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## Multinational Ownership Structures and Anti Tax Avoidance Legislation

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# Multinational Ownership Structures and
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**Abstract:** We investigate the influence of controlled foreign corporation (CFC) rules on cross-border merger and acquisition (M&A) activity on a global scale. CFC rules are one main anti tax avoidance measure and potentially lead to immediate taxation of foreign subsidiaries' income at the parent level, without the necessity of repatriation. Analyzing a large corporate M&A data set using three econometric methods, we show how CFC rules distort global ownership patterns. First, we show that the probability of being the acquirer of a low-tax target decreases if CFC rules may be applicable to this target's income. Second, we show that CFC rules alter the acquirer's choice of targets' location. Third, we show that CFC rules negatively affect the probability of being the acquirer in cross-border M&As. Altogether, our study shows that for affected acquirer countries, CFC rules lead to less M&A activity in low-tax countries due to a reduced ability to shift income. This behavior change could result in an increase in global corporate tax revenue.

**Keywords:** International taxation • CFC rules • Mergers and acquisitions • Ownership structure • Multinational entities

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

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# 1    Introduction

Empirical literature provides extensive evidence of tax motivated income shifting strategies within multinational enterprises (MNEs).[1] Over the past years, tax policy makers have discussed several anti tax avoidance measures to fight against income shifting as the "Base Erosion and Profit Shifting" (BEPS) project of the Organisation for Economic Co-operation and Development (OECD) or the Anti Tax Avoidance Directive (ATAD) of the European Union (EU) (European Council (2016)) show. The latter one, for example, mandates all EU member states to implement certain anti tax avoidance measures by 2019. We investigate how regulations like these impact ownership structures of multinational corporations on a global scale.

Anti tax avoidance measures have expanded rapidly in recent years. One current example is the US Tax Cuts and Jobs Act of 2017 that strengthened US controlled foreign corporation (CFC) rules by introducing the additional Global Intangible Low-Taxed Income (GILTI) rule.[2] As one of the most prominent anti tax avoidance measures, CFC rules trigger tax at an MNE's parent level and usually work as follows: If an MNE's foreign subsidiary fulfills certain requirements, at least part of its income is taxed in the MNE's parent country where CFC legislation is enacted, even if no repatriation takes place.[3] While tax revenue of the subsidiary's country is not directly affected by CFC rules, these laws make typical income shifting strategies into low-tax countries less attractive for an MNE (e.g., Altshuler and Hubbard (2003), Ruf and Weichenrieder (2012)), since these strategies no longer reduce the MNE's global tax burden. As such, CFC legislation attempts to prevent income shifting behavior of MNEs, while reducing potential competitive disadvantages of purely national companies, without income shifting opportunities. In our study, we investigate to what extent CFC rules affect one important form of foreign direct investment (FDI): cross-border mergers and acquisitions (M&As).

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[1] Income shifting is understood as reducing taxable income in high-tax countries by, for example, royalty or interest payments from high-tax to low-tax subsidiaries. See, e.g., Huizinga and Laeven (2008), Weichenrieder (2009), Grubert (2012), Dharmapala and Riedel (2013) or Guenther et al. (2017). No differentiation between "income" or "profit" shifting is necessary in this paper and the reader may see those terms as equivalent.

[2] The CFC rules in the US are more broadly known as "Subpart F income" rules.

[3] Typically, three requirements are crucial for CFC rule application in the MNE's parent country: Low taxation of the foreign subsidiary, passive income of the subsidiary, and minimum ownership in the subsidiary. There is a high degree of variation in how CFC rules are specified, e.g., regarding what is considered low taxation or regarding a passive-to-active-income ratio that may trigger CFC rule application.

If a firm decides to engage in tax avoidance or to extend its existing tax avoidance strategies, it could try to establish a foreign subsidiary in a low-tax country as an income shifting vehicle, where profits are taxed at a low rate. There are two common ways to establish a foreign subsidiary: greenfield investment in a new firm or buying an existing firm. Our study focuses on the latter. Therefore, the existence and strength of CFC rules could impact cross-border M&As and, thereby, ownership structures of MNEs and on their location decisions.

We investigate to what extent CFC rules influence ownership patterns on a global scale by analyzing the effect of CFC legislation on cross-border M&As. In our diverse econometric analyses, we investigate a large data set of worldwide M&A deals with more than 14,000 observations and a hand-collected detailed CFC rule data set of 29 countries, extended by countries that do not have CFC legislation, for the period 2002 to 2014. Besides graphical analyses, we apply multinomial and binomial choice models where we control for various firm- and country-specific variables to isolate the effect of CFC rules and their changes in our sample. As our identification strategy, we use differences in low tax rate thresholds of CFC rules and in statutory corporate income tax rates (STRs), which both vary over time and between countries. We find that CFC rules impact cross-border M&A activity in two ways.

First, we detect that CFC legislation alters the acquisition behavior of low-tax targets. In particular, we observe that the probability of acquiring a low-tax target is negatively influenced by potential CFC rule application on the low-tax target's income. Our explanation for this finding is that MNEs with parents in non-CFC rule countries (non-CFC rule MNEs) calculate higher reservation prices for low-tax targets than MNEs with parents in CFC rule countries (CFC rule MNEs), because these targets may be used as valuable income shifting vehicles within non-CFC rule MNEs. CFC rule MNEs, on the other side, fear the application of CFC legislation on low-tax targets' income, which decreases after-tax cash flows. Hence, they calculate lower reservation prices for cross-border M&As with targets located in low-tax countries than non-CFC rule MNEs. However, the economic magnitude of this effect is rather low: A ten percentage-point increase in additional CFC rule taxation leads to a 0.5% lower likelihood that an acquisition takes place.

Second, we detect that CFC legislation distort the direction of cross-border M&As between firms. In particular, we observe that if a firm acquires another non-domestic firm, CFC

legislation negatively affect the M&A direction, i.e., which firm becomes the acquirer and, thereby, the parent of the newly formed MNE. This finding is in line with previous research by Voget (2011), who detects that the presence of CFC rules increases the number of headquarters relocation. However, our approach differs from Voget (2011) in two ways: (1) by using a different identification strategy as we consider cross-border M&As in general and not the specific form of headquarters relocation, and (2), by analyzing M&A observations from a different and larger database.

Our paper contributes to tax research and policy considerations in three ways. First, we contribute to empirical tax research on the effects of CFC rules on firm behavior, where little research has been undertaken so far (see Section 2). To our knowledge, two studies show the effect of CFC legislation from two countries on passive investment in foreign subsidiaries (Altshuler and Hubbard (2003), Ruf and Weichenrieder (2012)) and another two studies show the effect of CFC rules on headquarters relocation and real investment in foreign subsidiaries (Voget (2011), Egger and Wamser (2015)). Our study focuses on the effect of CFC legislation on firm ownership patterns, which has not yet been investigated. As Egger and Wamser (2015) point out, the reason why there are only a few empirical studies on CFC rules may be due to the difficulty of isolating the effect of anti tax avoidance measures on MNEs who operate in multiple jurisdictions and avail complex group interrelations with respect to, for example, financing decisions. In addition, the effect of CFC legislation is difficult to identify as the applicability of CFC rules depends on the foreign subsidiary's characteristics as well as its host-country's characteristics. To overcome these identification difficulties, we investigate the effect of CFC legislation on the decision to integrate foreign firms into an MNE, which can be clearly identified via observed cross-border M&As. Moreover, we leverage the details of each country's CFC legislation by considering individual components of these laws such as tax rate thresholds and passive-to-active-income ratio thresholds.

Second, we contribute to empirical research in the field of M&As and their tax-related determinants. Indeed, there are many empirical studies on the effect of tax regulations on M&As from various perspectives, for example, repatriation taxes (Voget (2011), Hanlon et al. (2015), Edwards et al. (2016), Feld et al. (2016a)), international double taxation (Huizinga and Voget (2009), Huizinga et al. (2012), von Hagen and Pönnighaus (2017)) or capital gains taxes (Ayers et al. (2003), Ayers et al. (2007), Feld et al. (2016b), Huizinga et al. (2017)). However, besides Voget (2011), our study is the first that compares the effect of anti tax

avoidance measures, and in particular the effects of the increasingly important CFC rules, on M&A activity over various countries. Since CFC legislation is present in 29 OECD, G20 and EU countries as shown in Figure 1, the strand of literature dealing with location choices of MNEs and their tax-related elements is highly important.

