Impact of Controlled Foreign Corporation Rules on Post-acquisition Investment and Profit Shifting in Targets

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Abstract: We investigate real investment, financial revenues and profits in formerly domestic firms once they enter a multinational entity (MNE) through an acquisition. We argue that following the acquisition, those targets are tax-optimized in a profit shifting context if they are acquired by MNEs with no controlled foreign corporation (CFC) rules in their headquarters' countries. In this case, we hypothesize that MNE-wide profit shifting opportunities decrease high-tax targets' cost of capital, which may have a positive effect on real investment of these targets. In addition, we hypothesize that financial revenues respectively profits of low-tax targets increase after the acquisition, since they may become destinations of profit shifting themselves. In line with the effects on real investment, profits of high-tax targets should decline. We find evidence for the effects on real investment. Further, these effects can no longer be observed in case of existing CFC rules in the acquirer's headquarters' country. This finding may suggest that CFC rules effectively mitigate MNE-wide profit shifting which in turn has detrimental investment effects. We also find some evidence for the expected effects for financial revenues but not for the profit measure.

Keywords: International taxation • CFC rules • Profit shifting • Multinational entities • Cross-border mergers and acquisitions • Foreign direct investment

JEL Classification: F23 • G34 • H25 • H26 • H32 • H73

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1.   Introduction and motivation

We investigate investment and profit shifting in firms after they have been acquired by a foreign firm. Such cross-border acquisitions are an important form of FDI as in 2016, 52% of global foreign direct investment (FDI), i.e., about 828 billion USD, were conducted via such acquisitions, respectively mergers (M&As)[1] (UNCTAD (2017)). Further, cross-border acquisitions comprise several advantages for the acquirer and target such as tax avoidance opportunities (e.g., Belz et al. (2016)). In particular, if a formerly domestic target in a high-tax country becomes part of a multinational entity (MNE), this target may shift profits to low-tax affiliates within the MNE after the acquisition.[2] Thereby, the tax burden for economic activity of this high-tax target and, consequently, its cost of capital decreases, which may enhance investment incentives in this target.[3] On the other hand, a target in a low-tax country could serve as a recipient of shifted profits. Hence, by acquiring such a low-tax target, the MNE may gain enhanced profit shifting opportunities.

However, countries try to prevent profit shifting by anti tax avoidance measures. One such measure are controlled foreign corporation (CFC) rules, which are implemented in several countries worldwide. These rules lead to an immediate taxation of low-tax subsidiaries' profits in the MNE's headquarters' country. Consequently, profit shifting opportunities of an MNE with its headquarters in a country with effective CFC rules (in the following referred to as "CFC rule MNE") are substantially reduced compared to an MNE with no CFC rules in its headquarters' country (in the following referred to as "non-CFC rule MNE"). Those theoretical considerations serve as the starting point of our analysis: We investigate whether investment increases if a formerly domestic target from a high-tax country enters an MNE, which could be the consequence of the lowered cost of capital. Correspondingly, as mentioned above, targets in countries with especially low tax rates may become destinations for profit shifting. Therefore, we analyze whether profits decline with an increasing tax rate. Finally, we investigate whether the

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[1] In case of an M&A, two firms either join in one firm (merger) or one firm is acquired by another firm (acquisition), i.e., it becomes a subsidiary of the acquirer. There is no balance sheet information given on merged firms because they become part of other firms. Hence, we can only observe investment in acquired firms.

[2] Formerly domestic targets are defined as firms that are stand-alone firms or that belong to a group of firms that are all from the same country before the acquisition.

[3] Cost of capital is the minimum pre-tax rate of return on an investment required by the investor (Devereux and Griffith (1998)). For a detailed explanation of this argumentation, see Section 2.1.

presence of CFC rules (which are targeted against such profit shifting) in an acquiring MNE has an effect on those potential outcomes.

We base our analysis on a cross-border acquisition sample from Bureau van Dijk's Zephyr and Amadeus databases. We look at real investment of targets by analyzing the development of property, plant and equipment (PPE) following the acquisition. Profit shifting is investigated via financial revenues and earnings before taxes (EBT) per PPE. We consider acquisitions in the period from 2008 to 2013.

We contribute to existing research on the effect of profit shifting and CFC rules on investment (e.g., Ruf and Weichenrieder (2012) or Egger and Wamser (2015)) particularly by considering the whole picture of profit shifting in one sample: the effect of tax rates on the distribution of profits within an MNE and the effect of those profit shifting opportunities on real investment (see Section 2.2 for a detailed discussion).

Our results show that high-tax targets acquired by non-CFC rule MNEs increase their investment in PPE after the acquisition. We explain this result by MNE-wide profit shifting opportunities that decrease the high-tax targets' cost of capital relatively more than low-tax targets' cost of capital. Regarding acquisitions of CFC rule MNEs, in line with our assumptions, we do not find a significant effect due to a lack of profit shifting opportunities. Correspondingly, we find an increase in financial revenues in low-tax targets, which supports the assumption of financial profits being shifted to low-tax subsidiaries within the MNE (though we find this effect only for the overall sample and not for non-CFC rule MNEs in particular). Finally, this effect cannot be observed for our second measure of profit shifting, EBT per PPE.

The remainder of this paper proceeds as follows. Section 2 provides a brief review of the literature and develops our hypotheses, followed by information on our data in Section 3. Section 4 presents our empirical approach. Graphical analyses, regression results and extensions are discussed in Section 5. Finally, Section 6 sets forth our conclusions.

2. Literature review and hypotheses development

2.1. Literature review on profit shifting and CFC rules

A vast amount of empirical research finds evidence that MNEs engage in tax-motivated profit shifting (e.g., Huizinga and Laeven (2008); Weichenrieder (2009); Grubert (2012); Dharmapala and Riedel (2013)). The basic idea is that profits generated in high-tax subsidiaries are shifted to low-tax subsidiaries to avoid taxation in high-tax countries. One common profit shifting strategy is locating debt in high-tax subsidiaries (e.g., Newberry and Dhaliwal (2001); Desai et al. (2004); Huizinga et al. (2008); Buettner and Wamser (2013); Miniaci et al. (2014)), which leads to interest expenses in those subsidiaries and corresponding interest income in low-tax subsidiaries. Another profit shifting strategy is setting transfer prices for intragroup transactions in a way that high-tax subsidiaries have to pay high prices to low-tax subsidiaries. This is particularly conducted by locating intellectual property (IP) in low-tax countries or countries with favorable IP tax treatment (e.g., Dischinger and Riedel (2011); Karkinsky and Riedel (2012); Griffith et al. (2014)). That way, high-tax subsidiaries pay royalties for using the IP leading again to expenses in high-tax subsidiaries and income in low-tax subsidiaries.[4] Taken together, these strategies reduce taxable income in high-tax subsidiaries and, consequently, reduce the MNE's overall tax burden. Although Heckemeyer and Overesch (2017) find that transfer pricing respectively profit shifting via royalties seems to be the dominant profit shifting channel; yet, in general, both profit shifting channels are relevant.

The focus of this paper will be on profit shifting after acquisitions in cases where a formerly domestic target is acquired by a non-CFC rule MNE. Hence, the target, which could not shift profits before, enters an MNE, which could generally engage in group-wide profit shifting. Consequently, in the years following the acquisition, the target may be tax-optimized in a profit shifting context. Belz et al. (2016) have already provided general evidence for this reasoning by showing that formerly domestic targets experience a decrease in their effective tax rates by up to 8% following an acquisition by an MNE.

In addition to profit shifting, we are also interested in the change of investment after acquisitions. We expect that the investment effect is a consequence of profit shifting: a decrease in the

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[4] In addition, these royalty payments can be manipulated in a tax-optimal way with relative ease since objective market prices usually do not exist for those IP transfer prices.

effective tax rate also affects the target's cost of capital. The cost of capital denotes the minimum pre-tax rate of return of an investment required by the investor (Devereux and Griffith (1998)). The cost of capital increases with an increasing tax burden of the real investment relative to the alternative (i.e., capital market) investment available to the investor. Therefore, once a target enters a non-CFC rule MNE, its cost of capital may decrease since its (effective) tax burden may decrease due to the above-mentioned profit shifting opportunities. This reasoning is supported by theoretical work of Desai et al. (2006) who show that MNEs with investments in tax havens have lower cost of capital in non-tax havens. Consequently, as Dharmapala (2008) points out, the existence of tax havens can lead to an increase in investment in non-tax havens. Empirical evidence for this reasoning is provided by Overesch (2009). He shows for high-tax German subsidiaries that real investment in these subsidiaries increases with a rising tax rate differential between the German subsidiary and the direct owner's home country. He argues that this is due to profit shifting out of Germany to the direct owner's country, which decreases the subsidiary's cost of capital.

A large number of countries have implemented CFC rules that target against MNE-wide profit shifting strategies. These rules lead to an immediate taxation of low-tax subsidiary's profits in the MNE's headquarters' country. Thereby, the typical profit shifting strategies as described above become generally ineffective within CFC rule MNEs, which may also affect the above mentioned investment effects. For CFC rules to be applicable, certain requirements have to be fulfilled, which depend on the set up of those rules in the respective countries. Common requirements are ownership (for the German CFC rules, e.g., the German parent has to hold more than 50% of the shares or voting rights in the foreign subsidiary), the profits have to be passive income (e.g., income from financial portfolio investment or loans to affiliated firms) and the tax rate in the country has to be low (e.g., less than 25%). Variations in the design of CFC rules are, e.g., the inclusion of also active income or the general applicability of CFC rules except for some countries ('Whitelist').

