main specification relies on a dummy variable approach to measure whether European firms exhibited different stock market returns depending on their U.S. activity. Table 3 shows the results of an OLS regression of (3) for different event windows from one day to one month after the event.

[Insert Table 3 about here]

The variable of interest is *US Activity*. The coefficient is positive and statistically highly significant throughout all event windows. The effect is also meaningful in terms of size. The mean abnormal return on the day immediately after the event was 0.45%. Table 3 implies that being a firm that is active in the United States resulted in a 0.33 percentage-point higher abnormal return. Consistent with the average abnormal returns shown in Table 2, the coefficient becomes larger as the event window gets longer and reaches up to 0.9 after one month (specification 10).

Turning to the control variables, *Market Capitalization* appears to be the most important factor that affects stock market returns after the event. *Profitability* and *Growth* are either insignificant or show varying signs for different event windows. *Market Capitalization* predominantly has a significant positive sign.

Accordingly, these results clearly suggest that investors reacted according to Hypothesis 1. The European firms that generate revenues in the United States had higher returns after the final content of the TCJA was published. Furthermore, our result does not appear to be driven by short-term market overreactions, as the positive abnormal returns are persistent for even longer event windows.

The second channel through which firms could be affected by the TCJA is competition. Therefore, we also examine whether firms that operate in markets with strong competition from U.S. firms lost after the event. Table 4 presents the respective results. The coefficient of *US*

Activity remains positive and highly significant similar to Table 3. The magnitude of the coefficient is also similar. Moreover, the control variables behave comparably to the previous specification.

More important, we find supporting evidence for Hypothesis 2. The sign of the *US Comp EU* coefficient is negative throughout the specifications. Please note that our U.S. competition measure is based on the two-digit NACE codes and thus varies only among the corresponding industry classifications. Therefore, we report our main results both with and without industry fixed effects. For consistency, we rely on the first digit of the NACE code to form our industry fixed effects.

Firms had smaller returns if they operate in an industry for which U.S. competitors play an important role. The effect is insignificant immediately after the event, whereas the effect is significant at the 5% level for the two-day window and at the 1% level after three days. The coefficient is also meaningful in size. Consider, for instance, the coefficient of specification 6. If we use the sample mean of the competition ratio of 0.056, the estimate suggests a decrease in the return of approximately -0.38 (= -6.789* 0.056) percentage points due to competition from U.S. firms.

[Insert Table 4 about here]

There are different explanations regarding why the effect is not statistically significant immediately after the event. One reason might be that it took investors longer to realize the competition situation of firms. While it is easy to understand whether a firm is active in the United States or not, it is more difficult to analyze the complex competition situation of a firm and how this situation has changed after the TCJA. However, the lack of statistical significance on the first day may also be due to the measurement error in our industry-based competition variable. Furthermore, markets could already anticipate that some tax reform was going to pass.

The House and the Senate versions both aimed to improve the competitiveness of U.S. firms. Therefore, we could expect that some of the information regarding competition was already priced prior to the event.[11]

4.2 Robustness checks

Our results suggest that European stock prices were indeed affected by the TCJA. This section contains various robustness checks of our results. In the following, we focus on the specification with industry fixed effects. However, the untabulated results without industry fixed effects show qualitatively similar results.

Computation of the normal return

Our main specification relies on abnormal returns calculated by a market model with the STOXX Global 1800 as the market portfolio. Table 5 shows the results regarding our main findings for different ways to compute the normal returns.

[Insert Table 5 about here]

Armstrong et al. (2010) examine the effect of IFRS implementation on the European stock market. They choose the STOXX Global ex Europe as the market portfolio "*because including returns of European firms in the market adjustment return would remove some of the effect [that they] seek to document.*" Perhaps the TCJA had an overall effect on the European stock market that we would partly eliminate by including European firms in the market portfolio. *Panel A* of Table 5 shows that our main results remain largely the same in terms of size and significance if we change the market portfolio to the STOXX 1800 ex Europe.

[11] In line with this argumentation, Section 4.3 shows that there are significant competition effects associated with prior events.

Another common approach to determine normal returns is the three-factor model proposed by Fama and French (1993). This model also controls for the market return, similar to the market model in our main specification. However, two additional factors are included in the estimation equation that measure the performance of small companies relative to large companies and companies with a high book to market ratio relative to a low book to market ratio. We obtain data on the factors from Ken French's website. The factor values are obtained based on the stocks traded on the NYSE, AMEX, and NASDAQ. Thus, our factor data are computed based on the U.S. market. Accordingly, in our model, this approach eliminates the specific movement in returns that can be explained by movements in the market return and the size and value factors in the United States. By using this approach, we attempt to control for the usual co-movement of European stocks with the U.S. market.[12] Our findings remain unchanged in this specification. This result shows that the reaction of European stocks was not driven only by their usual co-movements with the factors of the U.S. market.

A third approach to compute normal returns is provided by the market adjusted return calculation. This very simple approach subtracts the market return from the observed gross return. It can be interpreted as a special case of the market model discussed in Section 3 setting $\alpha = 0, \beta = 1$. *Panel C* shows that our results are robust if we adjust our returns to the market.