Third, understanding how CFC rules influence M&A activity on a global scale is also of economic interest, as cross-border M&As are an important form of FDI: In 2016, the value of cross-border M&As accounted globally for 869 billion USD, which slightly exceeded the value of announced greenfield projects (828 billion USD, UNCTAD (2017)). Hence, our analysis on distortionary tax effects on cross-border M&As, and thereby on international ownership structures, is also of interest from a global economic and not only from countries' tax policy perspective. While we show that these distortionary effects from CFC rules are rather small so far, the distortions may increase due to ongoing tax policy changes globally.

The remainder of this paper proceeds as follows. Section 2 gives a brief review of empirical tax literature on CFC rules and on M&A activity. Section 3 provides our analysis of the effect of CFC rules on the acquisition of low-tax targets. Section 4 analyzes the effect of CFC rules on the direction of cross-border M&As. Finally, Section 5 sets forth our conclusions.

## 2    Literature review

Despite the far-reaching consequences of CFC rules on MNEs' income shifting abilities and tax burdens, empirical studies on the effects of CFC rules on firm behavior are scarce.[4] Altshuler and Hubbard (2003) find that tightening US CFC rules in 1986 has substantially reduced tax planning opportunities with financial services firms in low-tax countries; three years later, Altshuler and Grubert (2006) show that the so-called check-the-box rule, which may allow for an escape from CFC rules for US MNEs, abolished these effects. Voget (2011) detects in his study about international taxation and the relocation of headquarters that the presence of CFC rules increases the number of those legal structure movements. For a panel

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[4] A typical profit shifting strategy looks as follows: An MNE equips a subsidiary in a low-tax country with intellectual property (IP) and equity. This subsidiary then may license IP to the parent or subsidiaries in high-tax countries that pay transfer prices (royalties) in exchange for using IP. Further, the low-tax subsidiary may provide debt to the parent or subsidiaries in high-tax countries that pay interest in exchange for the internal loan. Taken together, the royalty and interest expenses reduce taxable income in high-tax countries and increase income in low-tax countries.

of German MNEs, Ruf and Weichenrieder (2012) detect that German CFC rules are effective in reducing passive investments in low-tax countries. These studies show that CFC rules reach the intended goal of reducing income shifting opportunities with low-tax subsidiaries. However, Egger and Wamser (2015) find that German MNEs, whose subsidiaries are subject to CFC rules, also show significantly lower fixed assets in these subsidiaries. They conclude that CFC rules lead to an increase in cost of capital if subsidiaries are treated by CFC rules. Hence, by influencing real activity abroad, the application of CFC rules can also have non-intended "real" effects. These findings contradict the theoretical thoughts from Weichenrieder (1996) who shows that certain characteristics of CFC rules, such as an accepted passive-to active-income ratio, can lower the cost of capital in foreign subsidiaries under certain circumstances. A recent study from Haufler et al. (2017) shows from a theoretical perspective that CFC rules together with thin-capitalization rules should play a role in an optimal tax mix. In another recent empirical study, Prettl (2018) shows how CFC rules affect income shifting behavior focusing on financial profits in foreign subsidiaries.

The effect of various taxes on M&A activity has been extensively addressed in empirical literature. Hanlon et al. (2015) analyze the effect of locked-out cash of US MNEs on their cross-border M&A activity. This locked-out cash is not repatriated due to high repatriation tax costs to the US as the worldwide taxation system for dividends was operated in the US until 2017.[5] The authors show that this locked-out cash is used in foreign M&As, which is considered less value-enhancing by the market. Similarly, Edwards et al. (2016) find that firms with high amounts of locked-out cash engage in less profitable M&As. Feld et al. (2016a) show that acquirers from countries operating a territorial taxation system for foreign dividends have a competitive advantage on the cross-border M&A market to acquirers from countries operating a worldwide taxation system for foreign dividends. Huizinga and Voget (2009) find that the prospect of higher international double taxation of foreign dividends decreases the probability of attracting parent firms in a cross-border M&A. Finally, several studies investigate the effect of capital gains taxes on M&A activity. Such taxes could be seen as additional transaction costs, as the seller may be subject to capital gains taxation upon selling the target. Several studies show that this so-called lock-in effect affects M&A activity (e.g., Ayers et al. (2003), Ayers et al. (2007), Feld et al. (2016b), Huizinga et al. (2017)). About ownership structures in general, for example, Badertscher et al. (2013), McGuire et al.

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[5] Which is confirmed by another, more recent study from Nessa (2017).

(2014), Khan et al. (2017) and McClure et al. (2018) have shown that firm shareholding and decisions are influenced by tax avoidance possibilities or vice versa. Yet, an empirical study on the effect of anti tax avoidance measures and specifically CFC rules on M&A activity has not been undertaken to our knowledge.

We aim to contribute to the scarce literature on CFC rules by investigating to what extent CFC rules affect an important form of FDI—cross-border M&A activity—which accounts for almost 1 trillion USD of FDI in 2016 (UNCTAD (2017)). A comparable analysis has not yet been undertaken. In particular, in Section 3, we investigate how CFC rules influence the acquisition of low-tax targets that potentially fall under the scope of CFC rules. In Section 4, we investigate how CFC rules influence the direction of cross-border M&As between firms, i.e., which firm becomes the acquirer and, thereby, the parent of the newly formed MNE.

# 3    CFC rules and the acquisition of low-tax targets

## 3.1    Hypothesis development

Non-CFC rule MNEs face fewer constraints in implementing income shifting strategies within their group than CFC rule MNEs, because CFC rules aim at income shifted to low-tax subsidiaries within the MNE and, thereby, make typical income shifting strategies less attractive for an MNE.[6] Following the argumentation and findings of Egger and Wamser (2015), CFC rules even increase the cost of capital of subsidiaries that fall under the scope of CFC rules. Consequently, it is less attractive for a CFC rule MNE to acquire a low-tax target that may fall under the scope of CFC rules compared to a non-CFC rule MNE. Put differently, for a non-CFC rule MNE, a low-tax target could function—in addition to other synergies—as an income shifting vehicle within the MNE. This additional function could make a candidate target more valuable for this MNE compared to a CFC rule MNE without such income shifting opportunities. Due to this competitive advantage, non-CFC rule MNEs may calculate

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[6] In our analysis on the effects of CFC rules on cross-border M&A activity, we consider CFC rules in the country of the MNE's parent to be relevant. The reason is straightforward: On the one side, a non-CFC rule MNE gets into a worse tax position if the acquisition is done via a CFC rule subsidiary; hence, the MNE would not acquire through this subsidiary. In support of this reasoning, Lewellen and Robinson (2014) find that the likelihood of choosing a subsidiary as a holding firm within an MNE is significantly lower if that subsidiary resides in a CFC rule country. On the other side, a CFC rule MNE does not get into a better tax position if the acquisition is done via a non-CFC rule subsidiary, because the parent's CFC rule would overall still be applicable in the MNE.

higher reservation prices for foreign low-tax targets compared to CFC rule MNEs. We, therefore, hypothesize the following, stated in alternative form:

**Hypothesis 1a**: In a set of candidate acquirers from various countries bidding for a given foreign low-tax target, the probability of being the actual acquirer is higher for a non-CFC rule MNE compared to an MNE that potentially has to apply CFC rules on this target's income.

Hypothesis 1a investigates the influence of CFC rules on the likelihood of acquiring a given target that acquirers from various countries bid for. We also take the "opposite" perspective that a given acquirer has the choice to buy a target out of a pool of targets from various countries. Based on the reasoning above—it is less attractive for a CFC rule MNE to acquire a low-tax target that may fall under the scope of CFC rules compared to a target that does not fall under the scope of CFC rules—we hypothesize the following, stated in alternative form:

**Hypothesis 1b**: In a set of candidate targets from various countries, the probability of being the actual target from a given acquirer is lower for targets that potentially fall under the scope of CFC rules of this acquirer compared to targets that do not fall under the scope of CFC rules of this acquirer.

## 3.2 Empirical approach

### 3.2.1 Acquirer perspective

Our empirical approach to analyze Hypothesis 1a, i.e., the probability of being the actual acquirer country among several candidate acquirer countries, follows the common assumption in M&A literature that M&As reflect synergies from combining two firms with all assets being priced at their fair value (e.g., Mitchell and Mulherin (1996), Becker and Fuest (2010), Feld et al. (2016a)) where

$$V_{ijk} = \alpha CFC_{ijk} + \beta^T x_{ijk} + \varepsilon_{ijk} \tag{1}$$

is the value of target $k$ in country $j$ if it was owned by an acquirer from country $i$.[7] The term $CFC_{ij}$ reflects the higher burden of potential taxation of target income due to CFC rules in the acquirer country $i$ if the target is located in country $j$. The variable vector $x_{ijk}$ and the residual

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[7] We suppress a time subscript $t$ in the interest of readability of the model.