Some empirical studies have already considered the effect of CFC rules on profit shifting behavior of MNEs. Altshuler and Hubbard (2003) investigate US CFC rules that were tightened in the Tax Reform Act 1986. They find that after 1986 US investment in financial service subsidiaries was no longer responsive to differences in host country tax rates with other subsidiaries. In other words, tax planning opportunities with profit shifting vehicles in low-tax countries

were substantially reduced. In 1997, however, the US introduced the so-called check-the-box regulation, which may allow for an escape from CFC rules for US MNEs. Indeed, several studies (e.g., Altshuler and Grubert (2006); Mutti and Grubert (2009)) show that US CFC rules became largely ineffective in combatting profit shifting of US MNEs after 1997. Ruf and Weichenrieder (2012) investigate German CFC rules and find that these rules effectively reduce passive investment, i.e., financial portfolio investment and loans to affiliated firms, in low-tax countries. In a subsequent study, Ruf and Weichenrieder (2013) investigate the effects of the Cadbury-Schweppes ruling of the European Court of Justice in 2006 on passive investment of German MNEs. The ruling triggered a mitigation of the application of CFC rules within the European Economic Area (EEA). The authors find evidence for a relative increase in passive investment in low-tax EEA subsidiaries and a parallel decrease in passive investment in non-EEA subsidiaries. Holzmann (2014) finds that profit shifting by placing debt in high-tax countries increases in the absence of binding CFC rules (after the Cadbury-Schweppes ruling). Overall, these studies provide evidence that the presence of CFC rules reduces profit shifting opportunities of MNEs. Belz (2015) finds that CFC rules may be an appropriate instrument to eliminate shifting real economic activity to low-tax countries if they cover also active income, i.e., such real economic activity. In particular, he analyzes investment in total assets and the number of employees following acquisitions of formerly domestic targets by MNEs and finds significant effects for total assets and employee number. Finally, Egger and Wamser (2015) show that German MNEs, whose subsidiaries are subject to CFC rules, have significantly lower fixed assets than subsidiaries who are not subject to CFC rules. They conclude that binding CFC rules lead to a sharp increase in cost of capital.

2.2. Research question, contribution and hypotheses development

We address the questions whether real investment in firms increases due to profit shifting opportunities, whether financial revenues respectively profits of low-tax targets increase, given that they potentially become destinations of profit shifting themselves and whether CFC rules are effective in avoiding such profit shifting. We focus on targets that were domestic before the acquisition, i.e., we consider only targets that were not tax-optimized in a profit shifting context before the acquisition. We consider real investment (measured by PPE) and different measures of profit shifting (financial revenues and EBT per PPE) in our analyses. When considering PPE, we indirectly also measure potential profit shifting, since we identify the part of the change of

PPE, that is attributable to such shifting. In case of the two other dependent variables, we presumably directly observe profit shifting (to targets in low-tax countries).

We contribute to research in two ways: First, we contribute to previous literature through the consideration of different dependent variables in one sample, which helps to show the whole picture of profit shifting within one sample. Since we assume profit shifting opportunities for high-tax targets which enter a non-CFC rule MNE, real investment in those firms should increase. Correspondingly, tax rates should affect whether profits are shifted to other targets, which we investigate in the regressions with financial revenues and EBT per PPE as dependent variables. If we are able to confirm those two effects, we can be more certain that generally profit shifting is indeed conducted after such acquisitions. Second, by generally analyzing the effect of the presence or non-presence of CFC rules at the MNEs' headquarters' level on target investment following a cross-border acquisition, we contribute to the understanding of tax effects on this specific FDI form.

Based on this previous literature and the focus of the paper, we will now formulate hypotheses in the following subsections. We differentiate between two cases: First, we consider targets of non-CFC rule MNEs. Second, we consider targets of CFC rule MNEs.

2.2.1. Case 1: Target enters a non-CFC rule MNE

As mentioned above, in one of our two settings, we consider the case where a formerly domestic target is acquired by a non-CFC rule MNE. This has the effect that the target can generally engage in group-wide profit shifting lowering its cost of capital. Consequently, its lower cost of capital should positively influence real investment.[5] We expect the increase in real investment to be more pronounced with an increasing statutory corporate tax rate of the target. The reasoning is as follows: If the target resides in a low-tax country, its cost of capital is already quite low, i.e., more real investment projects have already been conducted in the pre-acquisition period compared to a high-tax target with relatively high cost of capital. We, therefore, hypothesize the following, stated in alternative form:

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[5] One limitation is that sellers may be aware of this advantage of the buyers and hence demand higher acquisition prices. This additional spending might reduce the funding for investment and hence counteract the effect. But we still expect investment effects since, particularly due to limited information, it is unlikely that the sellers may set the prices in a way to fully account for those advantages of the buyers. Further, the influence of the sellers on the acquisition price depends on their bargaining power.

H1: With an increasing statutory corporate tax rate of a formerly domestic target, real investment of the target increases following an acquisition by an MNE with no CFC rules in its headquarters' residence country.

Referring to the profit shifting strategies outlined in Section 2.1, we expect that financial revenues of a formerly domestic target in a low-tax country will increase once this target enters an MNE, which can generally engage in group-wide profit shifting. The idea is that financial revenues are shifted from high-tax affiliates to the low-tax target. We, therefore, hypothesize the following, stated in alternative form:

H2: With a decreasing statutory corporate tax rate of a formerly domestic target, financial revenues of the target increase following an acquisition by an MNE with no CFC rules in its headquarters' residence country.

As mentioned above, another measure of profit shifting is EBT per PPE. Here the effect may be driven by high-tax as well as low-tax targets: For high-tax targets, due to increasing investment if profit shifting occurs, the denominator is expected to increase while the numerator is supposed to decrease due to reduced profits (see Hypothesis 1). In low tax targets, which become destinations of profit shifting, this measure should increase (see Hypothesis 2). Hence EBT per PPE should generally decline with the tax rate and we conclude our next hypothesis, stated in alternative form:

H3: With an increasing statutory corporate tax rate of a formerly domestic target, EBT per PPE of the target decreases following an acquisition by an MNE with no CFC rules in its headquarters' residence country.

2.2.2. Case 2: Target enters a CFC rule MNE

In case a formerly domestic target is acquired by a CFC rule MNE, the target enters an MNE, which cannot engage in group-wide profit shifting. We do not expect to observe the above described positive effect of acquisitions on high-tax target real investment as the target's cost of capital remains unchanged due to the lack of profit shifting opportunities in this case. We, therefore, hypothesize the following:

H4a: Real investment of a formerly domestic target does not increase with the statutory corporate tax rate following an acquisition by an MNE with CFC rules in its headquarters' residence country.

Moreover, as the profit shifting strategies outlined in Section 2.1 are not achievable within such an MNE, real investment profit shifting may be used to circumvent these limitations. In particular, if the MNE's CFC rules include only passive income (as denoted above this includes financial portfolio investment as well as loans to affiliated firms), the MNE might be eager to conduct real investment in low-tax targets because the generated active income resulting from this investment is taxed at low statutory corporate tax rates. This is reflected by the following hypothesis, stated in alternative form:

H4b: With a decreasing statutory corporate tax rate of a formerly domestic target, real investment of the target increases following an acquisition by an MNE with CFC rules that only include passive income.

Finally, we again consider two measures of profit shifting: financial revenues and EBT per PPE. We expect that the effect of the target statutory corporate tax rate on those measures of a formerly domestic target does not change, when it enters an MNE, which cannot engage in group-wide profit shifting. That is due to the lack of opportunities to shift profits into low-tax targets or out of high-tax targets within the MNE. Hence, we state our fifth hypothesis:

H5: Financial revenues of a formerly domestic target do not decrease with the statutory corporate tax rate following an acquisition by an MNE with CFC rules in its headquarters' residence country.

Accordingly, we also expect no effect of the tax rate on EBT per PPE:

H6: EBT per PPE of a formerly domestic target does not decrease with the statutory corporate tax rate following an acquisition by an MNE with CFC rules in its headquarters' residence country.

There are also other regulations targeted against profit shifting, such as thin capitalization or earnings stripping rules and transfer pricing documentation rules. Because of those rules, even in the absence of CFC rules profit shifting may not be possible. Therefore, we account for those rules in the extensions part.

3. Data

We investigate the above-mentioned hypotheses with an empirical analysis. Our data is taken from the Zephyr database (Bureau van Dijk), which contains worldwide acquisition transactions and provides information on the countries of the direct acquirer and target as well as acquired shares of the target. We select all completed acquisitions through which more than 100% of the target shares were acquired (ensuring that the MNE has enough influence on the firm to conduct profit shifting) and which took place in the period 2008 to 2013 (2008 to 2012 in case of EBT per PPE). Before 2008 we do not have information on GUOs, so we cannot investigate the effects of CFC rules.

To answer our research question on the effect of CFC rules on target investment following acquisitions, we have to merge target financial data, which are not provided in the Zephyr database. Therefore, we merge PPE, financial revenues and EBT from the Amadeus database (Bureau van Dijk) using Bureau van Dijk identification numbers that link Zephyr with Amadeus. For our regression analysis, we require at least one observation before and after the acquisition per target firm. We do not consider the acquisition year since the exact acquisition dates vary within the acquisition years between the acquisitions. Further, we exclude targets from the financial services sector due to special regulations on their balance sheet structure, which may bias our results. In addition, we consider only targets with unconsolidated financial data since we are interested in the investment effects only at the target-level. Finally, we exclude targets that have an accumulated loss over our considered period. Further, we exclude observations which have an extraordinarily small or large EBT per PPE, i.e., we drop observations with an EBT per PPE within the 1%-percentile or above the 99%-percentile. Information on those target financial data – which we consider before and after the acquisitions – are given for the years 2004 to 2014 (for 2004 to 2013 in case of EBT per PPE).

Further, we need to ensure that the target was a domestic one before the acquisition and becomes part of an MNE through the acquisition. To address this data set requirement, we use ownership data of the target and direct acquirer provided by Amadeus in the following way: For the target, we merge its global ultimate owner (GUO) before the acquisition. We keep the acquisition in our data set if the target GUO has only domestic subsidiaries. If the target is the GUO itself or a stand-alone firm, we follow the same logic. Also for the direct acquirer, we merge its GUO before the acquisition. We keep the acquisition in our data set if the acquirer

GUO is from another country than the target or has non-domestic subsidiaries (besides possible domestic subsidiaries). This is necessary so that the GUO or affiliates are in other countries. Only then, profits may be shifted. If the direct acquirer is the GUO itself, we follow the same logic.

To investigate the effect of acquirer GUO CFC rules on target investment following acquisitions, we collect data on whether the acquirer GUO's residence country applies CFC rules or not and – in case of binding CFC rules – whether only passive or passive and active income is taxed in the acquirer GUO's residence country. We split our final sample into two parts for our regression analysis (see Section 4). In the first part, we analyze target investment, financial revenues and profits following the acquisition if the acquirer GUO resides in a non-CFC rule country (Hypotheses 1, 2 and 3). In the second part, we analyze those measures if the acquirer GUO resides in a CFC rule country (Hypotheses 4a, 4b, 5 and 6).[6]

Due to quite demanding data set requirements – financial and/or GUO data are often missing – our final sample consists of 1,505 observations (213 acquisitions) in case of PPE as the dependent variable. For financial revenues respectively EBT per PPE the sample reduces to 731 respectively 515 observations. In about two thirds of the cases, the acquirer GUO comes from a CFC rule country. The number of observations before and after an acquisition varies across firms. Though for a considerable number of firms (at least 50) we have observations for 6 years before and 4 years after an acquisition (5 years before and 3 years after for financial revenues and 3 years before and 2 years after for EBT per PPE).