Lastly, *Panel D* shows the results if we use unadjusted gross returns and thus do not control for market movements at all. Once again, our main results are unaffected. Overall, Table 5 shows that following the event, the negative relation of U.S. competition and the positive

[12] As the final version of the TCJA was published on December 15th, the U.S. market was still open. Thus, potentially, the U.S. markets could have reacted on the evening of December 15th. Since our factors are based on the U.S. market, one could argue that the abnormal return should be computed based on the lagged factors. That is, one could use the U.S. factor values of December 15th to compute the abnormal return on December 18th. If we use the lagged factors, the untabulated results show that the effect stays qualitatively unchanged.

effect of generating revenue in the United States both appear to be highly robust with respect to the calculation of normal returns.

Alternative competition ratio

In our main specification, we proxy U.S. competition by using the fraction of U.S.-controlled employees in a given European industry obtained from *Eurostat*. *Eurostat* also provides data on the revenues of U.S.-controlled companies by industry. One could argue that revenue is a better approximation for the market share. Since data availability in *Eurostat* is better for the number of employees, we rely on this measure for our main analysis. However, as reported in Table 6, our main results carry over if we compute the competition ratio based on revenue. We find significant negative effects for the event windows of two or three days and one month.

Furthermore, if both ratios are suitable to proxy for the market share of U.S. firms, the measured effect size should be similar. The mean of the revenue-based competition ratio in our sample is 9.3%. If we once again focus on the three-day window (specification 3), we obtain a mean effect of competition equal to -0.31 (= -3.346 * 0.093) percentage points. Summarizing, Table 6 shows that our results are robust whether we base our competition ratio on revenue or the number of employees.

[Insert Table 6 about here]

Outlier treatment

We truncated the gross returns at the 1% level in our main analysis to limit the influence of outliers. Excluding extreme values of returns serves multiple purposes. First, it ensures a reasonable estimation of the normal returns with a market model. Extreme values are often driven by firm-specific news. Second, many European firms are only indirectly affected by the

TCJA. Therefore, extreme returns are most likely driven by other firm-specific announcements unrelated to the TCJA.

In additional analyses, we also consider the returns that were not transformed at all or winsorized. Table 7 shows the results for the non-transformed returns (*Panel A*) and winsorized returns (*Panel B*). Our results remain qualitatively unchanged. For both anels, firms with U.S. revenue had significantly higher (cumulative) abnormal returns throughout the event windows of one day to one month. The *US Comp EU* coefficient shows a predominantly negative sign. The effect is significant for the three-day window and for the one-week window in both panels.

[Insert Table 7 about here]

Alternative measures of size

Different measures can be found in the literature to approximate the size of a firm. Among the most frequently used are total assets, total sales and market capitalization. We follow Wagner et al. (2018a) and choose the logarithm of market capitalization throughout our main analysis. However, Dang et al. (2018) have shown that many of the results in empirical corporate finance are sensitive to the choice of the size measure. To ensure that our results are not driven by our choice of market capitalization as the size proxy, Table 8 presents the regression output if we change the size measure to the logarithm of total assets (*Panel A*) or of total sales (*Panel B*).

[Insert Table 8 about here]

The coefficient of *US Activity* remains significant in any of the specifications for *Panel A* (total assets) and *Panel B* (total sales). The effect is also similar in size and reaches from 0.38 for the one-day window to 0.82 for the one-month window. The *US Comp EU* coefficients also behave similarly to the main specification, but there is a slight variation in the significance

levels. For the two-day window, the effect is only borderline significant in *Panel A*. The effect is similar in size and still highly significant for the three-day window and borderline significant for the one-week window in both panels. Therefore, although there is a slight variation in the significance levels consistent with Dang et al. (2018), our results appear to be robust for different firm size measures.

Cross-correlation and event induced volatility

We consider the market reaction of all firms in our sample on the same date. Kolari and Pynnönen (2010) have shown that cross-correlation may result in an over-rejection of the null hypothesis of zero cumulative abnormal returns in cases of event-day clustering. To ensure that our results are not driven by this, we consider the modified Boehmer, Musumeci, and Poulsen statistic proposed by Kolari and Pynnönen (2010) which adjusts for event induced volatility as well as cross-correlation.[13] Since we can only use the Kolari and Pynnönen (2010) method to test whether returns are non-zero we need to split our sample to gain further insights regarding our explanatory variables. Therefore, to verify that our findings regarding *US Activity* and *US comp EU* are robust after adjusting for cross-correlation, we first need to split our sample accordingly and afterwards test whether CAR's are different from zero in the corresponding subsamples.