$\varepsilon_{ijk}$ contain various observable and unobservable variables to capture owner-country-specific synergies realized through a potential M&A. Coefficients $\alpha$ and $\beta^T$ are the estimated parameters. This approach builds upon the methodology used by Feld et al. (2016a), where the target is the same for every concerned potential M&A; therefore, we automatically account for target firm, target country and year fixed effects as they equally effect all candidate acquirers. Hence, these fixed effects do not need to be included. To control for acquirer country differences and specific effects, we include acquirer country fixed effects as well. In robustness checks, we also include specific target and acquirer firm controls and account for country-pair specific effects.

We use the fact that a foreign firm from country $i$ will acquire a target if the value for this target is higher than for any other candidate acquirer from country $h$, i.e.,

$$V_{ijk} \geq V_{hjk}, \ \forall \ h \ \in (1, \dots, I), \tag{2}$$

where $I$ indicates the number of candidate acquirer countries. We analyze the probability that a particular acquirer buys a target, depending on potential application of CFC rules in the country of that particular acquirer and given that we know that the transaction takes place, which is given by:

$$P\big(V_{ijk} > V_{hjk}\big|CFC_{1jk}, \boldsymbol{x}_{1jk}, \dots, CFC_{Ijk}, \boldsymbol{x}_{Ijk}\big) = \frac{exp(\alpha CFC_{ij} + \beta X_{ijk})}{\sum_{l=1}^{I} exp(\alpha CFC_{lj} + \beta X_{ljk})} \qquad \forall \ h, \tag{3}$$

where $I$ stands for the candidate acquirer countries.[8] Expression (3) considers a choice model assuming that M&As reflect synergies from combining two firms and that acquirers value the individual firms and the M&A correctly at their fair value. In particular, the dummy variable in this choice model takes the value of 1 if acquirer $i$ chooses alternative $k$ in country $j$. Using conditional logit and mixed logit regression models, we aim to calculate Expression (3).[9] Due to potential correlation between alternatives, the mixed logit approach with random drawing of observations allows us to model (i) random variations in the response probability to changes in variables, (ii) unrestricted substitution patterns, and (iii) correlated unobserved factors.

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[8] As in Feld et al. (2016a) at this point it is sufficient to analyze the matching of target firms with acquiring countries instead of the matching of target firms with particular acquiring firms, for which the construction of an appropriate choice set would be challenging and we do not have data in this regard. Instead, the accounted country-specific effects include variations in the number of candidate acquiring firms across countries.

[9] The presented multinomial choice model is based on Feld et al. (2016a), p. 15, and can be understood as the polar case of a zero-sum world in which the gain of one acquirer is automatically the loss of all other acquirers.

*Identification*

Our identification strategy is mainly based on acquirer CFC rules and target STRs. In particular, whether a certain target is potentially treated by CFC rules is due to substantial variation of CFC rules among candidate acquirer countries and, in addition, variation in STRs among target countries. For example, if a candidate acquirer country lowers the low tax rate threshold of its CFC rules, some targets in various countries that were previously captured by the CFC rule are now not affected anymore. Whereas, if a target country lowers its STR, targets located in this country may now be considered low-tax targets by some CFC rules. Figure 5 in the Appendix shows a stylized variation of the main identification, which captures variation observed in our data set, i.e., changes in CFC rules, their application, and STRs between and within countries over time.[10]

In our first approach, the difference between CFC rules among candidate acquirer countries is shown by a simple dummy variable. This dummy variable is coded one if a CFC rule is enacted in acquirer country $i$ and is potentially applicable on target income, i.e., the STR in target country $j$ is below the minimum low tax rate threshold of the CFC rule of the candidate acquirer country $i$. Almost all observed CFC rules have such a threshold to determine whether a foreign subsidiary's country is considered a low-tax country. Hence, the first variable of interest is constructed as

$$CFC^{dummy} = \begin{cases} 1, & \text{if } t_{i_{threshold}} > t_j \text{ or country i applies CFC} \\ & \text{rules without a tax rate threshold} \\ 0, & \text{otherwise,} \end{cases} \quad (4)$$

where $t_{i_{threshold}}$ is the tax rate threshold of the CFC rule of the candidate acquirer country $i$ and $t_j$ is the STR in the target country $j$.

In this first approach, the treatment effect is assumed to be homogeneous, as we are pooling treatments of different intensities. In a second approach, we consider heterogeneity by using the tax rate differential between the home and host countries as a finer metering of the

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[10] The reasons for CFC rule changes are manifold. On occasion, CFC rules themselves get changed due to government policy reasons such as protecting their tax base. Usually, these CFC rule implementations and law changes result from self inflicted policy reasons, but sometimes they are stipulated by others (for example, by the mentioned intergovernmental BEPS and ATAD initiatives). The mentioned low-tax threshold of CFC rules is often bound to the country's STR in a way that this threshold is, for example, set at 60% of the acquirer country's own STR. If that STR changes, what happens quite frequently in the observed time span, the threshold changes as well, which affects then only some potential target countries and helps our identification.

treatment. In particular, we consider the additional taxes payable due to CFC rule application if the target is used as a income shifting vehicle[11]:

$$CFC^{diff} = \begin{cases} \tau_i - \tau_j, & \text{if } t_{i_{threshold}} > t_j \text{ or country i applies CFC} \\ & \text{rules without a tax rate threshold} \\ 0, & \text{otherwise.} \end{cases} \qquad (5)$$

For both approaches, we expect a negative sign of the regression coefficients $\alpha$ according to Hypothesis 1a and 1b derived in Section 3.1.

In our robustness test, we check whether our results are robust to considering effective average tax rates (EATRs) as CFC rules usually take into account the effective tax burden of the foreign low-tax subsidiary.[12] Since we do not observe the effective tax burden of the targets, we use country-level EATRs from the Oxford University Centre for Business Taxation to determine whether a target may fall under the scope of CFC rules:

$$CFC^{diffEATR} = \begin{cases} \tau_i - \tau_j, & \text{if } t_{i_{threshold}} > t_{j_{EATR}} \text{ or country i applies CFC} \\ & \text{rules without a tax rate threshold} \\ 0, & \text{otherwise.} \end{cases} \qquad (6)$$

In a further robustness test, we consider the scope of income included by the CFC rule. While some CFC rules only include passive income of the subsidiary, some CFC rules include passive and active income. Therefore, we let the treatment effect differ in this regard:

$$CFC^{taxbase} = \begin{cases} \tau_i, & \text{if } t_{i_{thresh}} > t_j \text{ or country i applies CFC} \\ & \text{rules without a tax rate threshold} \\ & \text{and has a full income tax base} \\ \frac{(\tau_i + \tau_j)}{2}, & \text{if } t_{i_{thresh}} > t_j \text{ or country i applies CFC} \\ & \text{rules without a tax rate threshold} \\ & \text{and has a passive income tax base} \\ \tau_j, & \text{otherwise.} \end{cases} \qquad (7)$$

According to this differentiation, all targets are taxed at their STR. Further, this differentiation takes into account the additional CFC rule tax burden—assuming that active and passive income in the target are at the same height—in the following way: If CFC rules include the full target income once triggered, the total tax burden is set to the acquirer STR. If

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[11] $\tau_i - \tau_j$ (and not fully $\tau_i$) are the additional taxes because the observed CFC rules grant a credit for the taxes paid by the foreign subsidiary in its host country.
[12] For more about effective tax rates see, for example, Dyreng et al. (2017).

CFC rules include only target's passive income once triggered, the total tax burden is set to the average between target and acquirer STR.

Following Feld et al. (2016a) we include several control variables in our regressions. We control for STR and economic indicators, such as GDP per capita, GDP growth, stock market capitalization per GDP and credits granted to private sector per GDP in the country of the candidate acquirer. Further, we control for several distance variables, such as the distance between the acquirer and target country, whether the acquirer and target have a common language, whether the acquirer and target were ever in a colonial relationship and whether the legal system of the acquirer and target country have common legal origins. The sources of the variables can be found in Table 3.