Table 1 shows the origins of the acquirer GUOs and targets in our sample and information on CFC rules and tax rates. For each country, the number of GUOs and targets, which appear in our sample and are located in the respective country, are listed. Australia, e.g., is the host country of 10 GUOs but no firms in Australia have been acquired. Note that, besides for very few exceptions, we do not observe targets outside Europe. Zephyr is global in coverage, whereas Amadeus, besides the exceptions, only contains financial data for European firms. In line with di Giovanni (2005), we observe that countries with the largest financial markets (USA and United Kingdom) have most acquirer GUOs in our acquisition sample. For all those countries,

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[6] Note that, in our sample, CFC rules either do exist or do not exist for each acquirer's headquarters' country throughout the whole considered period. We therefore exclude acquisitions with an acquirer GUO from China as China introduced CFC rules in 2008 and, hence, cannot be grouped into the CFC or non-CFC rule country sample in our period.

where we observe targets, it is reasonable to expect real investment effects as outlined in Section 2.2 because those countries are presumably sufficiently large economies to perform real activity. This also includes the low-tax countries (identified here as countries with a tax rate smaller than the median of 28%), which are Ireland, the United Kingdom and several Eastern European countries.[7]

Table 1 shows also that almost all developed countries (if, e.g., OECD membership is considered as a criterion for development) have CFC rules. Certain countries are exemptions, i.e., developed countries without CFC rules, namely Austria, Belgium, the Czech Republic, Ireland, Netherlands, Poland and Switzerland. The USA have CFC rules, but, as mentioned before, those have de facto become ineffective through the so-called check-the-box regulation, so we do not consider the USA as a country with CFC rules. Since those countries (at least de facto) have no CFC rules, we can be confident, that it is not the difference between developed and other countries that actually determines the effect which we assign to CFC rules. As mentioned above, the Cadbury-Schweppes ruling triggered a mitigation of the application of CFC rules within the European Economic Area (EEA). The rules may even be considered to be ineffective since the requirements for their non-applicability have become relatively low. However, the minimum achievable tax rate is only the lowest one within the EEA. Hence, shifting profits to a country with a smaller tax rate is still not possible and the EEA-countries are considered as CFC-rule countries also after the ruling. If we would still see an increase of real investment in high-tax countries for targets of CFC-rule MNEs, we could adapt this classification of EEA countries. However, our results (as described in Section 5) show that this is not the case.

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[7] Note that given the different availability of observations and tax rate changes over time the differentiation between high and low-tax countries may differ for the different dependent variables. However, this is never the case.

Table 1: Origins of acquirer GUO and target firms.

Country	Number of deals with acquirer GUO residing in the country	Number of targets	Existence of CFC rules in acquirer GUO country (yes/no)	50%-percentile of tax rate (yes/no)
Australia	10	0	1	0
Austria	1	4	0	N/A
Belgium	3	9	0	0
Bermuda	4	0	0	N/A
Canada	4	0	1	N/A
Cayman Islands	1	0	0	N/A
Croatia	0	1	N/A	1
Czech Republic	1	6	0	N/A
Denmark	1	1	1	N/A
Estonia	1	4	1	1
Finland	6	9	1	N/A
France	6	17	1	0
Germany	13	26	1	0
Greece	0	2	N/A	N/A
Hungary	0	1	N/A	1
India	6	0	0	N/A
Ireland	4	2	0	1
Israel	5	0	1	N/A
Italy	5	10	1	0
Japan	2	0	1	N/A
Latvia	0	2	N/A	1
Lithuania	3	1	1	1
Malaysia	1	0	0	N/A
Malta	1	0	0	N/A
Netherlands	9	10	0	N/A
New Zealand	1	0	1	N/A
Norway	4	7	1	N/A
Panama	1	0	0	N/A
Poland	2	3	0	1
Portugal	1	2	1	N/A
Romania	0	2	N/A	1
Russian Federation	4	6	0	1
Slovak Republic	0	1	N/A	1
Spain	7	5	1	0
Sweden	11	2	1	N/A
Switzerland	2	0	0	N/A
Taiwan, China	1	0	0	N/A
Ukraine	0	1	N/A	1
United Kingdom	42	79	1	1
USA	50	0	0	0
Total	**213**	**213**		

4.   Empirical approach

We analyze investment in targets after acquisitions using the following panel regression:

$$Y_{i,t} = \beta_0 + \beta_1 * postMAyear_{i,t} + \beta_2 * TarSTR_{i,t} + \beta_3 * postMAyear_{i,t} * TarSTR_{i,t}$$

$$+\beta_4 * X_{i,t} + \alpha_i + \theta_t + \varepsilon_{i,t}, \tag{1}$$

where $Y_{i,t}$ is the dependent variable that measures either the natural logarithm of PPE (lnTarPPE), the natural logarithm of financial revenues (lnTarFinRevenue) or EBT per PPE (TarEBTperPPE) for target i in year t. $postMAyear_{i,t}$ takes the value one for years following the acquisition and $TarSTR_{i,t}$ measures the target's statutory corporate tax rate.[8]

β_1 measures the effect of synergy gains achieved through the acquisition at target level. We have no expectation on the sign of the coefficient of β_1 because a priori the effect of synergy gains is ambiguous. On the one hand, the acquisition may lead to an increase in target invest-ment, e.g., because the target avails of a certain technology, which is new for the MNE and is expanded at target level (or the MNE avails of such a technology which can now be used also within the target). On the other hand, the acquisition may lead to target divestment, e.g., because some target functions are already performed elsewhere within the MNE, i.e., rationalization takes place at target-level.[9] Financial revenues are not expected to be affected by such synergy gains, because those gains presumably rather affect real production or services in general. Prof-its may increase (if the MNE avails of a better technology or target functions are shifted to affiliates while output stays constant), decrease (if new functions are shifted from affiliates to the target while output stays constant) or stay constant (if none of this happens).

β_2 measures the *general effect* of the target's statutory corporate tax rate on the dependent var-iables. We expect a negative coefficient for β_2 for all dependent variables. In case of PPE, the tax rate has a positive effect on the cost of capital and, consequently, fewer investments are undertaken. Note that the assumption on the tax rate only holds before the acquisition when the target is a domestic firm. Regarding the other dependent variables, they should be negatively

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[8] One limitation is that whenever we consider financial revenues, we presumably only observe profit shifting via debt. Income from IP would rather fall under operational income since in many cases licensing of such IP is probably the main operation of the respective firm.

[9] For a similar argumentation of the effects of acquisitions on target employment and output, see Conyon et al. (2002) and Gugler and Yurtoglu (2004).

affected by the tax rate because firms are expected to locate financial revenues and profits in low-tax countries.

After the acquisition, i.e., if $postMAyear_{i,t} = 1$, we have to distinguish whether the MNEs' headquarters reside in a country with CFC rules or not. This is carried out by running separate regressions (sample split) for the two cases.

β_3 measures the *post-acquisition effect* of the target's statutory corporate tax rate on investment. We expect a positive sign of this coefficient in the regression with PPE as the dependent variable in case a target is acquired by a non-CFC rule MNE. This effect is due to profit shifting opportunities, which may decrease the cost of capital after the acquisition of high-tax targets in particular (Hypothesis 1). Low-tax targets may, however, become destinations of profit shifting themselves. In line with this reasoning, we expect a negative sign for β_3 in the regressions with financial revenues and EBT per PPE as dependent variables (Hypotheses 2 and 3). Furthermore, the effect for EBT should not just be a consequence of this profit shifting opportunities to low-tax targets, but – as mentioned in Hypothesis 1 – also follow from the shifting of profits out of high-tax targets.

If a target is acquired by a CFC rule MNE, we generally expect no effect on PPE after the acquisition since the typical profit shifting strategies outlined in Section 2.1 are ineffective. Accordingly, β_3 is expected to be zero for these dependent variables (Hypothesis 4a). In case the CFC rule only includes passive income, we expect a negative sign for β_3 in the regression with PPE as dependent variable since we assume higher real investment in low-tax countries after the acquisition. We argue that decreasing the MNE's tax burden may only be achieved via real investment profit shifting (Hypothesis 4b). For financial revenues and EBT per PPE, β_3 is again expected to be zero (Hypotheses 5 and 6).

It is important for understanding our estimation setting, that for PPE it is irrelevant whether the target falls under CFC rules because we consider profit shifting opportunities to affiliates. We do not account for whether the CFC rules actually apply to the affiliates, since it is difficult to observe the full group structure in the data set. However, since – as we will see later – we find that the suspected profit shifting effect can no longer be observed in case of CFC rules, we can assume that they are binding for the affiliates of at least some MNEs. For financial revenues and EBT per PPE, which are assumed to increase if the targets become destinations for profit

shifting opportunities, it is however relevant, whether the CFC rules apply. If we would observe potential profit shifting for CFC rule MNEs, we maybe should try to exclude those targets where the CFC rules actually do not apply. For the remaining ones, i.e., those were the rules apply, we definitely should see no effect. However, since we presumably do not observe profit shifting for CFC rule MNEs, we abstain from this extended analysis in this paper. Further, one may also argue, that it is relevant to consider also CFC rules of intermediate subsidiaries in third countries. However, we assume that if there are CFC rules in such subsidiaries, there should also be CFC rules in the headquarters' country, since it is not likely that MNEs worsen their profit shifting opportunities by interposing an intermediate subsidiary with CFC rules if there are no such rules in the headquarters' country.

In addition to our variables of interest, we include a vector of target firm and country control variables $X_{i,t}$. Whereas some control variables are used only for some of the dependent variables, others are used for all. Our selection of control variables is largely oriented on previous literature measuring effects of taxes on investment (e.g., Overesch (2009), Ruf and Weichenrieder (2012)) and profits (Weichenrieder (2009)). At the target-level, we control for losses in the previous period that could have a negative effect on investment decisions and profits in the following period. In case of PPE and EBT per PPE as dependent variables, we also control for the target's non-PPE assets, i.e., all balance sheet items other than PPE. We expect a positive effect of non-PPE assets because an increase in other assets, such as liquid assets may have a positive effect on investment in PPE. This may lead to more economic activity in the target which should also increase EBT (in large firms, economies of scale may lead to a higher profitability). On the contrary, for financial revenues, we use PPE as another explanatory variable. For this variable, we expect a positive effect because financial revenues are obtained from liquid assets (bonds and financial portfolio investment), which larger firms presumably tend to hold in higher quantities (Ruf and Weichenrieder (2012)). At the country level, we control for macroeconomic conditions, including GDP, GDP per capita, GDP growth and a corruption index. In the regressions with financial revenues as the dependent variable, we also control for inflation as a measure for local lending conditions. If the lending conditions in the country are relatively good (i.e., the inflation is high), debt may be taken there and forwarded via internal lending to affiliates with adverse local lending conditions. This should increase the financial revenues of the subsidiary.