[Insert Table 9 about here]

Table 9 presents the results. For *Panel A* we split our sample into the firms that are active in the United States and the firms that are not by using the *US Activity* variable. In line with our regression results we find significant positive returns for the firms that are active in the United States for all of the examined event windows. The firms that are not active in the United States do not exhibit significant abnormal returns (except for borderline significant returns for the one-

[13] We rely on the user written Stata program Eventstudy2 to compute the modified test statistics.

month window). In *Panel B* we additionally split our sample depending on whether the firms face high competition from U.S. firms in their domestic markets (firms that have an above median *US comp EU* ratio). The results are again supporting our previous findings in the regression models. We find particularly high and significant returns for the firms that are active in the United States *and* face low competition from U.S. firms in their domestic markets. Overall, Table 9 shows that the results regarding our hypothesis remain significant after controlling for cross-correlation and event induced volatility.

4.3 Additional dates of the legislative process

As discussed before, the House and the Senate passed different versions of the TCJA before our main event. It is natural to examine whether the European stock market had already reacted to the events associated with these earlier versions.

We follow Wagner et al. (2018b) and examine the potential effects on November 2nd (introduction of the House bill), November 16th (passing of the House bill) and December 2nd (passing of the Senate bill). Once again, we need to consider time zone differences. The House bill was introduced around noon (ET) on November 2nd. The European stock market was about to close around this time. In addition, some information regarding the House bill was previously available. Therefore, we cannot identify the exact relevant date and conduct our empirical analysis on both possible event dates of November 2nd and November 3rd. The passing of the House bill occurred on the afternoon of November 16th. By then, the European stock market had already closed. We examine the potential reaction on November 17th. The Senate passed the bill on Saturday, December 2nd; we therefore focus on the returns of the next Monday, December 4th, for this event.

[Insert Table 10 about here]

Table 10 presents the results. We find no significant effect of the *US Activity* after any of these events. As discussed earlier, until December 15th, it was unclear how international firms outside the United States would be affected by the TCJA because of important differences between the House and the Senate versions. However, we find some differential positive effect of the overall return after the Senate version passed. Those European firms that are active in the United States had a mean abnormal return of 0.34%, while the mean abnormal return for other firms was 0.21%. However, as shown in Table 10, this difference is insignificant if we consider the control variables.

The *US Comp EU* coefficient is negative and significant following the passing of the Senate version. Both versions were expected to improve the international competitiveness of U.S. firms. On this day, after both chambers passed their version of the TCJA, it became more likely that the reform was going to be implemented soon. Thus, the negative coefficient of *US Comp EU* on December 4th is not surprising. Analogously, we find a borderline significant effect of *US Comp EU* after the introduction of the House version, once again suggesting that both versions were expected to improve the competitiveness of U.S. firms.

5 Conclusion

The TCJA was the largest U.S. tax reform in the last thirty years. Previous research has shown that tax reforms impact national stock markets, but we focus on cross-border effects. To this end, we analyze the reaction of European stocks after the final content of the TCJA was revealed and it became clear that the reform was going to pass. We present strong evidence that the stock market expected European firms to be affected. Firms with revenues in the United States exhibited significant positive abnormal returns. Furthermore, we construct a competition ratio that measures the market share of U.S. firms in different European industries. Markets may expect European firms to face tougher competition from their U.S. peers following the TCJA. Correspondingly, we show that firms that operate in industries where competition from

U.S. firms is fierce exhibit significant lower returns following the event. This suggests that investors believe that the TCJA improved the international competitiveness of U.S. firms.

Changes in national tax codes have so far mainly be analyzed with respect to their domestic effects. We show that national tax code changes may have a significant impact on foreign firms. Our results suggest not only a direct effect on foreign multinational firms, subject to taxes in the respective country, but also an indirect effect through competition. While our study examines the short-term reaction to the TCJA, we look forward to future research regarding the long-term effects of the TCJA on foreign firms.