### 3.2.2 Target Perspective

The approach presented above takes an *acquirer perspective* by analyzing why a given target is bought by an acquirer from a specific country (Hypothesis 1a). In a second analysis, we follow the same logic but take a *target perspective* by analyzing why a given acquirer chooses to buy a target from a specific country (Hypothesis 1b).[13]

Building on Expression (1), we use the fact that a foreign firm will acquire a target in country *j* if the value for this target is higher than for any other candidate target from country *g*, i.e.,

$$V_{jik} \geq V_{gik}, \ \forall \ g \ \in (1, \dots, J), \tag{8}$$

where *J* indicates the number of candidate target countries. We analyze the probability that an acquirer buys a particular target, depending on potential application of CFC rules in the country of the acquirer and given that we know that the transaction takes place, which is given by:

$$P\big(V_{jik} > V_{gik} \big| CFC_{1ik}, \pmb{x}_{1ik}, \dots, CFC_{Jik}, \pmb{x}_{Jik} \big) = \frac{exp(\alpha CFC_{ji} + \beta X_{jik})}{\sum_{l=1}^{J} exp(\alpha CFC_{li} + \beta X_{lik})} \qquad \forall \ g \ , \tag{9}$$

where *J* stands for the candidate target countries.[14] Expression (9) considers again a choice model assuming that M&As reflect synergies from combining two firms and that acquirers

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[13] Such a target perspective is also taken by Arulampalam et al. (2017).

[14] As in Feld et al. (2016a) at this point it is sufficient to analyze the matching of target firms with acquiring countries instead of the matching of target firms with particular acquiring firms, for which the construction of an

value the individual firms and the M&A correctly at their fair value. In particular, the dummy variable in this choice model takes the value of 1 if acquirer $i$ chooses target $k$ in country $j$. Using conditional logit and mixed logit regression models, we aim to calculate Expression (9).[15] Due to the correlation between alternatives, the mixed logit approach with random drawing of observations allows us to model (i) random variations in the response probability to changes in variables, (ii) unrestricted substitution patterns, and (iii) correlated unobserved factors. We use the same CFC variable differentiation method as in the acquirer perspective described above with the same identification strategy.

Following Feld et al. (2016a) and Arulampalam et al. (2017), we include several control variables as well in this perspective. We control for STR and economic indicators, such as GDP per capita, GDP growth, stock market capitalization per GDP and credits granted to private sector per GDP in the country of the candidate target. Further, we control for several distance variables, such as the distance between the acquirer and target country, whether the acquirer and target have a common language, whether the acquirer and target were ever in a colonial relationship and whether the legal system of the acquirer and target country have common legal origins. Additionally, we include variables to control for the institutional framework of the candidate target country, such as corruption control, business start-up cost, unemployment rate and number of listed domestic firms. The sources of the variables can be found in Table 9.

## 3.3    Data

Data for the empirical analysis is taken from the Thomson Financial SDC database, which contains worldwide M&A transactions. We have selected all completed M&As for the period 2002 to 2014 through which majority control (>50%) of the targets has been attained.[16] Further, for each M&A, country of the acquirer ultimate parent, direct acquirer, target ultimate parent and direct target must be given.[17] In addition, we require that the acquirer ultimate parent and the target reside in different countries and that the acquirer ultimate parent and direct acquirer reside in the same country to reduce the possibility of a subsidiary in a

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appropriate choice set would be challenging and we do not have data in this regard. Instead, the accounted country-specific effects include variations in the number of candidate target firms across countries.

[15] The presented multinomial choice model builds upon Feld et al. (2016a), and Arulampalam et al. (2017).

[16] All observed CFC rules have a participation threshold below or equal to 50% so that the majority control requirement of CFC rules is always fulfilled.

[17] Throughout our paper, we use the terms "ultimate parent" and "parent" synonymously.

third country involved in the M&A. To keep the mixed logit regressions computationally feasible, the set of considered candidate acquirer countries (Hypothesis 1a) or candidate target countries (Hypothesis 1b) is restricted to the 30 most frequent acquirer or target locations.[18] These restrictions leave a sample of 14,421 cross-border M&As involving 55 countries to investigate Hypothesis 1a and a sample of 13,447 cross-border M&As involving 54 countries to investigate Hypothesis 1b. Table 2 and Table 8 give an overview over the number of acquirer ultimate parents and targets in the respective cross-border M&A sample per country. In line with di Giovanni (2005), we observe that countries with the largest financial markets have most observations in both samples. Further, these tables provide information on whether CFC rules are implemented in those countries.

Data on CFC rules is based on IBFD European Tax Handbook (2002-2016), various corporate tax guides (Ernst & Young (2004-2016), Deloitte (2015), KPMG (2003-2015)) and the specific tax law of each country. We have sampled various dimensions of CFC rules for the period 2002 to 2014, such as:

- tax rate threshold that triggers CFC rule,

- country lists that trigger (blacklists) or do not trigger (whitelists) CFC rule,

- threshold for passive-to-active-income ratio that triggers CFC rule,

- whether active or only passive income of CFCs is included at the parent level, or

- significant exemptions to CFC rule.

## 3.4    Results

### 3.4.1    Graphical analysis

In this section, we graphically analyze whether acquisition behavior is affected by CFC rules. In particular, Figure 2 shows variation in acquisition behavior of acquirers from countries with and without CFC rules via density distributions. We observe that acquirers from CFC-rule countries rather buy targets in high-tax countries, whereas acquirers from non-CFC rule countries rather buy targets in low-tax countries.

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[18] To investigate Hypothesis 1a, important control variables are missing for Guernsey, Luxembourg and Taiwan so that we effectively consider 27 candidate acquirer countries. To investigate Hypothesis 1b, important control variables are missing for Indonesia and Sweden so that we effectively consider 28 candidate target countries.

Further, we analyze the acquisition behavior of acquirers from CFC rule countries regarding targets that have a lower STR than the acquirer. In particular, Figure 3 shows the distribution of targets depending on whether their STR is below or above the low tax rate threshold of the acquiring country's CFC rule. One can see that observed acquisitions increase significantly if the target is located in a country slightly above the low tax rate threshold. The summed up number of acquisitions included in the 5% range above the low tax rate threshold accounts for more than 40% of all observed acquisitions. This indicates that acquirers from CFC rule countries choose targets with an STR slightly above the low tax rate threshold, most likely to facilitate tax savings via income shifting opportunities as there are no other obvious or known reasons for acting that clearly on a random threshold.[19] In other words, these acquirers can shift income to lower taxed countries without potential CFC rule application; however, they are somewhat restricted in that behavior compared to acquirers from non-CFC rule countries. This may indicate that CFC rules could lead to overall higher global taxation of firm profits due to tighter income shifting possibilities.

Finally, we investigate the issue of potential non-application of CFC rules within the European Economic Area (EAA) due of the Cadbury-Schweppes ruling of the European Court of Justice in 2006. This ruling triggered a substantial mitigation of the application of CFC rules within the EEA. In simple words, the low tax rate threshold of CFC rules could be circumvented by a potential acquirer inside the EEA if the EEA target was still in compliance with another, less rigorous threshold about the passive-to-active-income ratio of that target. In line with this argumentation, Ruf and Weichenrieder (2013) find evidence for a relative increase in passive investments in low-tax EEA subsidiaries and a parallel decrease in passive investments in non-EEA subsidiaries. Figure 4 show that acquirers from the EAA acquired more low-tax EAA targets after 2006.

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[19] For anecdotic evidence, we asked accountants, participants on conferences and workshops, as well as colleagues, but no other reason than profit shifting behavior seems to be plausible to explain this behavior.

Taken together, the graphical analysis suggests that acquirers are affected by CFC rules in their acquisition behavior.[20] In the following, we investigate whether this graphical evidence is confirmed in a multivariate regression analysis.

### 3.4.2 Acquirer perspective

*Results*

Table 4 presents the baseline results of different multinomial choice models to test Hypothesis 1a on the influence of CFC rules on the likelihood of being the acquirer country of a given target (acquirer perspective). For each deal, the dependent variable equals one for the actual acquirer country of origin and zero for all other counterfactual acquirer countries. For definitions, data sources and summary statistics of all variables see Table 3.