Further, we include target firm fixed effects α_i and year fixed effects θ_t. Firm fixed effects control for unobserved target-specific factors that could have effects on the dependent variables, i.e., target-specific heterogeneity materializing in changes of the dependent variable. Year fixed effects control for unobserved time trends, such as business cycles, which may influence the dependent variable. β_0 is the intercept and $\varepsilon_{i,t}$ is the residual. Table 2 provides variable definitions, data sources and summary statistics of all variables.

It is possible that the observed targets within the different countries are not independently and identically distributed and so the standard errors are clustered. This could lead to biased standard errors, especially since our variable of interest ($TarSTR_{i,t}$) is a variable at the country level (Cameron and Trivedi (2009)). To account for this issue, we use cluster-robust standard errors on the target country level.[10] However, as mentioned in the previous section, our data set is restricted to only 26 target countries (21 countries in case of financial revenues and 23 countries in case of EBT per PPE). Since with few clusters (five to thirty) cluster-robust standard errors are downward biased and the H0-Hypothesis of no effect is rejected too often, bootstrapping has to be applied (Cameron et al. (2008)). We follow Greene (2012) and apply 1,000 bootstrap replications.[11]

There are two major limitations to our identification strategy: First, we are careful in stating the exact mechanism behind the discussed effects. It could be that already the acquisition decision is determined by CFC rules. Regarding PPE for example, out of the group of MNEs, which want to invest, it may only be the ones with no CFC rules, which acquire targets in high-tax countries to invest there because only they can do profit shifting and hence conduct investment which is profitable after taxes. So we can think of two possible channels. Either targets are acquired independently of CFC rules and then CFC rules affect investment and profit shifting or CFC rules already affect the acquisition decision. In any of the two cases, we however end up with our hypotheses. Further analyses could apply an instrumental variable approach to identify other drivers of acquisitions, which would allow to precisely measure the first channel. However, it is difficult to find instruments, which are independent of CFC rules. One instrument may be cash holdings of the acquirer. However, those cash holdings may also depend on CFC rules, since firms with no CFC rules have the possibility to accumulate substantial amounts of

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[10] For more details on cluster-robust standard errors, see Cameron and Miller (2015).
[11] For more details on bootstrapping, see Cameron et al. (2008). Our robustness analysis shows that applying robust standard errors does not change the level of statistical significance of our coefficients.

cash in tax havens. Further, the limited number of observations makes any instrumental variable approach difficult. Second, as research has found out, the presence of CFC rules in an MNE's headquarters' country increases the probability that the headquarters are relocated to a non-CFC rule country (Voget (2011)). Hence, several of the MNEs, which still have their headquarters in a country with CFC rules, might be less tax aggressive and, therefore, may not engage in profit shifting. Therefore, it would actually not be the CFC rules but the tax aggressiveness that affects investment. Here, further research could exploit short run effects of abrupt changes of CFC rules (like in Holzmann (2014)), which may be exogenous.

Table 2: Definition, data sources and summary statistics of variables.

Variable	Definition	Data source	Obs.	Mean	Std. dev.	Min	Max
TarPPE	PPE of target (in millions of USD)	Amadeus	1,505	11.101	56.772	0.000	1,204.804
TarFinRevenue	Financial revenues of target (in millions of USD)	Amadeus	731	1.883	25.447	0.000	661.043
TarEBT_perPPE	EBT divided by PPE of target	Amadeus	515	4.098	13.349	-15.179	160.676
postMAyear	1 if year is after acquisition	Zephyr	1,505	0.345	0.475	0.000	1.000
TarSTR	Statutory corporate tax rate in target country	Tax Guides	1,505	0.286	0.052	0.125	0.389
AcqGUO_CFC	1 if CFC rules exist in acquirer GUO country	Tax Guides	1,505	0.587	0.493	0.000	1.000
TarAssets_noPPE	Assets other than PPE of target (in millions of USD)	Amadeus	1,505	41.670	267.231	0.003	6,444.162
TarLoss_lag	1 if target has a loss in previous year	Amadeus	1,505	0.079	0.270	0.000	1.000
TarEmployees	Employees of target	Amadeus	515	122.930	148.039	2.000	947.000
TarTurnover	Turnover of target (in millions of USD)	Amadeus	515	140.682	1,028.305	0.123	16,400.250
TarGDP	GDP in target country (in trillions of USD)	World Bank	1,505	1.857	1.132	0.012	3.868
TarGDP_growth	GDP growth in target country (in %)	World Bank	1,505	1.473	3.053	-14.800	12.100
TarGDP_percapita	GDP per capita in target country (in thousands of USD)	World Bank	1,505	39.268	14.240	1.367	102.910
TarCorruption	Corruption index in target country	World Bank	1,505	1.422	0.733	-1.088	2.553
TarInflation	Inflation in target country (in %)	World Bank	1,505	2.732	3.135	-9.686	28.583

Data on year fixed effects are not reported but are available upon request. Most summary statistics are based on the regression with lnTarPPE as the dependent variable and CFC rule as well as non-CFC rule MNEs included (Specification 1 in Table 3). Exceptions are the summary statistics for the other dependent variables and for employees and turnover (employees and turnover are only used in the regressions with EBT per PPE as dependent variable) which are based on the respective regressions for the other dependent variables.

5.   Results and robustness analysis

5.1.   Property, plant and equipment

In this section, we present the results of our empirical analysis. As discussed in Section 2, we expect different effects of acquisitions on real investment (PPE) in the targets depending on whether there are CFC rules or not in the acquirer's headquarters' country. We start our analysis with two graphs illustrating the development of low-tax and high-tax targets' PPE in Figure 1.

Development of target PPE before and after acquisition
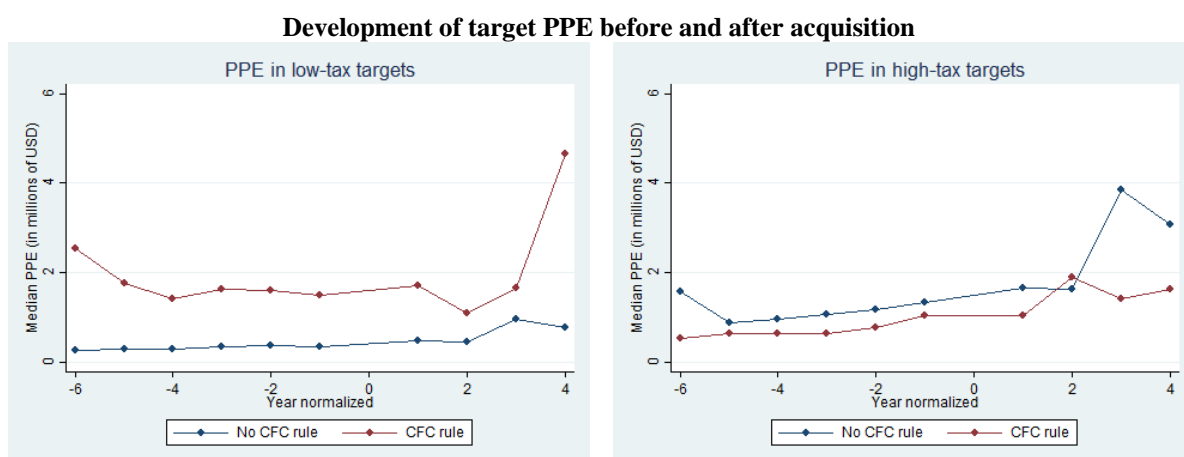
Figure 1. This figure illustrates the development of target PPE (median value) over 10 years. Normalized year 0 is the acquisition year, which is excluded (see Section 3). PPE is on the y-axis and normalized years are on the x-axis. The observations are 1,412 (2,400) for low-tax (high-tax) targets. Low-tax targets (high-tax targets) are defined as targets with a statutory corporate tax rate that is smaller (equal or higher) than the median target statutory corporate tax rate in each year, i.e., the considered targets are classified as either low-tax or high-tax targets. In addition, for each data point in the graphs, we require at least 20 observations for the median value calculation. Data source: see Section 3.

In line with Hypothesis 1, PPE of high-tax targets acquired by non-CFC rule MNEs increases after the acquisition. We trace this finding back to the decline in cost of capital of formerly domestic high-tax targets due to profit shifting opportunities once they enter a non-CFC rule MNE. This may lead to the realization of more investment projects (see Section 2.2.1). PPE of high-tax targets acquired by CFC rule MNEs does not seem to be much affected by the acquisition.[12] In low-tax targets, we see an increase of investment for targets acquired by CFC rule

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[12] Since PPE for non-CFC rule MNEs is already slightly higher in years before the acquisition, we will test in the extensions part (Section 5.4), whether there is a common trend before the acquisition for PPE and the other dependent variables for those targets which are acquired by a CFC rule respectively non-CFC rule MNEs (though only the results for non-CFC rule MNEs – which are of most interest to us – are shown). We test whether the observed post-acquisition effects may actually have started already several years before or after the acquisition by variants of the regressions. We find, inter alia, an increase of PPE already in the year before the acquisition. We will explain that this is however presumably not problematic for our results.

MNEs in the third year after the acquisition, which supports our assumption of profit shifting via real investment (Hypothesis 4b).

Table 3 shows the results for the regressions with PPE as the dependent variable. Specification 1 includes our full sample of target firms, whereas the following two distinguish between targets acquired by non-CFC rule MNEs (Specification 2) or CFC rule MNEs (Specification 3). Different from the graphs, we now consider the tax rate as a continuous variable. Specification 4 shows the results for CFC rules that only include passive income.

Table 3: Effect of acquisitions on target PPE.