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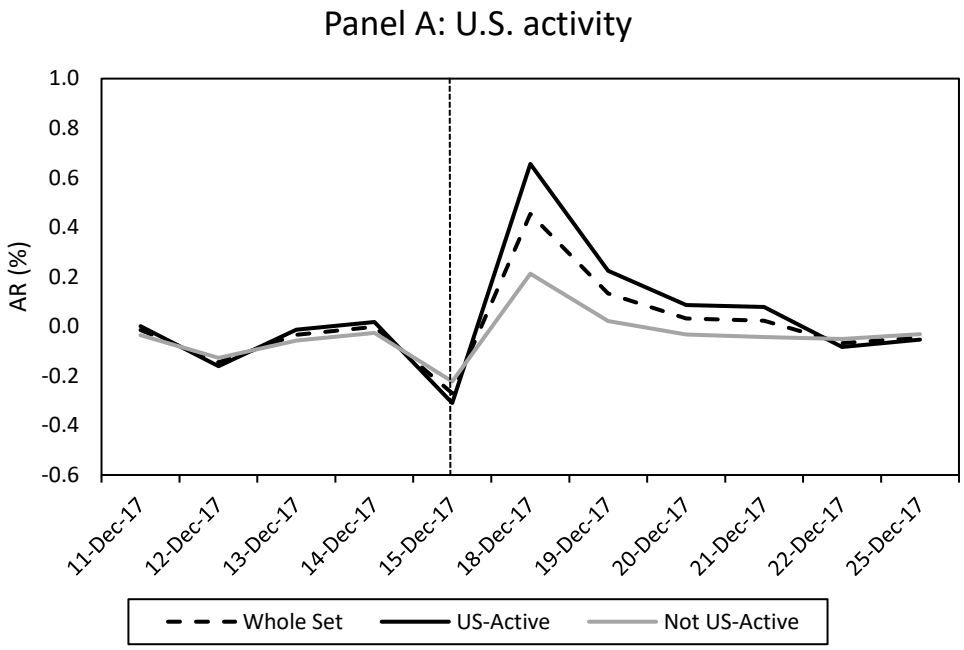
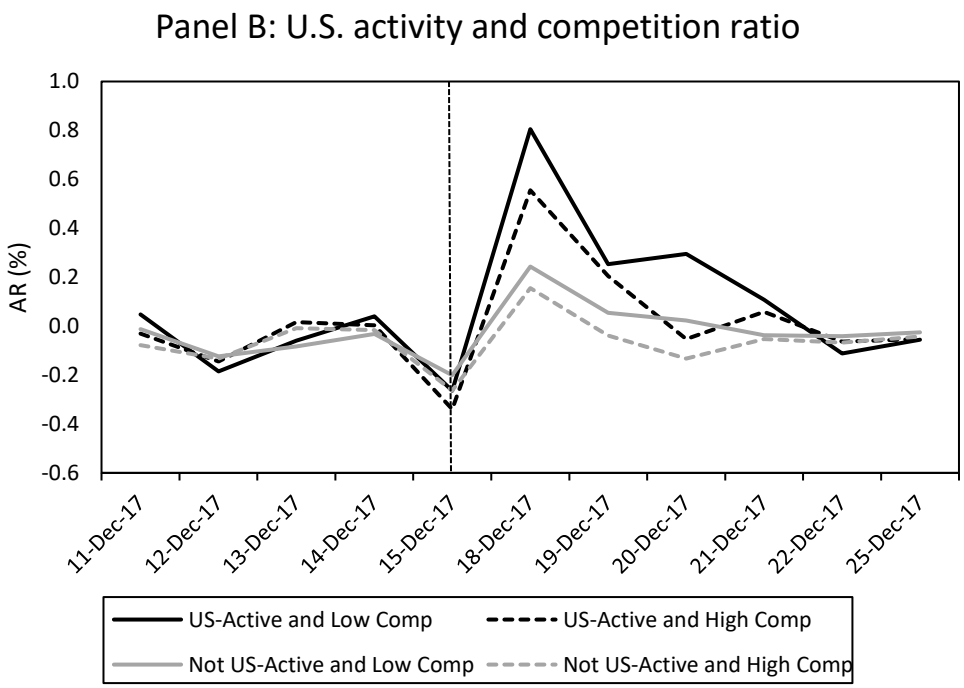
A1: Figures and Tables