In the conditional logit regression (1), $CFC^{dummy}$ from expression (4) is the variable of interest, which indicates potential taxation via CFC rules in the acquirer country via a dummy variable approach. We observe a negative coefficient, which suggests that potential taxation in the acquirer country due to CFC rule application has a negative influence on the probability of being the acquirer country for a given target. To be more specific, we consider $CFC^{diff}$ from expression (5) in regression (2). $CFC^{diff}$ is a continuous variable and takes values between 0 and 0.409; it measures the magnitude of a potential additional tax burden due to CFC rule application and the coefficient is significantly negative. The substantially lower *p*-value of $CFC^{diff}$ (*p*<0.000%) compared to $CFC^{dummy}$ (*p*=19.9%) is probably due to introducing heterogeneity to the treatment effect by considering the specific tax rate differential between the acquirer and target country in case CFC rules apply. The coefficient of -1.4569 implies as average partial effect that if the target is potentially treated by CFC rules and the difference between acquirer STR and target STR increases by 1%, the likelihood of acquiring this target decreases by 0.05%.

Taken together, we provide evidence that potential CFC rule application on a target's income reduces the probability of acquiring this target; this finding supports Hypothesis 1a. However, the calculated economic effect seems to be very low for small STR differences. Therefore, countries should not expect large negative effects of CFC rule implementation on

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[20] Due to data restrictions, we are not able to analyze if the acquired targets are actually used as profit shifting vehicles. However, there are no other obvious reasons—besides the presented ones—for the observed behavior as CFC rules do not affect foreign subsidiaries if no profit shifting takes place.

their MNE's cross-border M&A activity. Besides the following robustness tests, further reassurance is served in Section 3.4.4.

As argued in Feld et al. (2016a), a violation of the assumption of the independence of irrelevant alternatives (IIA) in the conditional logit model could be problematic because estimates may be biased. Further, and in our case potentially even more important, there may be unobserved heterogeneity in how CFC rules affect acquirers' target valuation. To account for such heterogeneity across firms in terms of M&A decisions and to address the IAA assumption, we randomize this heterogeneity and assume it to be normally distributed. Consequently, we randomize our variables of interest by using a mixed logit estimator. This randomization follows a normal distribution with mean $g$ and covariance $W$; the parameters are estimated by simulated maximum likelihood with 50 Halton draws.[21] In our mixed logit regressions, we observe that the estimated standard deviations of the normal distribution are highly significant; therefore, we prefer this approach and apply mixed logit regressions in the remaining regressions.

In regression (3), we observe that applying the mixed logit model does not change the basic results as $CFC^{diff}$ remains significantly negative at the 1% level and quantitatively stable. In regression (4), we cluster the standard errors at the target-country/year level and observe that $CFC^{diff}$ is significant at the 5% level.

Most control variables are highly significant and show the expected signs. Regarding *STR*, we find a negative effect on the likelihood to be the successful bidder if the bidder is located in a high-tax country. This finding is in line with Becker and Riedel (2012), who find a negative effect of parent STR on investment in foreign subsidiaries. Helpman et al. (2004) show that the productivity level of firms influences their investments abroad and firms with the highest productivity engage in FDI. Similar to other studies, we use GDP per capita and GDP growth as proxies for productivity levels in an acquirer country and find that GDP per capita has a significantly positive coefficient, while GDP growth is insignificant. Hence, a high level of GDP per capita has a positive impact on cross-border M&A activity. Stock market capitalization per GDP has the expected positive coefficient, which indicates that well-developed stock markets in the acquirer country offer good financing conditions to raise capital to fund cross-border M&As. The size of the private credit market has no significant

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[21] In untabulated regression results, we find that using 100 Halton draws produces very similar results in both the acquirer and target perspective; these results are available upon request.

effect. Cross-border M&A literature finds that lower bilateral transaction costs between the acquirer and target due to less cultural and geographic distance positively affect M&A activity (e.g., di Giovanni (2005)). In line with these findings, we observe that the distance, a common language, past colonial relationships, and a common legal system show the expected signs and are highly significant.

### *Robustness tests*

Table 5 provides the results of our check on whether our baseline results are robust to specification variations. In regression (1), we include a dummy variable capturing the unilateral method (i.e., the credit or exemption method on foreign dividends) to avoid double taxation on foreign dividends. A country's method to avoid double taxation could be potentially correlated with whether or not this country has CFC rules. The reason is as follows: If a country taxes foreign dividends under the credit method system, income shifted to tax havens will be ultimately taxed upon profit repatriation. However, the important difference between CFC rules and taxing foreign dividends taxation is the timing of taxation: While under CFC rules distinct foreign profits are immediately taxed at the parent level irrespective of dividend distribution, taxation under the pure credit method system can be deferred by the parent company until the actual dividend distribution taxation takes place. Under the exemption method system, profits shifted to tax havens are not taxed upon repatriation and the country may be more prone to introduce CFC rules. Indeed, under the Tax Cuts and Jobs Act of 2017, the US changed their international corporate tax system towards the exemption method system and strengthened its former weak CFC rules by introducing the GILTI rule. To control for this potential interdependency, we include a variable for the method to avoid double taxation and the coefficient of $CFC^{diff}$ remains significantly negative; however, the coefficient decreases by around half. The significantly positive coefficient of this variable indicates that the likelihood of being the acquirer increases if the acquirer resides in a country that exempts foreign dividends of the target from taxation, which is in line with the result of Feld et al. (2016a).

In regressions (2), (3) and (4), we vary the calculation of our variable of interest by considering target effective average tax rates ($CFC^{diffEATR}$), potential non-application of CFC rules within the EEA ($CFC^{diffEEA}$) and the included income by CFC rules ($CFC^{taxbase}$). In regression (5), we additionally randomize $STR$ and in regression (6), we

exclude acquirers from Australia, Canada and New Zealand because their CFC rules do not explicitly mention a tax rate threshold, where our identification is coming from. Regression (7) excludes the largest acquirer countries (Canada, United Kingdom and United States), which account for around half of our observations. The exclusion of the US further checks for a potential bias due to the so-called check-the-box rule, which was introduced in the US in 1997 and may allow for an escape from CFC rules for US MNEs under specific circumstances by using hybrid entities (e.g., Rego (2003), Altshuler and Grubert (2006), Mutti and Grubert (2009)). Finally, in regression (8), we run an ordinary least squares (OLS) regression with acquirer country, target country and year fixed effects, i.e., assuming that the probability is a linear function of the explanatory variables. The coefficient of $CFC^{dummy}$ is significantly negative at the 1% level. However, given that the range of probabilities of the logistic regression is from 0.01 to 0.823, assuming a linear function is not appropriate and linear probability regressions lead to biased estimates. Therefore, we do not use OLS regression in our baseline results. We observe that all robustness tests validate our baseline results, both quantitatively and qualitatively.

Table 6 provides further robustness tests. In regression (1), we exclude all control variables except for the acquirer country fixed effects to check if there is a bias due to correlation between $CFC^{diff}$ and the control variables. We find that $CFC^{diff}$ decreases substantially and remains significant. Further, we check whether our results are robust to differentiating between profitable and loss-making targets in regression (2). Due to missing firm level variables, the sample decreases substantially. We find that the coefficients of $CFC^{profitable}$ and $CFC^{non\_profitable}$ remain significantly negative. Interestingly, the effect is more pronounced for loss-making targets; the difference between the coefficients is significant at a $p$-value of 1.9% (two-sided). One possible reason could be that non-CFC rule acquirers are more interested in acquiring low-tax loss-making targets than CFC rule acquirers, because non-CFC rule acquirers may shift income to the loss-making targets and, thereby, net out the losses—or even use existing loss carryforwards if possible—of these targets.[22] Finally, regressions (3), (4) and (5) control for target-specific financial data (total assets, return on assets, sales and earnings before interest, taxes, depreciation and amortization) by interacting these consolidated profit and loss statement and balance sheet items with each candidate

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[22] This would be confirmed by Lester and Langenmayr (2017); also see Maydew 1997.

acquirer country. While again the sample size decreases substantially, we observe that $CFC^{diff}$ remains significantly negative.

### 3.4.3 Target perspective

*Results*

As described in 3.2.2, we analyze for each given acquirer the origin of the eventual target country among a choice set of various target countries. Table 10 presents the baseline results of different multinomial choice models to test Hypothesis 1b on the influence of CFC rules on the likelihood of being chosen as the target country of a given acquirer. For each deal, the dependent variable equals one for the actual target country of origin and zero for all other counterfactual target countries. For definitions, data sources and summary statistics of all variables see Table 9.[23]

In the conditional logit regression (1), the dummy variable $CFC^{dummy}$ has a significantly negative coefficient, which indicates that potential CFC rule application on a candidate target's income has a negative effect on actually choosing the target country as a location. $CFC^{diff}$ is a continuous variable and takes values between 0 and 0.284; it measures in more detail the magnitude of a potential additional tax burden due to CFC rule application and—similar to the result in Section 3.4.2—the significance level increases compared to the mere dummy variable approach ($CFC^{dummy}$). In line with Hypothesis 1b, this finding indicates that potential CFC rule application on target's income negatively influences the target location choice of a given acquirer. From a global perspective and with an increasing number of countries introducing or strengthening CFC rules, this finding may further indicate higher overall tax revenue due to potentially less income shifting from firms in high-tax countries. The coefficient of -1.7115 is slightly larger than the coefficient under the acquirer perspective and may indicate that CFC rules have a somewhat stronger effect on target location choice than on who becomes the acquirer. The coefficient implies as average partial effect that if the target is potentially treated by CFC rules and the difference between acquirer STR and target STR increases by 1%, the likelihood of acquiring this targets decreases by 0.06%.