Variables	(1) All MNEs	(2) non-CFC rule MNEs	(3) CFC rule MNEs	(4) CFC rule MNEs (only passive income included)
postMAyear	-0.508	-1.104*	0.037	0.559
	(0.398)	(0.567)	(0.738)	(1.244)
TarSTR	-1.223	-3.846	1.821	0.032
	(1.594)	(3.042)	(2.957)	(4.316)
postMAyear#TarSTR	1.402	3.569*	-0.691	-0.989
	(1.287)	(1.966)	(2.526)	(4.110)
lnTarAssets_noPPE	0.499***	0.421***	0.557***	0.388*
	(0.086)	(0.117)	(0.100)	(0.199)
TarLoss_lag	-0.071	0.066	-0.127	-0.027
	(0.083)	(0.134)	(0.129)	(0.154)
lnTarGDP	7.035***	7.858	8.577**	4.356
	(2.598)	(5.462)	(4.322)	(7.113)
lnTarGDP_percapita	-5.881**	-6.413	-7.576*	-3.809
	(2.460)	(5.197)	(4.041)	(6.640)
TarGDP_growth	-0.027**	-0.020	-0.032	-0.009
	(0.012)	(0.025)	(0.021)	(0.045)
TarCorruption	0.089	-0.326	0.479	0.613
	(0.317)	(0.533)	(0.479)	(0.620)
Constant	-128.410***	-144.715	-154.725**	-76.313
	(45.446)	(97.381)	(76.452)	(127.448)
Observations	1,505	622	883	331
Deals	213	91	122	66
R-squared	0.214	0.199	0.242	0.201
Year fixed effects	YES	YES	YES	YES
Target firm fixed effects	YES	YES	YES	YES

Regressions with target PPE (natural logarithm) as dependent variable; see equation (1). For variable descriptions and data sources, see Section 3 and Table 2. All regressions include target firm and year fixed effects and are estimated using OLS panel regressions. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Standard errors are provided in parentheses and are clustered on the target country level.

In our results, the general effect of an acquisition ($postMAyear$) is negative and statistically significant in case of no CFC rules in the acquirer's headquarters' country (Specification 2). As

outlined in Section 4, the acquisition effect could be either positive or negative. Here we observe significant divestment in PPE after the acquisition, which may indicate that rationalization takes place at target level. We do not find this effect for the other specifications. Further, we find that $TarSTR$ has no significant effect on real investment. It may be, that, given that there is relatively little variation over time, the effect of this variable is absorbed by the firm fixed effects.

Our variable of interest, the interaction term, is significantly positive in the second specification. Therefore, once a target is acquired by a non-CFC rule MNE, investment increases after the acquisition with an increasing tax rate. This is evidence in support of Hypothesis 1. To quantify the effect of the acquisition on PPE, we compare this effect for the lowest and highest target statutory corporate tax rates in our sample (12.5% respectively 38.9%).[13] For low-tax targets, we calculate the acquisition effect on PPE to be -0.658 (-1.104+3.569*0.125). Given that our dependent variable is given as the natural logarithm, this translates into a decrease of 48% (=$e^{(-0.658)}$-1) in PPE after acquisitions. For high-tax targets, we calculate the effect to be 0.284 (-1.104+3.569*0.389). In this case, the estimated effect is an increase of 33% (=$e^{(0.284)}$-1) in PPE after acquisitions. The F-Test for joint significance of $postMAyear$ and its interaction with $TarSTR$ holds (p-value of 0.072). As outlined in Section 2.2.1, the effect is supposed to be observed because profit shifting reduces the target's cost of capital to a higher degree in high-tax target countries compared to low-tax target countries. Therefore, relatively more investment is carried out in high-tax target countries.[14]

The aforementioned effect should not be observed if the target is acquired by a CFC rule MNE. Indeed, the interaction term is insignificant in Specification 3, which supports Hypothesis 4a. We would expect a negative effect of the interaction term in Specification 4, where we consider only CFC rules that include passive income, i.e., active income from real investment activity is excluded when applying CFC rules. In this case, we assume that those MNEs shift profits via real investment to low-tax targets (Hypothesis 4b). We find that the coefficient for the interaction term is insignificant. Hence, we do not find support for this hypothesis. However, note that

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[13] Referring to Equation 1, we measure this effect by calculating the derivation $\delta Y/\delta postMAyear$.
[14] However, our results indicate that acquisitions have an overall negative effect on real investment in targets with a relatively low tax rate. As outlined in Section 4, this may be due to rationalization at target-level, e.g., because some business functions may already be performed elsewhere within the MNE at lower cost.

– as a caveat – our sample for this case includes only a relatively small number of 66 deals with 331 observations in total.

Regarding control variables, we find a significantly positive effect for non-PPE assets in all specifications. This is as expected, because, as discussed in Section 4, other assets, such as liquid assets, may allow for more investment in PPE. The positive and significant effect of GDP but opposing effects for GDP per capita and GDP growth (at least in some specifications) may be a slight indication, that within our sample the size of the economy (GDP) but not its growth or wealth (GDP per capita) is favorable for higher investment.

5.2. Financial revenues

Whereas the results in the previous section have shown that PPE increases in high-tax targets due to profit shifting opportunities, financial revenues are expected to increase in low-tax targets after the acquisition by non-CFC rule MNEs. This would be caused by profit shifting opportunities from high-tax affiliates within the MNE to those low-tax targets (Hypothesis 2). Similar to the graphical analysis in Section 5.1, we illustrate the development of financial revenues in Figure 2.

Development of target financial revenues before and after acquisition
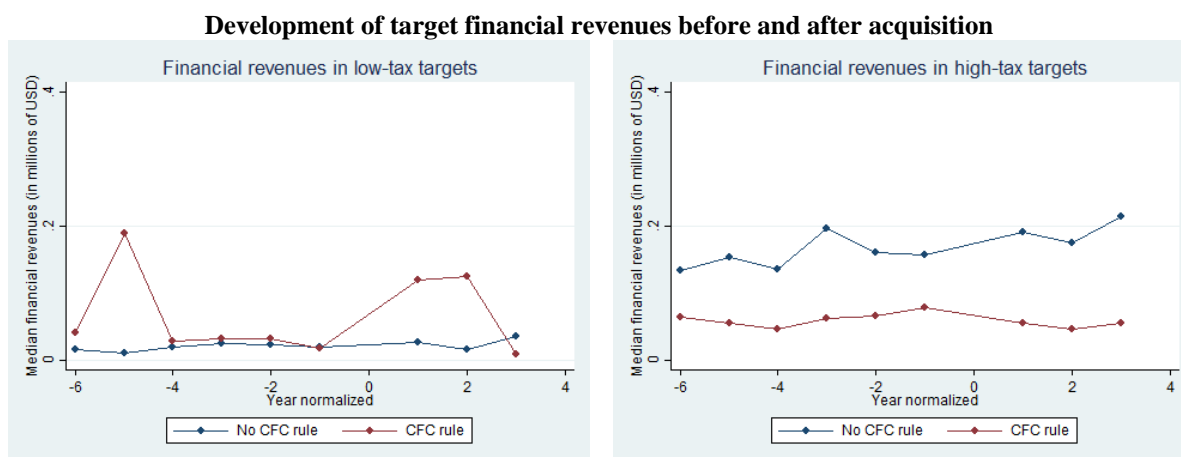
Figure 2. This figure illustrates the development of target financial revenues (median value) over 9 years. Normalized year 0 is the acquisition year, which is excluded (see Section 3). Financial revenues are on the y-axis and normalized years are on the x-axis. The observations are 639 (1,585) for low-tax (high-tax) targets. Low-tax targets (high-tax targets) are defined as targets with a statutory corporate tax rate that is smaller (equal or higher) than the median target statutory corporate tax rate in each year, i.e., the considered targets are classified as either low-tax or high-tax targets. In addition, for each data point in the graphs, we require at least 20 observations for the median value calculation. Data source: see Section 3.

The graph on the left side surprisingly shows that financial revenues of low-tax targets acquired by CFC rule MNEs increase after the acquisition. We would expect this effect rather for non-

CFC rule MNEs (see Hypothesis 2). However, this effect reverts in the third year after the acquisition. In addition, we do not find a clear pattern for the development of financial revenues in high-tax targets.

In line with our discussion from Section 2.2.1, Specification 1 in Table 4 shows that target financial revenues increase after the acquisition with a decreasing target statutory corporate tax rate.

Table 4: Effect of acquisitions on target financial revenues.

Variables	(1) All MNEs	(2) non-CFC rule MNEs	(3) CFC rule MNEs
postMAyear	1.559	2.121	0.739
	(1.132)	(1.634)	(1.371)
TarSTR	3.484	9.562	1.642
	(5.207)	(10.458)	(6.054)
postMAyear#TarSTR	-7.052*	-8.990	-4.672
	(4.197)	(6.272)	(4.809)
lnTarPPE	0.250**	0.035	0.349***
	(0.098)	(0.200)	(0.131)
TarLoss_lag	-0.230	-0.609	0.005
	(0.263)	(0.615)	(0.239)
lnTarGDP	-6.503	-13.545	-5.271
	(7.680)	(15.851)	(8.870)
lnTarGDP_percapita	5.063	10.930	4.640
	(7.826)	(15.968)	(9.362)
TarGDP_growth	0.040	0.097	-0.027
	(0.045)	(0.077)	(0.072)
TarCorruption	0.501	-0.020	1.117
	(1.177)	(1.690)	(1.396)
TarInflation	0.042	0.001	0.043
	(0.070)	(0.102)	(0.076)
Constant	133.871	273.623	101.705
	(136.367)	(277.409)	(152.673)
Observations	731	314	417
Deals	114	50	64
R-squared	0.0746	0.0872	0.114
Year fixed effects	YES	YES	YES
Target firm fixed effects	YES	YES	YES

Regressions with target financial revenues (natural logarithm) as dependent variable; see equation (1). For variable descriptions and data sources, see Section 3 and Table 2. All regressions include target firm and year fixed effects and are estimated using OLS panel regressions. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Standard errors are provided in parentheses and are clustered on the target country level.

We assume that this is the case, since low-tax targets become destinations of shifted profits. We expect this effect only for targets which are acquired by non-CFC rule MNEs. It may be possible that this effect also dominates in the overall sample. However, if we consider those MNEs in

particular (Specification 2) the effect can no longer be observed, so we cannot confirm Hypothesis 2. In line with Hypothesis 5, we observe in Specification 3 that financial revenues are insensitive to the statutory corporate tax rate of a formerly domestic target following an acquisition by a CFC rule MNE. However, given that we found no effect in case of no CFC rules, this is of limited interest, too.

Regarding the other variables, as discussed above, we have no clear expectation about the coefficient for $postMAyear$, but again expect a negative effect of the tax rate. However, we find no significant effect here. Regarding firm size (measured by PPE), – at least in the overall sample and for CFC-rule MNEs – financial revenues seem to increase with this variable, which, as discussed above, may be explained by a tendency of larger firms to hold higher quantities of liquid assets. The other control variables are insignificant. Presumably, as discussed for the tax rate in Section 5.1, their effects are absorbed by the firm fixed effects.