Figure 1

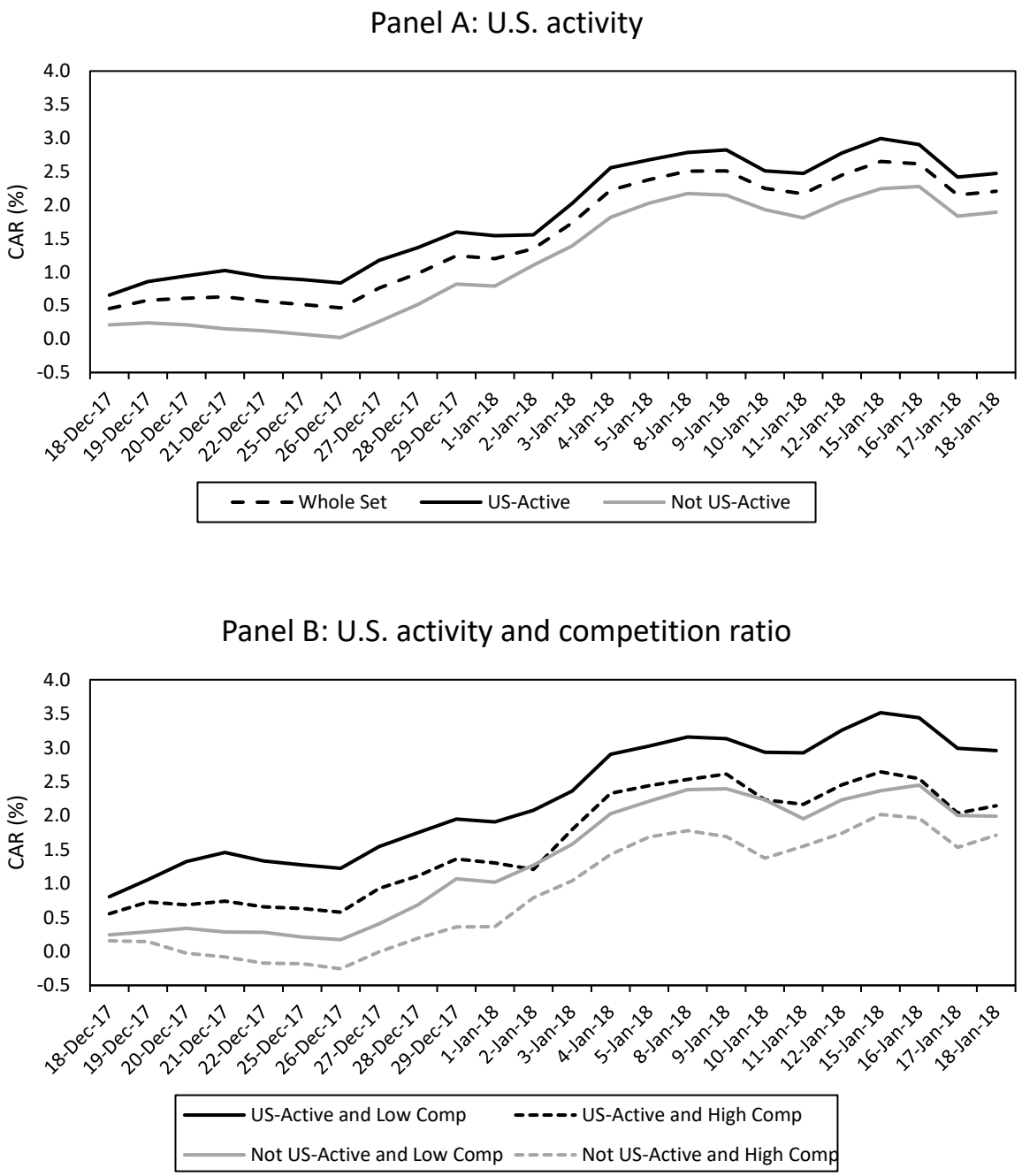
Abnormal returns around the event





Notes: The figure plots the average abnormal return around the event. Black lines correspond the firms that are active in the United States, as measured by our *US Activity* variable. Grey lines show average returns for the firms that are not active in the United States. For *Panel B* we additionally split our sample at the median of the competition ratio *US comp EU*, which results in four subsamples. The dashed lines in *Panel B* correspond to the firms that have an above median competition ratio. The other lines correspond to firms with a below median competition ratio.

Figure 2
Cumulative abnormal returns following the event



Notes: The figure plots the average cumulative abnormal return after the event. Black lines correspond the firms that are active in the United States, as measured by our US Activity variable. Grey lines show average returns for the firms that are not active in the United States. For Panel B we additionally split our sample at the median of the competition ratio US comp EU, which results in four subsamples. The dashed lines in Panel B correspond to the firms that have an above median competition ratio.

Table 1: Screening criteria and sample size

Screening Step	Remaining Sample Size
Initial sample size	9,410
Having segment data	2,797
Dividend adjustment factors	2,790
Price > 1 €	2,264
Having 100 estimation points and being traded more than 50% of the time	2,087
Being still active during the event	2,082
Having NAICS codes with available competition ratio	2,007
Having data on all control variables	1,720
Having finite growth	1,718

Note: Table 1 summarizes the sample selection. Starting with 9,036 firms available in Compustat, we reach our final sample of 1,718 firms with the data for all our explanatory variables. However, not all of these firms have return data for every examined event window in our regressions and some data points are eliminated through truncation. Please refer to the number of observations reported in the regression tables as the respective final sample sizes.

Table 2: Descriptive statistics

Statistic	N	Mean	St. Dev.	Min	P25	P75	Max
Gross return Dec. 18	1,675	0.68	1.61	-4.77	-0.14	1.66	5.65
Abnormal return Dec .18	1,675	0.45	1.57	-5.03	-0.37	1.30	5.64
CGR Dec. 18 to Dec. 27	1,691	1.08	3.45	-10.43	-0.89	2.95	15.34
CAR Dec. 18 to Dec. 27	1,691	0.76	3.46	-11.51	-1.20	2.74	16.68
CGR Dec. 18 to Jan. 18	1,692	3.84	6.21	-25.78	-0.02	7.39	38.08
CAR Dec. 18 to Jan.18	1,692	2.21	6.27	-20.73	-1.62	5.70	30.35
MM Beta	1,675	0.36	0.30	-0.80	0.14	0.58	1.55
Market capitalization	1,675	4,778.26	14,821.27	4.90	168.84	2,979.00	225,094.60
Growth of sales	1,675	13.70	88.71	-100.00	1.47	16.33	3,300.00
Profitability	1,675	6.36	13.77	-184.92	3.13	10.64	248.17
US Activity	1,675	0.55	0.50	0	0	1	1
US Comp EU	1,675	5.62	3.67	0.10	2.22	8.15	17.27

Table 2 shows descriptive statistics for the returns and control variables for different event windows. All values are in percent except for market capitalization, which is measured in Million €, the Beta coefficient and the US Activity variable.