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[23] The underlying base data in both perspectives are the same. The actual observations in both perspectives differ slightly, which is due to availability restrictions of different necessary control variables.

To cope with a possible violation of the IIA and the potentially unobserved heterogeneity in how CFC rules affect acquirers' target valuation decisions (see Section 3.4.2), we use again a mixed logit estimator and randomize our variables of interest in the remaining regressions. Again, we observe that the estimated standard deviations of the normal distribution are highly significant; therefore, we prefer this approach and apply mixed logit regressions in the remaining regressions. We observe a further decrease of $CFC^{diff}$ and the significance level remains stable in regression (3) and regression (4), where we cluster the standard errors at the acquirer-country/year level. In regression (5), we again run an OLS regression and observe a significantly negative coefficient of $CFC^{diff}$.

Regarding significant control variables, we observe that STR has a positive effect on target location choice, which is an unexpected result as FDI literature generally suggests a negative effect of host country STR on host country investment (e.g., Feld and Heckemeyer (2011)). An explanation for this result could be that cross-border M&As are less sensitive to host country STRs (e.g., Hebous et al. (2011), Herger et al. (2016)) or that income shifting structures within the acquiring MNE mitigate this effect (e.g., Arulampalam et al. (2017)). Additionally, variation of STR is also used to compose our variable of interest, which may lead to interdependencies. Finally, the significantly positive effect of STR does not prove to be robust.

Regarding control variables, GDP per capita and stock market capitalization per GDP have insignificant coefficients, whereas GDP growth has a significantly positive effect in some regressions, i.e., targets located in growing economies are more likely to be acquired. Further, the control variable for the size of the private credit market has a significantly negative effect on target location choice. The explanation for this finding may be the following: If a target is located in a country with a low ratio of private credits granted to the private sector, the supply of credits may be limited. Consequently, credit supply for internal expansion is limited, which makes targets in these countries more likely to be acquired (Arulampalam et al. (2017)). Similar to the findings in Section 3.4.2, we observe that lower bilateral transaction costs between the acquirer and target positively affect target location choice: the distance, a common language and past colonial relationships have the expected significant coefficient; the variable controlling for a common legal system has an expected positive though insignificant estimate. Finally, the control variables for the institutional framework in the candidate target country have significant explanatory power. A high degree of corruption

control, a large number of listed firms and low business start-up cost increase the chances to be chosen as target location; unemployment rate has an insignificant effect.

*Robustness tests*

In Table 11, we provide similar robustness tests as in Table 5 and yield similar results. Regressions (1), (2), and (3) take into account target effective average tax rates ($CFC^{diffEATR}$), potential non-application of CFC rules within the EEA ($CFC^{diffEEA}$) and the included income by CFC rules ($CFC^{taxbase}$). In regression (4), we additionally randomize $STR$ and in regression (5), we exclude acquirers from Australia, Canada and New Zealand because their CFC rules do not explicitly mention a tax rate threshold. Regression (6) excludes the largest target countries (Germany, United Kingdom and United States), which account for almost half of our observations. In regression (7), we include a variable controlling for the extent of business disclosure as a further variable for the institutional framework in the candidate target country. This variable is not included in our baseline results since its inclusion significantly drops the observation number. Finally, in regression (8), we run an ordinary least squares (OLS) regression. The coefficient of $CFC^{dummy}$ is significantly negative at the 1% level; however, given that the range of probabilities is from a 0.01 to 0.779, linear probability regressions lead to biased estimates. Therefore, we again do not use OLS regression in our baseline results. We observe that all robustness tests resemble our baseline results, both quantitatively and qualitatively.

Table 12 provides further robustness tests yielding similar results as presented in Table 6. In regression (1), we exclude all control variables except for the target country fixed effects to check if there is a bias due to correlation between $CFC^{diff}$ and the control variables. Again, we find that $CFC^{diff}$ decreases substantially and remains significant. Further, we check whether our results are robust to differentiating between profitable and loss-making targets in regression (2). We find that the coefficients of $CFC^{profitable}$ and $CFC^{non\_profitable}$ remain significantly negative; however, in this robustness test, there is no significant difference between the coefficients of $CFC^{profitable}$ and $CFC^{non\_profitable}$. Finally, in regressions (3), (4) and (5), we include acquirer-specific financial data (total assets, return on assets, sales and earnings before interest, taxes, depreciation and amortization) by interacting these consolidated profit and loss statement and balance sheet items with each candidate target

country. We again observe a substantial sample decrease due missing firm level variables, but the results prove to be robust.

### 3.4.4 Comparison and further robustness of both perspectives

So far, we are not able to control for country-pair specific fixed effects. The number of required dummy variables appears to be too large for the logistic regressions as the maximum likelihood estimation did not achieve convergence. But, as presented above, the OLS regressions in Table 5 and Table 11 show similar results as their logistic counterparts. Therefore, we test with further OLS regressions for various further endogeneity questions that may arise.[24]

In Table 14, we include four more regressions from the acquirer and target perspective taken in our analysis above. Regressions (1) and (2) show that even with applied acquirer country-year and target country-year fixed effects, which control for changes within a country over time (e.g., the introduction or change of other anti tax avoidance rules), our results are robust and statistically significant. To interpret these robustness test results better, we used the $CFC^{dummy}$ variable again. The interpretation of regression (1) yields that if a target is located in a low-tax country in terms of a CFC rule definition, the probability that this target is bought by an acquirer from that CFC rule country is 1.2% lower than from a non-CFC rule country. Regression (2) shows for the target perspective that a target in a specified low-tax country is chosen by an acquirer from a CFC rule country with a 1.8% lower probability.[25]

In the following regressions we apply the most strict fixed effects that we could control for: acquirer country-year, target country-year and country-pair fixed effects. In regressions (3) and (4), we observe non statistical significant results, which are quite smaller in size and even change signs with these strong fixed effect controls. In regressions (5) and (6), the $CFC^{diff}$ variable is used instead as this specification includes more of the underlying heterogeneity of the observations. In this case, the coefficient for the acquirer perspective stays insignificant, but the coefficient for the target perspective shows statistical significance. In Regression (1) to (6), we keep the sample size at the same level as in the regressions in the previous sub-sections. In Regressions (7) and (8), we drop that restriction and see similar

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[24] Thereby, these regressions do not control for target firm specific effects anymore but different stronger fixed effect controls can by applied.

[25] The reader should keep in mind that the preferred regression method for binary variables are logistic methods and, therefore, the numbers presented in this robustness section should be interpreted with caution.

results for the full sample size that is used in these calculations where no observations are dropped due to none missing control variables.[26]

Comparing the results from Section 3.4.2, 3.4.3 and 3.4.4 reveals that the coefficients are always larger in the target perspective version. Additionally, one can observe in the last four regressions in this sub-section that the target perspective results prove to be more robust. These findings suggest that CFC rule influence on M&A decisions is more important on the choice of targets in low-tax countries than on the question of who becomes the new parent of a new target in a low-tax country, which accounts for the two perspectives taken above.

# 4 CFC rules and the direction of cross-border M&As

## 4.1 Hypothesis development

In this section, we consider the direction of cross-border M&As. In particular, we investigate whether CFC rules affect the decision which firm becomes the parent firm of a newly created MNE through a cross-border M&A. Following the finding of Voget (2011) that CFC rules trigger the relocation of headquarters, we argue that CFC rules negatively influence the direction of a cross-border M&A between two firms from different countries, i.e., we expect that it is more probable that the non-CFC rule firm acquires the CFC rule firm. The reasoning is as follows: If the non-CFC rule firm becomes the new MNE's parent, potential (new) income shifting strategies may arise by setting up or using an already existing tax haven subsidiary within the MNE, which potentially decreases the overall tax burden. These (new) income shifting strategies would not exist if the CFC rule firm became the acquirer due to potential CFC rule application on low-tax subsidiaries' income. We, therefore, hypothesize the following, stated in alternative form:

**Hypothesis 2**: The probability of being the acquiring firm in cross-border M&As is higher for firms in non-CFC rule countries compared to firms in CFC rule countries.