5.3. EBT per PPE

In addition to financial revenues, which we considered in the previous subsection, we now investigate the effect of taxes, profit shifting opportunities and CFC rules on another measure of profit shifting, namely EBT per PPE. Again, we start our empirical analysis with descriptive statistics on the evolvement of this variable after the acquisition (Figure 3).
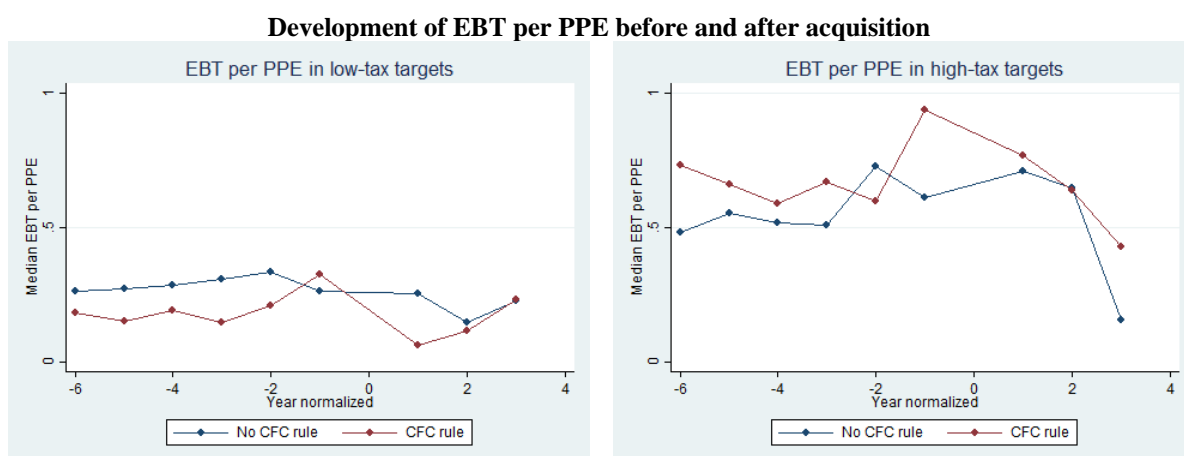
Figure 3. This figure illustrates the development of EBT per PPE (median value) over 9 years. Normalized year 0 is the acquisition year, which is excluded (see Section 3). EBT per PPE is on the y-axis and normalized years are on the x-axis. The observations are 1,328 (2,011) for low-tax (high-tax) targets. Low-tax targets (high-tax targets) are defined as targets with a statutory corporate tax rate that is smaller (equal or higher) than the median target statutory corporate tax rate in each year, i.e., the considered targets are classified as either low-tax or high-tax targets. In addition, for each data point in the graphs, we require at least 20 observations for the median value calculation. Data source: see Section 3.

Both, for low-tax targets as well as for high-tax targets we see a decrease of this measure after acquisitions. Whereas the picture for low-tax targets – where the profits more or less return to the level before the acquisitions over time – is not clear; in high-tax targets there is a strong decline after acquisitions. The latter may indicate that – in line with our findings for PPE – profits are shifted away from high-tax targets, once they enter an MNE. However, surprisingly, this development can be found for both, CFC-rule and non CFC-rule MNEs.

Regarding the regression results, as for financial revenues, we do not find a significant effect for the interaction in Specification 2 (see Table 5).

Table 5: Effect of acquisitions on target EBT per PPE

Variables	(1) All MNEs	(2) non-CFC rule MNEs	(3) CFC rule MNEs
postMAyear	4.096	-1.549	8.063
	(6.139)	(8.848)	(10.691)
TarSTR	42.768	78.384	38.528
	(35.253)	(68.075)	(81.736)
postMAyear#TarSTR	-11.991	12.851	-29.979
	(20.085)	(32.898)	(33.951)
lnTarAssets_noPPE	1.459	1.853*	1.609
	(1.370)	(1.048)	(1.943)
lnTarEmployees	-1.862	-2.483	-1.885
	(2.276)	(2.286)	(5.092)
lnTarTurnover	1.711	3.095*	0.583
	(1.451)	(1.764)	(3.058)
TarLoss_lag	-1.083	-0.081	-1.054
	(1.188)	(2.846)	(2.763)
lnTarGDP	44.133	-14.391	85.162
	(41.360)	(63.888)	(71.585)
lnTarGDP_percapita	-33.041	22.130	-72.377
	(35.347)	(61.512)	(62.532)
TarGDP_growth	0.366	0.332	0.460
	(0.231)	(0.234)	(0.452)
TarCorruption	-13.634	-22.594	-7.432
	(9.384)	(20.938)	(8.425)
Constant	-915.521	100.116	-1,609.873
	(791.880)	(1,156.754)	(1,339.324)
Observations	515	225	290
Deals	93	43	50
R-squared	0.0857	0.247	0.101
Year fixed effects	YES	YES	YES
Target firm fixed effects	YES	YES	YES

Regressions with target EBT per PPE as dependent variable; see equation (1). For variable descriptions and data sources, see Section 3 and Table 2. All regressions include target firm and year fixed effects and are estimated using OLS panel regressions. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Standard errors are provided in parentheses and are clustered on the target country level.

Hence, this dependent variable does not give further evidence to the profit shifting effect – which presumably is found in the previous subsections – and we cannot add support to Hypothesis 3. Regarding control variables, another determinant of EBT per PPE should be economic activity. Indeed we show that non-PPE assets and turnover have a positive and significant effect on this dependent variable, though only in Specification 2.

5.4. Extensions

We extend our analysis by considering thin capitalization or earnings stripping rules and transfer pricing documentation rules at target level in Table 6 to Table 8 in the Appendix. Thin capitalization rules or earnings stripping rules may effectively hinder profit shifting activities at target-level by limiting or penalizing the deduction of interest payments. Whereas thin capitalization rules limit or penalize interest deduction if the debt financing exceeds a certain debt to capital ratio earnings stripping rules apply in case of an excessive interest to earnings ratio. Transfer pricing documentation rules require detailed information on the height of intra-group transfer prices which make profit shifting obvious. We run separate regressions for the countries, where transfer pricing documentation rules exist (Specifications 1 in Table 6 to Table 8), thin capitalization or earnings stripping rules exist (Specifications 2) or both kinds of rules exist (Specifications 3). Table 6 shows that the interaction of $postMAyear$ and $TarSTR$ turns insignificant in the analysis of PPE in case of transfer pricing documentation rules or if both kinds of rules are applied by the respective country (Specifications 1 and 3). This may indicate that they are, at least to a certain extent, effective in preventing profit shifting. However, for thin capitalization or earnings stripping rules alone (Specification 2), the results slightly indicate that even in countries which have such rules, profit shifting may still be possible (PPE still increases with the tax rate after acquisitions). A possible explanation for this effect could be a limited effectiveness of those rules. Thin capitalization rules, e.g., may be compensated by setting high interest rates (Schindler and Schjelderup (2016)). For the other two dependent variables, the effect stays insignificant (Table 7 and Table 8).

We also vary the acquisition date, i.e., we rerun the above regressions modelling the acquisition dummy as if the acquisition would have happened in the second to fifth year before respectively in the first to fourth year after the actual acquisition year. This investigation is a consequence of the graphs shown above, which raise concerns about whether there is a common trend of targets before the acquisition independent of whether they are then acquired by CFC rule or

non-CFC rule MNEs. The results for targets acquired by non-CFC rule MNEs are shown in Table 9 to Table 14 in the Appendix. For PPE, we find the effect (increasing investment in high-tax targets bought by non-CFC rule MNEs) also if we consider the second year before the acquisition as if it would be the year, where the acquisition took place (see Specification 4 in Table 9). One possible explanation could be an anticipation of the acquisition, which may lead to an increase of investment already before the acquisition, because future profit shifting opportunities are taken into account. This, however, would still be in line with our overall assumption about the effect of acquisitions and CFC rules. In addition, we also find a significant effect for the first year after the acquisition (see Specification 1 in Table 10) which may indicate that the investment effect after acquisitions increases over time. For financial revenues, as for the year of the acquisition, we also find no effect if we vary the acquisition date, except, surprisingly, for the fourth year after the acquisition in case of CFC-rule MNEs (those results are not shown in this paper but are available upon request). There the coefficient of the interaction term is significantly negative. However, we are not too worried about this result, since this is the only year for which we observe such an effect and it lies considerably far away from the acquisition year. The same applies for EBT per PPE, where we again find an effect for the fourth year after the acquisition, but now in case of non-CFC rule MNEs (see Specification 4 in Table 14). Overall, those extensions with the varied acquisition date support our assumption that the effects we observe are actually driven by the acquisition. As mentioned above, there may be some potential further aspects in case of PPE (e.g. anticipation of the acquisition) which lead to the effect (investment increases with the tax rate) already before the acquisition. This could be accounted for in future research.

6. Conclusion

We investigate the development of investment, financial revenues and profits (EBT per PPE) in formerly domestic targets once they are acquired by foreign MNEs. In our analysis, we distinguish whether the headquarters of the acquiring MNEs reside in a country with or without CFC rules. This distinction is crucial because only in the absence of CFC rules, full profit shifting opportunities are potentially possible. Overall, we find that profit shifting opportunities and CFC rules affect target real investment (PPE). The development of financial revenues supports the assumption of profit shifting but not of counteracting effects of CFC rules. However, we do not find corresponding effects for EBT per PPE.

In particular, if a target is acquired by an MNE without CFC rules at the headquarters' level, we conclude the following: First, we show that the effect of acquisitions on target real investment depends on the tax rate. We find a negative effect in case of a low tax rate in the target country and a positive effect in high-tax targets. We discuss that this result may be explained by MNE-wide profit shifting opportunities that decrease the cost of capital of high-tax targets, once they enter the MNE. Such a decrease leads to relatively more profitable investment projects compared to low-tax targets that had already relatively low cost of capital before the acquisition. We find that in low-tax targets rationalization effects may dominate and lead to divestment. Second, financial revenues increase in low-tax targets following acquisitions. This finding supports the assumption of profit shifting from high-tax to low-tax subsidiaries within MNEs. However, we do not find evidence that EBT per PPE increases in low-tax targets (respectively decreases in high-tax targets).

If a target is acquired by an MNE with CFC rules at the headquarters' level, we conclude the following: First, PPE does not change following the acquisition with regard to the target's statutory corporate tax rate. Accordingly, CFC rules seem to prevent typical profit shifting, i.e., via interest or royalties, within these MNEs. In addition, we do not find evidence that – as a reaction to this limitation – these MNEs engage in profit shifting via real investment in low-tax targets. This finding supports the assumption that CFC rules are effective measures against profit shifting from high-tax to low-tax subsidiaries within MNEs. For financial revenues, however, we find the effect of profit shifting opportunities only for the overall sample and cannot make a clear distinction between CFC rule and non-CFC rule MNEs.