Table 3: Cumulative abnormal returns for different event windows

	1 Day		2 Days		3 Days		1 Week		1 Month	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
US Activity	0.339***	0.339***	0.486***	0.500***	0.627***	0.672***	0.624***	0.633***	0.737**	0.904***
	(0.075)	(0.079)	(0.109)	(0.119)	(0.140)	(0.151)	(0.176)	(0.175)	(0.307)	(0.318)
Market Capitalizazion	0.117***	0.108***	0.107***	0.102***	0.068*	0.058	0.150***	0.148***	-0.199**	-0.232***
	(0.024)	(0.024)	(0.029)	(0.031)	(0.038)	(0.040)	(0.056)	(0.055)	(0.089)	(0.084)
Profitability	0.462	0.501	0.419	0.462	0.394	0.463	-0.449	-0.419	-1.013	-0.825
	(0.346)	(0.354)	(0.315)	(0.324)	(0.387)	(0.396)	(0.646)	(0.652)	(1.065)	(1.072)
Growth	-0.024*	-0.027*	0.020***	0.019***	0.036***	0.034***	0.009	0.001	-0.074***	-0.086***
	(0.014)	(0.015)	(0.005)	(0.006)	(0.011)	(0.013)	(0.008)	(0.011)	(0.027)	(0.020)
Constant	-1.625***	-0.784	-1.311*	-0.977	-0.410	1.004	-1.590	1.536	8.784***	15.660***
	(0.512)	(0.602)	(0.683)	(0.800)	(0.930)	(1.019)	(1.213)	(1.644)	(2.083)	(2.179)
Industry Fixed effects?	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes
Observations	1,675	1,675	1,685	1,685	1,695	1,695	1,691	1,691	1,692	1,692
R^2	0.065	0.079	0.052	0.068	0.047	0.061	0.067	0.091	0.029	0.060

Note: This table shows the regression results of the abnormal returns for different horizons after the event on December 18th, 2017. In all following tables, abnormal returns are in percent. Normal returns are calculated by a market model with the STOXX Global 1800 as the market portfolio. Market capitalization is given by the logarithm of *Shares Outstanding x Share Price*, Profitability equals *Pretax Income/Sales*, and Growth equals the growth rate of Sales. All of these items are obtained from Compustat. Industry fixed effects are computed by using the first letter of the European NACE code. All specifications include country fixed effects. The standard errors clustered at the country-industry level are shown in parentheses. Significance is indicated by $*p<0.1$, $**p<0.05$ and $***p<0.01$.

Table 4: The competition effect

	1 Day		2 Days		3 Days		1 Week		1 Month	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
US Activity	0.362***	0.346***	0.541***	0.527***	0.766***	0.737***	0.749***	0.682***	0.907***	0.920***
	(0.075)	(0.080)	(0.105)	(0.115)	(0.135)	(0.147)	(0.166)	(0.173)	(0.302)	(0.319)
US Comp EU	-1.139	-0.684	-2.695**	-2.773**	-6.781***	-6.789***	-6.096***	-5.017**	-8.411*	-1.781
	(0.862)	(1.030)	(1.178)	(1.341)	(1.385)	(1.647)	(2.188)	(2.428)	(4.490)	(5.682)
Market Capitalizazion	0.115***	0.107***	0.103***	0.101***	0.056	0.056	0.139**	0.147***	-0.214**	-0.233***
	(0.024)	(0.024)	(0.029)	(0.031)	(0.039)	(0.040)	(0.056)	(0.056)	(0.090)	(0.084)
Profitability	0.463	0.494	0.414	0.430	0.396	0.394	-0.438	-0.465	-0.999	-0.841
	(0.343)	(0.349)	(0.313)	(0.318)	(0.372)	(0.380)	(0.638)	(0.643)	(1.053)	(1.072)
Growth	-0.023	-0.027*	0.021***	0.019***	0.038***	0.034***	0.010	0.001	-0.073***	-0.086***
	(0.015)	(0.015)	(0.005)	(0.006)	(0.010)	(0.012)	(0.008)	(0.011)	(0.027)	(0.020)
Constant	-1.536***	-0.769	-1.114	-0.929	0.118	1.141	-1.129	1.633	9.430***	15.692***
	(0.517)	(0.604)	(0.679)	(0.800)	(0.908)	(1.019)	(1.210)	(1.646)	(2.060)	(2.177)
Industry Fixed effects?	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes
Observations	1,675	1,675	1,685	1,685	1,695	1,695	1,691	1,691	1,692	1,692
R^2	0.065	0.079	0.054	0.069	0.056	0.068	0.070	0.092	0.031	0.060

Note: This table shows the regression results of the abnormal returns for different horizons after the event on December 18th, 2017. Normal returns are calculated by a market model with the STOXX Global 1800 as the market portfolio. *US Comp EU* is computed as the ratio of *Employees of U.S.-controlled firms / Total Employees* for all available 2-digit NACE codes. The data on the number of employees are obtained from Eurostat. All specifications include country fixed effects. The standard errors clustered at the country-industry level are shown in parentheses. Significance is indicated by $*p<0.1$, $**p<0.05$ and $***p<0.01$.