This analysis is different to the analysis presented in Section 3, where we investigate whether CFC rules affect the decision to acquire a target if CFC rules are potentially applied to this target's income. By analyzing the effect of CFC rules on the direction of cross-border

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[26] Due to missing control variables in previous sub-section regressions, some observations had to be dropped.

M&As, we consider whether CFC rules negatively affect the choice of who becomes the parent of the newly created MNE.

## 4.2 Empirical approach

To analyze the direction of observed cross-border M&As, we assume that firm *a* acquires firm *b* and that *a* and *b* do not reside in the same country. Under the assumption that M&As reflect synergies from combining these two firms and that investors value the individual firms and the M&A correctly, it follows that the value when *a* acquires *b* ($V_{ab}$) is higher than the value when *b* acquires *a* ($V_{ba}$), i.e., $V_{ab} - V_{ba} > 0$. Based on Hypothesis 2 derived under 4.1, we argue that CFC rules have an impact on this valuation. In particular, CFC rules lead to a competitive disadvantage for parent firms as those firms have less income shifting opportunities within their group and have to fear potential CFC rule application on low-tax subsidiaries' income, at which these laws are aiming. We consider the following expression to analyze the direction in cross-border M&As, depending on the CFC rules of the two involved firms and given that we know that the transaction takes place:

$$P(V_{ab} > V_{ba}|X) = E(Y|\Delta CFC + \Delta X) = \frac{exp(\beta(\Delta CFC + \Delta X))}{1 + exp(\beta(\Delta CFC + \Delta X))} \tag{11}$$

with the dependent variable $Y = \begin{cases} 1 \text{ if } V_{ab} - V_{ba} > 0 \\ 0 \text{ if } V_{ab} - V_{ba} \leq 0 \end{cases}$.

Using logit regression models, we aim to calculate $P(V_{ab} > V_{ba}|X)$, i.e., we always consider the setting that *a* acquires *b* ($V_{ab} - V_{ba} > 0$ in expression (11)). This consideration implies that y, our dependent variable, always takes the value 1.[27] The variable of interest is $\Delta CFC$, which measures the difference in CFC rules between *a* and *b*. We consider two approaches in calculating $\Delta CFC$.

First, we construct a CFC dummy variable ($\Delta CFC\_dummy$) that measures whether CFC rules are present in the residence countries of *a* and *b*. If, for example, the country of *a* does not apply CFC rules (0) and the country of *b* applies CFC rules (1) in the M&A year, $\Delta CFC\_dummy$ takes the value 0-1 = -1.

Second, we consider individual characteristics of CFC rules to allow for more heterogeneity among CFC rules. We construct a CFC variable ($\Delta CFC\_value$), which is zero

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[27] The presented binary choice model is based on the methodology used by Huizinga and Voget (2009), pp. 1229ff.

for non-CFC rule countries and one for CFC rule countries. In addition to that, we consider the CFC rule countries in more detail and group them regarding their CFC rule harshness among the two main CFC rule features, which can be derived from all observed CFC rules: The lowest possible tax haven STR and the passive-to-active-income ratio accepted by CFC rules. This approach can increase $\Delta CFC\_value$ up to the value 3. Among the CFC rule countries, the lowest possible tax haven STR is set to the tax rate threshold of the CFC rule.[28] For CFC rule countries with a tax haven STR equal or above its median value of 15%, we add 1 to $\Delta CFC\_value$. Similarly, we consider the passive-to-active-income ratio, which determines the amount of passive income that is allowed so that CFC rules are not triggered. The median value of the passive-to-active-income ratio is 10%; for CFC rule countries with a passive-to-active-income ratio below 10%, we add 1 to $\Delta CFC\_value$.[29] Table 1 provides one country example for each of the four categories of $\Delta CFC\_value$.

If, for example, a firm residing in the Netherlands acquires a firm residing in the Republic of Korea, $\Delta CFC\_value$ takes the value 0-2 = -2. We expect a negative coefficient for both $\Delta CFC\_dummy$ and $\Delta CFC\_value$, indicating that it is more likely that the firm without CFC rules or with less harsh CFC rules becomes the acquiring firm. We are aware of the fact that these *CFC_value* variables have some subjectivity build in, but they account more precise for the individual CFC rule considerations and variations between the countries and over time. Therefore, *CFC_value* extends our study in this last approach in a meaningful way.

Following Huizinga and Voget (2009), we control for firm characteristics and macroeconomic conditions in the two countries captured by $\Delta X$. On the firm level, we include the firms' consolidated financial data. We control for relative size of the two firms ($\Delta Size$) and expect a positive coefficient, as larger firms are considered more likely to acquire smaller firms. $\Delta Leverage$ considers the difference in leverage ratio between the two firms. Following Desai and Hines (2002), we argue that firms with higher leverage have lower borrowing costs. Thus, these firms have higher borrowing capacity, which makes them more likely to be the acquirer. $\Delta PTI$ measures the relative difference between pre-tax income of the two firms.

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[28] For EEA member states in the years after the decision of the European Court of Justice in the case "Cadbury-Schweppes" (C-194/04) in 2006, we set the tax haven tax rate equal to the lowest STR within the EU, because since this decision, CFC rules are de facto not applicable within the EU. In support of this reasoning, Ruf and Weichenrieder (2013) provide evidence for an increase of profit shifting within the EEA after this decision (see Section 3.4.1).

[29] These thresholds are subjective; however, they split the CFC rule countries into two equal halves and allow a grouping of the CFC rule countries according to their relative CFC rule harshness.

Similar to our expectation of $\Delta Size$, we expect that firms with higher profits are more likely to acquire firms with lower profits.

On the country-level, we control for the difference in STRs ($\Delta STR$). We have no expectation on its coefficient as high-tax countries may have a better investment environment whereas low-tax countries may attract firms due to tax savings. Based on the finding of Huizinga and Voget (2009) that taxation of dividend repatriation affects M&A direction, we include the difference in both countries' double taxation avoidance method on foreign dividends ($\Delta DTM$), where 0 (1) stands for the credit (exemption) method. We expect a positive coefficient for this variable. We also include the two countries' relative stock market size ($\Delta StockMrk$), which proxies for the relative ease to raise capital at stock markets and we expect a positive coefficient. In addition, we include the two countries' relative difference between domestic credits granted to the private sector ($\Delta CreditMrk$). Similar to the argumentation in Section 3.4.3, we argue that if a firm is located in a country with a low ratio of credits granted to the private market, the supply of credit may be limited and, hence, the possibility to finance an acquisition via credit is limited. Thus, we expect a positive coefficient. Finally, to control for the price level in an economy, we include the difference in the inflation rate ($\Delta Inflation$) between both countries. We have a negative expectation on its coefficient.

Further, we include country fixed effects that reflect whether the country is the acquirer or the target country: For each M&A, the acquirer country gets the value of 1 and the target country gets the value of -1; all other countries get the value of 0 for the respective M&A.

Following Huizinga and Voget (2009), our logit regression is estimated using maximum likelihood estimation without a constant. The reason is straightforward: Since we always consider the setting that firm $a$ acquires firm $b$ ($V_{ab} - V_{ba} > 0$ in expression (11)), the dependent variable is always one and, consequently, there is no variation in the dependent variable and the constant would be a perfect fit.

## 4.3    Data

The M&A data analyzed in this section are the same as described in Section 3.3 with two exceptions. First, we relax the restriction to the 30 most frequent acquirer or target locations. Second, we require that the direct acquirer and the direct target reside in the same country as

their respective ultimate parent to reduce the possibility of a subsidiary in a third country being involved in the M&A. In addition, as outlined above, we need consolidated financial data of both firms as control variables, which reduces our sample to 1,199 cross-border M&As involving 30 countries.[30] Table 15 gives an overview over the number of acquirer ultimate parents and target ultimate parents in this cross-border M&A sample per country. Further, this table provides information on whether CFC rules are implemented in those countries.

## 4.4 Results

Table 17 shows the results of the binary choice model to test Hypothesis 2 on the influence of CFC rules on the direction of cross-border M&As between two firms, i.e., which firm becomes the acquirer. For definitions, data sources and summary statistics of all variables see Table 16.