Our paper contributes to tax research in two ways. First, by considering PPE, financial revenues and EBT per PPE as different dependent variables, we show the whole picture of profit shifting within one sample. Since our estimates for two of those dependent variables at least partly confirm our hypotheses, we can be more certain that generally profit shifting is indeed conducted after such acquisitions. Second, by investigating the effect of CFC rules on target investment after acquisitions, we contribute to the understanding of tax effects in this specific form of FDI.

Our results may also be of interest for tax policy makers, because – by analyzing the effect of CFC rules on profit shifting – we study an anti tax avoidance measure that is addressed in the OECD BEPS project (OECD/G20 (2015)) and in an EU directive (European Council (2016)), which aims at CFC rule implementation to tackle profit shifting of MNEs. Further, we elaborate

that such a measure may however distort real investment decisions in targets following acquisitions, which policy makers should be aware of when implementing such rules.

Appendix

Table 6: Effect of acquisitions on target PPE (Non-CFC rule MNEs; anti-avoidance measures at target-level).

Variables	(1) Transfer pricing documentation rules	(2) Thin capitalization / earnings stripping rules	(3) Transfer pricing documentation rules and thin capitalization / earnings stripping rules
postMAyear	-1.275*	-1.057**	-1.168
	(0.745)	(0.491)	(0.749)
TarSTR	-2.742	-2.246	-2.702
	(2.711)	(3.203)	(3.258)
postMAyear#TarSTR	3.762	3.264**	3.316
	(2.585)	(1.645)	(2.627)
lnTarAssets_noPPE	0.492***	0.418***	0.479***
	(0.162)	(0.117)	(0.154)
TarLoss_lag	0.086	0.052	0.074
	(0.120)	(0.133)	(0.121)
lnTarGDP	8.513	6.197	7.121
	(6.797)	(5.430)	(8.188)
lnTarGDP_percapita	-7.022	-4.727	-5.669
	(6.430)	(5.043)	(7.441)
TarGDP_growth	-0.056*	-0.011	-0.062*
	(0.033)	(0.024)	(0.035)
TarCorruption	-0.372	-0.754	-0.485
	(0.407)	(0.491)	(0.425)
Constant	-158.959	-116.294	-134.494
	(120.970)	(100.153)	(152.249)
Observations	512	577	481
Deals	74	84	69
R-squared	0.224	0.209	0.216
Year fixed effects	YES	YES	YES
Target firm fixed effects	YES	YES	YES

Regressions with target PPE (natural logarithm) as dependent variable; see equation (1). For variable descriptions and data sources, see Section 3 and Table 2. All regressions include target firm and year fixed effects and are estimated using OLS panel regressions. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Standard errors are provided in parentheses and are clustered on the target country level.

Table 7: Effect of acquisitions on target financial revenues (Non-CFC rule MNEs; anti-avoidance measures at target-level).

Variables	(1) Transfer pricing documentation rules	(2) Thin capitalization / earnings stripping rules	(3) Transfer pricing documentation rules and thin capitalization / earnings stripping rules
postMAyear	1.801	2.338	1.739
	(3.636)	(1.709)	(5.662)
TarSTR	11.372	8.873	11.645
	(12.197)	(12.773)	(16.844)
postMAyear#TarSTR	-7.389	-9.306	-7.082
	(11.915)	(6.519)	(18.566)
lnTarPPE	0.237	0.157	0.358
	(0.243)	(0.198)	(0.244)
TarLoss_lag	-0.901	-0.605	-0.845
	(0.763)	(0.642)	(0.876)
lnTarGDP	-15.335	-19.801	-16.176
	(35.917)	(17.169)	(78.318)
lnTarGDP_percapita	14.819	16.640	15.593
	(36.781)	(16.258)	(76.147)
TarGDP_growth	0.065	0.068	0.064
	(0.132)	(0.103)	(0.200)
TarCorruption	-0.158	0.398	0.111
	(2.814)	(2.660)	(6.646)
TarInflation	-0.122	0.019	-0.255
	(0.153)	(0.158)	(0.296)
Constant	282.437	390.185	299.268
	(625.275)	(320.639)	(1,412.607)
Observations	248	286	227
Deals	38	46	35
R-squared	0.113	0.0914	0.109
Year fixed effects	YES	YES	YES
Target firm fixed effects	YES	YES	YES

Regressions with target financial revenues (natural logarithm) as dependent variable; see equation (1). For variable descriptions and data sources, see Section 3 and Table 2. All regressions include target firm and year fixed effects and are estimated using OLS panel regressions. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Standard errors are provided in parentheses and are clustered on the target country level.

Table 8: Effect of acquisitions on target EBT per PPE (Non-CFC rule MNEs; anti-avoidance measures at target-level).

Variables	(1) Transfer pricing documentation rules	(2) Thin capitalization / earnings stripping rules	(3) Transfer pricing documentation rules and thin capitalization / earnings stripping rules
postMAyear	-5.054	-1.708	-5.354
	(12.028)	(4.113)	(37.436)
TarSTR	18.295	34.095*	15.838
	(285.128)	(18.229)	(51.026)
postMAyear#TarSTR	27.028	15.953	29.554
	(38.774)	(15.544)	(120.818)
lnTarAssets_noPPE	1.495	1.931**	1.178
	(1.555)	(0.834)	(1.164)
lnTarEmployees	-0.729	-1.203	0.020
	(2.845)	(1.827)	(3.190)
lnTarTurnover	2.445	2.295*	2.308**
	(2.029)	(1.192)	(0.922)
TarLoss_lag	0.287	-0.118	0.048
	(4.568)	(2.524)	(5.391)
lnTarGDP	-25.021	-22.873	-13.323
	(912.821)	(39.726)	(561.708)
lnTarGDP_percapita	11.825	17.830	0.641
	(1,255.897)	(38.951)	(531.278)
TarGDP_growth	0.110	0.092	0.090
	(2.841)	(0.126)	(0.667)
TarCorruption	-0.199	-3.024	1.264
	(118.314)	(4.777)	(31.128)
Constant	511.064	380.946	302.908
	(12,352.062)	(712.575)	(10,154.877)
Observations	183	211	173
Deals	34	39	31
R-squared	0.218	0.212	0.210
Year fixed effects	YES	YES	YES
Target firm fixed effects	YES	YES	YES

Regressions with target EBT per PPE as dependent variable; see equation (1). For variable descriptions and data sources, see Section 3 and Table 2. All regressions include target firm and year fixed effects and are estimated using OLS panel regressions. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Standard errors are provided in parentheses and are clustered on the target country level.

Table 9: Effect of acquisitions on target PPE (Non-CFC rule MNEs; variation of acquisition date (as if it had happened in an earlier year)).

Variables	(1) 5 years before acquisition	(2) 4 years before acquisition	(3) 3 years before acquisition	(4) 2 years before acquisition
postMAyear_m5	-0.351			
	(0.884)			
postMAyear_m4		-0.678		
		(0.879)		
postMAyear_m3			-0.697	
			(0.780)	
postMAyear_m2				-0.921
				(0.571)
TarSTR	-4.367	-4.601	-4.888	-4.251
	(4.237)	(3.503)	(3.422)	(3.055)
postMAyear_m5#TarSTR	1.453			
	(2.532)			
postMAyear_m4#TarSTR		2.411		
		(2.560)		
postMAyear_m3#TarSTR			3.182	
			(2.419)	
postMAyear_m2#TarSTR				3.356*
				(1.866)
lnTarAssets_noPPE	0.417***	0.424***	0.422***	0.424***
	(0.112)	(0.114)	(0.122)	(0.114)
TarLoss_lag	0.060	0.049	0.031	0.054
	(0.130)	(0.129)	(0.120)	(0.124)
lnTarGDP	7.504	7.791	8.289*	7.977
	(5.874)	(5.651)	(4.950)	(5.147)
lnTarGDP_percapita	-6.212	-6.421	-6.816	-6.520
	(5.604)	(5.383)	(4.686)	(4.833)
TarGDP_growth	-0.022	-0.027	-0.031	-0.026
	(0.028)	(0.026)	(0.026)	(0.026)
TarCorruption	-0.225	-0.252	-0.273	-0.295
	(0.552)	(0.532)	(0.576)	(0.529)
Constant	-137.007	-142.792	-152.710*	-147.050
	(103.949)	(101.343)	(88.208)	(92.845)
Observations	622	622	622	622
Deals	91	91	91	91
R-squared	0.192	0.194	0.204	0.199
Year fixed effects	YES	YES	YES	YES
Target firm fixed effects	YES	YES	YES	YES

Regressions with target PPE (natural logarithm) as dependent variable; see equation (1). For variable descriptions and data sources, see Section 3 and Table 2. All regressions include target firm and year fixed effects and are estimated using OLS panel regressions. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Standard errors are provided in parentheses and are clustered on the target country level.

Table 10: Effect of acquisitions on target PPE (Non-CFC rule MNEs; variation of acquisition date (as if it had happened in a later year)).

Variables	(1) 1 year after acquisition	(2) 2 years after acquisition	(3) 3 years after acquisition	(4) 4 years after acquisition
postMAyear_p1	-1.292			
	(0.851)			
postMAyear_p2		-1.641		
		(1.092)		
postMAyear_p3			-1.180	
			(1.856)	
postMAyear_p4				-0.140
				(3.453)
TarSTR	-3.909	-3.901	-3.517	-3.350
	(2.986)	(3.191)	(3.346)	(3.080)
postMAyear_p1#TarSTR	4.435*			
	(2.592)			
postMAyear_p2#TarSTR		5.057		
		(3.656)		
postMAyear_p3#TarSTR			3.311	
			(6.978)	
postMAyear_p4#TarSTR				-2.197
				(13.434)
lnTarAssets_noPPE	0.406***	0.399***	0.407***	0.418***
	(0.121)	(0.124)	(0.115)	(0.111)
TarLoss_lag	0.047	0.036	0.059	0.065
	(0.123)	(0.131)	(0.129)	(0.128)
lnTarGDP	8.118	8.600*	7.746	7.771
	(4.996)	(5.067)	(5.219)	(5.339)
lnTarGDP_percapita	-6.643	-7.118	-6.438	-6.515
	(4.649)	(4.639)	(4.807)	(5.009)
TarGDP_growth	-0.017	-0.017	-0.017	-0.019
	(0.023)	(0.022)	(0.024)	(0.023)
TarCorruption	-0.243	-0.240	-0.215	-0.236
	(0.568)	(0.558)	(0.572)	(0.523)
Constant	-149.460*	-157.732*	-141.322	-141.381
	(90.358)	(92.386)	(94.750)	(96.133)
Observations	622	622	622	622
Deals	91	91	91	91
R-squared	0.200	0.202	0.195	0.195
Year fixed effects	YES	YES	YES	YES
Target firm fixed effects	YES	YES	YES	YES

Regressions with target PPE (natural logarithm) as dependent variable; see equation (1). For variable descriptions and data sources, see Section 3 and Table 2. All regressions include target firm and year fixed effects and are estimated using OLS panel regressions. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Standard errors are provided in parentheses and are clustered on the target country level.