Table 5: Alternative ways to compute the normal return

	1 Day	2 Days	3 Days	1 Week	1 Month
	(1)	(2)	(3)	(4)	(5)
Panel A			*Stoxx 1800 ex Europe as Market Portfolio*		
US Activity	0.367***	0.539***	0.733***	0.687***	0.954***
	(0.081)	(0.116)	(0.147)	(0.173)	(0.320)
US Comp EU	-0.581	-2.706**	-6.743***	-4.910**	-1.600
	(1.037)	(1.346)	(1.648)	(2.425)	(5.711)
Panel B			*Fama French Three-Factor Model*		
US Activity	0.338***	0.521***	0.684***	0.650***	0.878***
	(0.080)	(0.114)	(0.140)	(0.169)	(0.325)
US Comp EU	-0.540	-2.918**	-7.343***	-5.142**	-2.896
	(1.058)	(1.358)	(1.662)	(2.552)	(5.699)
Panel C			*Market Adjusted Returns*		
US Activity	0.391***	0.550***	0.711***	0.699***	1.113***
	(0.083)	(0.115)	(0.142)	(0.167)	(0.330)
US Comp EU	-0.501	-2.817**	-7.308***	-5.739**	-2.249
	(1.051)	(1.352)	(1.638)	(2.599)	(6.117)
Panel D			*Normal Return*		
US Activity	0.391***	0.549***	0.707***	0.700***	1.123***
	(0.083)	(0.115)	(0.143)	(0.168)	(0.335)
US Comp EU	-0.501	-2.848**	-7.271***	-5.616**	-2.427
	(1.051)	(1.365)	(1.639)	(2.579)	(6.169)
Industry fixed effects?	Yes	Yes	Yes	Yes	Yes
Observations	1,675	1,685	1,695	1,691	1,692
Panel D: R^2	0.108	0.081	0.065	0.098	0.069
Panel C: R^2	0.108	0.081	0.066	0.098	0.071
Panel B: R^2	0.071	0.065	0.061	0.090	0.065
Panel A: R^2	0.091	0.074	0.067	0.093	0.059

Note: This table shows the regression results of the abnormal returns for different horizons after the event on December 18th, 2017. *Panel A* shows the main results if the STOXX 1800 ex Europe is chosen as the market portfolio. *Panel B* shows the results that correspond to the Fama French three-factor model. The data on the factor values are obtained from Ken French's website. All specifications include country fixed effects and the control variables defined before (*Growth*, *Profitability* and *Market Capitalization*). The standard errors clustered at the country-industry level are shown in parentheses. Significance is indicated by $*p<0.1$, $**p<0.05$ and $***p<0.01$.

Table 6: Alternative competition ratio

	1 Day	2 Days	3 Days	1 Week	1 Month
	(1)	(2)	(3)	(4)	(5)
US Activity	0.344***	0.516***	0.706***	0.659***	0.967***
	(0.079)	(0.118)	(0.151)	(0.174)	(0.320)
US Comp EU	-0.602	-1.606***	-3.346***	-1.785	-4.617*
	(0.553)	(0.615)	(0.853)	(1.474)	(2.706)
Industry fixed effects?	Yes	Yes	Yes	Yes	Yes
Observations	1,670	1,680	1,690	1,686	1,687
R^2	0.079	0.069	0.067	0.092	0.061

Note: This table shows the regression results of the abnormal returns for different horizons after the event on December 18th, 2017. The *US Comp EU* variable is computed by using *Revenue of US-controlled firms / Total Revenue* rather than the number of employees. All specifications include country fixed effects and the control variables defined before (*Growth*, *Profitability* and *Market Capitalization*). The standard errors clustered at the country-industry level are shown in parentheses. Significance is indicated by $*p<0.1$, $**p<0.05$ and $***p<0.01$.

Table 7: Untransformed returns and winsorized returns

	1 Day	2 Days	3 Days	1 Week	1 Month
	(1)	(2)	(3)	(4)	(5)
Panel A:			*No return transformation*		
US Activity	0.403***	0.530***	0.736***	0.704***	0.975*
	(0.104)	(0.164)	(0.172)	(0.199)	(0.516)
US Comp EU	-1.231	-0.994	-4.538**	-6.304**	6.251
	(1.329)	(1.877)	(2.107)	(2.848)	(8.759)
Panel B:			*Winsorized returns*		
US Activity	0.383***	0.547***	0.774***	0.739***	1.040***
	(0.093)	(0.141)	(0.162)	(0.181)	(0.361)
US Comp EU	-0.687	-1.738	-5.082***	-5.878**	3.463
	(1.064)	(1.402)	(1.757)	(2.525)	(7.445)
Industry fixed effects?	Yes	Yes	Yes	Yes	Yes
Observations	1,718	1,718	1,718	1,718	1,717
Panel B: R^2	0.076	0.065	0.068	0.093	0.072
Panel A: R^2	0.065	0.061	0.063	0.088	0.062

Note: This table shows the regression results of the abnormal returns for different horizons after the event on December 18th, 2017. In *Panel A*, the normal returns have not been truncated. In *Panel B*, the returns have been winsorized. All specifications include country fixed effects and the control variables defined before (*Growth*, *Profitability* and *Market Capitalization*). The standard errors clustered at the country-industry level are shown in parentheses. Significance is indicated by $*p<0.1$, $**p<0.05$ and $***p<0.01$.

Table 8: Alternative measures for firm size

	1 Day	2 Days	3 Days	1 Week	1 Month
	(1)	(2)	(3)	(4)	(5)
Panel A:			*Total Assets*		
US Activity	0.380***	0.544***	0.725***	0.716***	0.819***
	(0.081)	(0.114)	(0.140)	(0.164)	(0.310)
US Comp EU	-0.351	-2.341*	-6.436***	-4.484*	-2.380
	(1.022)	(1.317)	(1.614)	(2.365)	(5.676)
Total Assets	0.085***	0.097***	0.081**	0.129**	-0.153*
	(0.022)	(0.026)	(0.033)	(0.050)	(0.083)
Panel B:			*Sales*		
US Activity	0.381***	0.545***	0.720***	0.718***	0.768**
	(0.080)	(0.112)	(0.138)	(0.163)	(0.313)
US Comp EU	-0.028	-1.949	-6.045***	-3.985*	-2.508
	(1.035)	(1.301)	(1.619)	(2.326)	(5.640)
Sales	0.093***	0.107***	0.098***	0.144***	-0.103
	(0.022)	(0.030)	(0.034)	(0.052)	(0.083)
Industry fixed effects?	Yes	Yes	Yes	Yes	Yes
Panel B: Observations	1,674	1,684	1,694	1,690	1,691
Panel A: Observations	1,675	1,685	1,695	1,691	1,692
Panel B: R^2	0.077	0.071	0.071	0.093	0.057
Panel A: R^2	0.075	0.070	0.070	0.092	0.058

Note: This table shows the regression results of the abnormal returns for different horizons after the event on December 18th, 2017. In *Panel A*, we control for firm size by using the logarithm of *Total Assets*, and in *Panel B*, we use the logarithm of *Sales*. All specifications include country fixed effects and the control variables defined before (*Growth* and *Profitability*). The standard errors clustered at the country-industry level are shown in parentheses. Significance is indicated by $*p<0.1$, $**p<0.05$ and $***p<0.01$.

Table 9: Cross-correlation and event induced volatility

Window-length		1 Day	2 Days	3 Days	1 Week	1 Month
Panel A: Two-way sample split						
US-Active	CAAR (%)	0.657*	0.859*	0.945*	1.167*	2.618**
	P Value	0.059	0.058	0.072	0.077	0.035
Not US-Active	CAAR (%)	0.216	0.250	0.221	0.297	2.036*
	P Value	0.394	0.389	0.477	0.532	0.085
Panel B: Four-way sample split						
US-Active and Low Comp	CAAR (%)	0.813**	1.053**	1.337**	1.582**	3.174**
	P Value	0.023	0.031	0.026	0.030	0.013
US-Active and High Comp	CAAR (%)	0.550	0.729	0.681	0.890	2.247*
	P Value	0.118	0.103	0.155	0.157	0.079
Not US-Active and Low Comp	CAAR (%)	0.258	0.313	0.365	0.472	2.036
	P Value	0.294	0.311	0.305	0.361	0.071
Not US-Active and High Comp	CAAR (%)	0.137	0.132	-0.048	-0.036	2.036
	P Value	0.701	0.668	0.986	0.977	0.190

Note: This table shows the mean CAR for the different sub-samples and the p-value regarding the null hypothesis of zero returns based on the adjusted BMP statistic proposed by Kolari and Pynnönen (2010). For *Panel A* we split our sample into the firms which are active in the United States and the firm that are not using our *US Activity* variable. In *Panel B*, we additionally split our sample into the firms that have an above or below competition ratio *US comp EU*. The test statics are computed using the user written Stata program *Eventstudy2* proposed by Kaspereit (2018).

Table 10: Other dates of the legislative process

	House bill introduced:		House bill passed:	Senate bill passed:
	Nov 2nd	Nov 3rd	Nov 17th	Dec 4th
	(1)	(2)	(3)	(4)
US Activity	-0.113	0.064	0.019	0.004
	(0.092)	(0.078)	(0.065)	(0.088)
US Comp EU	-2.115*	1.272	0.281	-3.181**
	(1.220)	(1.281)	(1.389)	(1.480)
Industry Fixed effects?	Yes	Yes	Yes	Yes
Observations	1,684	1,690	1,684	1,678
R^2	0.068	0.051	0.053	0.085

Note: This table shows the regression results of the abnormal returns for different horizons following other important dates in the legislative process. All specifications include country fixed effects and the control variables defined before (*Growth*, *Profitability* and *Market Capitalization*). The standard errors clustered at the country-industry level are shown in parentheses. Significance is indicated by $*p<0.1$, $**p<0.05$ and $***p<0.01$.