Table 11: Effect of acquisitions on target financial revenues (Non-CFC rule MNEs; variation of acquisition date (as if it had happened in an earlier year)).

Variables	(1) 5 years before acquisition	(2) 4 years before acquisition	(3) 3 years before acquisition	(4) 2 years before acquisition
postMAyear_m5	-2.016			
	(4.114)			
postMAyear_m4		0.979		
		(2.516)		
postMAyear_m3			1.127	
			(1.806)	
postMAyear_m2				1.658
				(1.634)
TarSTR	0.545	6.077	5.823	8.924
	(11.366)	(9.666)	(9.805)	(9.693)
postMAyear_m5#TarSTR	6.753			
	(11.811)			
postMAyear_m4#TarSTR		-1.238		
		(7.048)		
postMAyear_m3#TarSTR			-1.838	
			(5.565)	
postMAyear_m2#TarSTR				-5.540
				(5.227)
lnTarPPE	0.010	-0.017	-0.020	0.022
	(0.209)	(0.196)	(0.188)	(0.203)
TarLoss_lag	-0.618	-0.605	-0.645	-0.576
	(0.636)	(0.663)	(0.659)	(0.620)
lnTarGDP	-9.312	-11.614	-11.793	-14.321
	(17.566)	(16.819)	(15.696)	(15.369)
lnTarGDP_percapita	7.825	9.684	9.779	11.852
	(17.962)	(16.792)	(15.751)	(15.693)
TarGDP_growth	0.089	0.098	0.104	0.102
	(0.092)	(0.088)	(0.090)	(0.087)
TarCorruption	-0.391	-0.126	-0.019	0.078
	(2.095)	(2.029)	(1.883)	(1.914)
TarInflation	-0.017	-0.000	-0.005	-0.009
	(0.123)	(0.121)	(0.123)	(0.117)
Constant	190.355	233.178	237.210	285.380
	(304.111)	(299.437)	(277.790)	(268.598)
Observations	314	314	314	314
Deals	50	50	50	50
R-squared	0.0742	0.0775	0.0777	0.0764
Year fixed effects	YES	YES	YES	YES
Target firm fixed effects	YES	YES	YES	YES

Regressions with target financial revenues (natural logarithm) as dependent variable; see equation (1). For variable descriptions and data sources, see Section 3 and Table 2. All regressions include target firm and year fixed effects and are estimated using OLS panel regressions. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Standard errors are provided in parentheses and are clustered on the target country level.

Table 12: Effect of acquisitions on target financial revenues (Non-CFC rule MNEs; variation of acquisition date (as if it had happened in a later year)).

Variables	(1) 1 year after acquisition	(2) 2 years after acquisition	(3) 3 years after acquisition	(4) 4 years after acquisition
postMAyear_p1	1.838			
	(1.840)			
postMAyear_p2		1.558		
		(3.156)		
postMAyear_p3			4.432	
			(5.088)	
postMAyear_p4				2.993
				(10.533)
TarSTR	9.101	6.376	6.586	6.131
	(10.204)	(9.800)	(8.977)	(9.621)
postMAyear_p1#TarSTR	-8.486			
	(6.323)			
postMAyear_p2#TarSTR		-6.358		
		(10.091)		
postMAyear_p3#TarSTR			-17.284	
			(18.913)	
postMAyear_p4#TarSTR				-10.483
				(44.321)
lnTarPPE	0.032	0.008	0.009	0.004
	(0.221)	(0.229)	(0.210)	(0.192)
TarLoss_lag	-0.596	-0.587	-0.557	-0.581
	(0.633)	(0.628)	(0.699)	(0.635)
lnTarGDP	-12.854	-12.643	-13.257	-12.118
	(16.636)	(15.859)	(14.589)	(16.212)
lnTarGDP_percapita	10.424	10.544	11.137	10.174
	(16.771)	(15.956)	(14.788)	(16.503)
TarGDP_growth	0.104	0.093	0.081	0.095
	(0.076)	(0.089)	(0.089)	(0.083)
TarCorruption	-0.342	-0.163	-0.218	-0.047
	(1.675)	(1.890)	(1.714)	(1.687)
TarInflation	-0.006	-0.007	0.010	-0.001
	(0.111)	(0.113)	(0.120)	(0.103)
Constant	260.106	253.371	264.349	242.334
	(292.016)	(276.978)	(256.072)	(281.621)
Observations	314	314	314	314
Deals	50	50	50	50
R-squared	0.0840	0.0742	0.0805	0.0729
Year fixed effects	YES	YES	YES	YES
Target firm fixed effects	YES	YES	YES	YES

Regressions with target financial revenues (natural logarithm) as dependent variable; see equation (1). For variable descriptions and data sources, see Section 3 and Table 2. All regressions include target firm and year fixed effects and are estimated using OLS panel regressions. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Standard errors are provided in parentheses and are clustered on the target country level.

Table 13: Effect of acquisitions on target EBT per PPE (Non-CFC rule MNEs; variation of acquisition date (as if it had happened in an earlier year)).

Variables	(1) 5 years before acquisition	(2) 4 years before acquisition	(3) 3 years before acquisition	(4) 2 years before acquisition
postMAyear_m5	-9.524			
	(26.310)			
postMAyear_m4		-10.582		
		(13.089)		
postMAyear_m3			-9.085	
			(10.933)	
postMAyear_m2				-5.876
				(7.351)
TarSTR	47.250	56.735	74.503	79.643
	(86.587)	(64.847)	(74.668)	(68.243)
postMAyear_m5#TarSTR	39.065			
	(83.571)			
postMAyear_m4#TarSTR		35.919		
		(42.702)		
postMAyear_m3#TarSTR			21.592	
			(30.125)	
postMAyear_m2#TarSTR				7.287
				(22.618)
lnTarAssets_noPPE	1.945*	1.876*	1.848	1.762*
	(1.049)	(0.989)	(1.127)	(1.045)
lnTarEmployees	-2.832	-2.419	-2.408	-2.731
	(2.095)	(2.269)	(2.220)	(2.372)
lnTarTurnover	3.206**	3.034**	3.160	3.179*
	(1.368)	(1.508)	(2.533)	(1.798)
TarLoss_lag	-0.087	-0.392	0.254	-0.354
	(2.604)	(3.111)	(3.618)	(3.127)
lnTarGDP	-30.703	-26.786	-21.373	-16.810
	(74.879)	(71.591)	(65.016)	(65.919)
lnTarGDP_percapita	38.876	35.709	30.036	24.931
	(73.662)	(69.139)	(61.826)	(63.116)
TarGDP_growth	0.392	0.306	0.267	0.453*
	(0.279)	(0.267)	(0.275)	(0.256)
TarCorruption	-24.272	-23.422	-22.851	-22.825
	(21.554)	(20.571)	(20.865)	(20.073)
Constant	390.096	314.527	217.480	145.134
	(1,339.174)	(1,293.899)	(1,190.997)	(1,206.433)
Observations	225	225	225	225
Deals	43	43	43	43
R-squared	0.253	0.250	0.252	0.256
Year Fixed Effects	YES	YES	YES	YES
Target firm fixed effects	YES	YES	YES	YES

Regressions with target EBT per PPE as dependent variable; see equation (1). For variable descriptions and data sources, see Section 3 and Table 2. All regressions include target firm and year fixed effects and are estimated using OLS panel regressions. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Standard errors are provided in parentheses and are clustered on the target country level.

Table 14: Effect of acquisitions on target EBT per PPE (Non-CFC rule MNEs; variation of acquisition date (as if it had happened in a later year)).

Variables	(1) 1 year after acquisition	(2) 2 years after acquisition	(3) 3 years after acquisition	(4) 4 years after acquisition
postMAyear_p1	-1.864			
	(11.105)			
postMAyear_p2		5.115		
		(83.421)		
postMAyear_p3			5.927	
			(76.526)	
postMAyear_p4				45.680***
				(10.481)
TarSTR	77.192	80.658	81.287	86.690
	(59.622)	(65.523)	(62.484)	(53.901)
postMAyear_p1#TarSTR	14.858			
	(33.904)			
postMAyear_p2#TarSTR		-21.383		
		(268.299)		
postMAyear_p3#TarSTR			-25.297	
			(251.653)	
postMAyear_p4#TarSTR				-183.273***
				(42.776)
lnTarAssets_noPPE	1.940	1.895*	1.958**	2.060***
	(1.218)	(1.089)	(0.996)	(0.611)
lnTarEmployees	-2.559	-2.552	-2.556	-2.455
	(2.143)	(2.272)	(2.127)	(1.513)
lnTarTurnover	3.084**	3.079*	2.984**	2.958***
	(1.461)	(1.741)	(1.302)	(0.584)
TarLoss_lag	0.113	0.005	0.104	0.353
	(2.533)	(3.280)	(2.437)	(1.171)
lnTarGDP	-18.673	-16.571	-16.996	-14.932
	(50.709)	(76.293)	(69.379)	(50.520)
lnTarGDP_percapita	26.256	22.909	23.252	21.149
	(48.265)	(73.539)	(66.820)	(45.349)
TarGDP_growth	0.373	0.391	0.391*	0.384
	(0.256)	(0.249)	(0.221)	(0.237)
TarCorruption	-22.473	-22.677	-22.801	-24.174
	(20.238)	(20.692)	(19.980)	(16.085)
Constant	175.596	154.411	163.342	128.949
	(942.812)	(1,367.920)	(1,262.178)	(961.954)
Observations	225	225	225	225
Deals	43	43	43	43
R-squared	0.249	0.245	0.244	0.261
Year Fixed Effects	YES	YES	YES	YES
Target firm fixed effects	YES	YES	YES	YES

Regressions with target EBT per PPE as dependent variable; see equation (1). For variable descriptions and data sources, see Section 3 and Table 2. All regressions include target firm and year fixed effects and are estimated using OLS panel regressions. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Standard errors are provided in parentheses and are clustered on the target country level.

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