In regressions (1) and (2), we find that CFC rules negatively affect the probability which firm becomes the acquirer. In particular, we find a significant coefficient at the 5% level for $\Delta CFC\_value$. This finding suggests that when two firms perform a cross-border M&A, it is less likely that the firm with the harsher CFC rule becomes the acquiring firm. For the dummy variable approach ($\Delta CFC\_dummy$), we observe a significantly negative coefficient at the 10% level. Hence, also the mere presence of CFC rules seems to affect cross-border M&A direction. These results prove to be robust in regressions (3) and (4), where we analyze a slightly smaller sample by considering only cross-border M&As directly between the ultimate parents, i.e., the acquirer is the acquirer ultimate parent and the target is the target ultimate parent. In regressions (5) and (6), we consider the same setting as in regressions (3) and (4), but exclude M&As that involve the United States. We do this to check that the results are not biased by potential check-the-box rule application in the US, which may allow for an escape from CFC rules for US MNEs under specific circumstances by using hybrid entities (e.g.,

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[30] We experience this sharp decrease in cross-border M&A observation due to the lack of important financial control variables. However, this decrease is not due to specific countries or a specific financial control variable. Hence, we assume that the smaller sub-sample is a representative subset of the larger one and that focusing on this subset does not bias our subsequent empirical work. This argumentation follows Huizinga and Voget (2009), p. 1228, who face the same problem using firm level data in an SDC data set and who observe a similar decrease in sample size. To expand our sub-sample, we follow Huizinga and Voget (2009) and use Compustat North America and Compustat Global databases that are together global in coverage to fill-up firm level control variables. We use CUSIP and SEDOL firm identification codes to link the Compustat databases with the SDC database.

Altshuler and Grubert (2006), Mutti and Grubert (2009)). Although this exclusion decreases the sample by more than half, we still observe a significantly negative estimate for $\Delta CFC\_dummy$. The coefficient of $\Delta CFC\_value$ remains also negative; however, its *p*-value drops to 19.4%.

Taken together, we provide evidence for Hypothesis 2 that the direction of cross-border M&As between firms is negatively affected by the presence and harshness of CFC rules. This finding contributes to previous research documenting that headquarters relocation is influenced by CFC rules (Voget (2011)). Our interpretation of this finding is that if the non-CFC rule firm acquirers the CFC rule firm, new income shifting opportunities may potentially come up within the newly formed MNE, which may decrease the tax burden in the future. If the CFC rule firm acquires the non-CFC rule firm, these income shifting opportunities are rather unattractive due to CFC rules in the new parent country. In addition, the CFC rule firm has to fear potential CFC rule application on low-tax subsidiaries' income if such subsidiaries are already present in the acquired firm. The firms involved in the M&As are quite large with an average value of total assets of the acquirers (targets) of 38.3 (2.4) bio. USD. Hence, it is reasonable to assume that at least some of the involved firms are already MNEs with implemented income shifting strategies within their group if no CFC rules are present in the ultimate parent country.

Regarding control variables, we find, as expected, that firm size has a significantly positive impact on the likelihood of being the acquiring firm and, in most regressions, firm profitability, firm leverage, STR and stock market size have a significantly positive effect on M&A direction. Credit market size has an unexpected negative effect in most regressions. We observe non-significant estimates for inflation rate and the method to avoid double taxation.

## 5    Conclusion

In this study, we investigate the impact of an increasingly important anti tax avoidance measure on cross-border M&A activity of corporations on a global scale. In particular, we consider important characteristics of CFC legislation from a variety of countries and apply different logit regression models on a large worldwide cross-border M&A data set. Considering individual M&As, we find that the probability of being the acquirer of a low-tax target decreases if CFC rules may be applicable on this target's income. This finding implies

that acquirers from non-CFC rule countries have a competitive advantage in bidding for targets in low-tax countries. This is explained by a higher reservation price of these non-CFC rules acquirers due to potential firm value increasing income shifting opportunities after the M&A. Further, we show that the acquirer's location choice of a target is negatively affected if the target may fall under the scope of CFC legislation of an acquirer. The reasoning behind this result is the same as before but the underlying perspective is different. Thereby, we find evidence that CFC rules affect M&A activity on the bidding side, i.e., non-CFC rule acquirers have competitive advantages in bidding for a given target, and on the target side, i.e., low-tax targets are rather acquired by non-CFC rule acquirers. These two findings provide robust evidence that CFC legislation distorts ownership of low-tax targets although the economic magnitude of the effects is rather small. Finally, we show that CFC rules negatively affect the direction of cross-border M&A, i.e., countries with CFC legislation are less likely to attract parent firms in a newly created MNE after M&As.

However, our results should not be interpreted as suggesting that countries should get rid of CFC rules if undesired tax distortions of M&As, which can lead to ownership inefficiencies, shall be mitigated. Moreover, our findings suggest that CFC legislation seems to reach the intended goal of reducing income shifting opportunities with low-tax subsidiaries in our cross border M&A context. In other words, our results suggest that the specific way of investing in foreign low-tax countries to shift income afterwards is limited by existing CFC rules in the acquirer country. Therefore, CFC legislation can be used by countries to counteract tax avoidance behavior of their MNEs, which could result in an increase in tax revenue on an overall global scale. However, the shown effects are of small economic magnitude, which indicates that CFC rules do not distort M&As to a high degree. Therefore, national tax policy makers do not have to fear a large negative impact of CFC legislation on their MNEs' cross-border M&A activity.

Nevertheless, the parallel presence and non-presence of CFC rules across countries is problematic to a certain degree due to competitive disadvantages on the cross-border M&A market and potentially tax-biased ownership structures on a global scale. Thereby, we contribute to a strand of literature where little research has been undertaken so far. Further, our findings are particularly interesting in light of current tax policy developments. While the BEPS project of the OECD suggests an implementation of effective CFC rules in the OECD and G20 countries (OECD/G20 (2015)), the European Council even issued a legally binding

directive requiring EU member states to implement CFC legislation by 2019 (European Council (2016)). In other words, at the latest from 2019 onwards, firms residing in the EU may face competitive disadvantages in M&A activities due to tax legislation, compared to firms residing in OECD and G20 member states, which do not follow the BEPS project's suggestion to implement effective CFC rules and lower their MNEs' tax avoidance opportunities. Although our finding's magnitude based on historic data is rather small in size, it indicates that more coordination regarding countries' international tax law seems to be necessary for tax induced distortion not to be increased due to upcoming tax rule changes. This is of particular relevance if tax avoidance behavior of MNEs is considered unfavorable on a global scale and intended measures to counteract this behavior are supposed to be fruitful.

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# Figures and Tables

**Figure 1. Presence of CFC rules over time for 49 countries (OECD, G20 and EU member countries).**
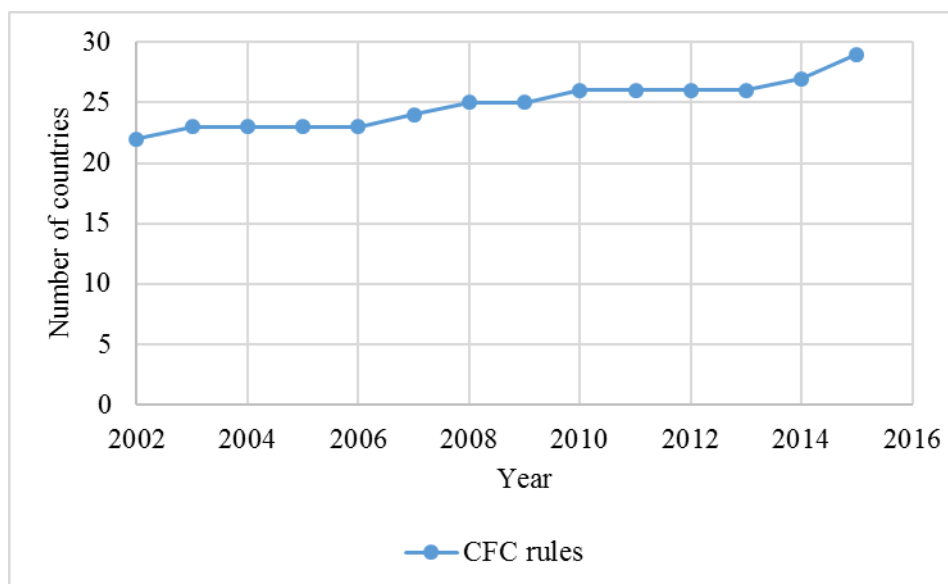


This figure provides an overview on which countries have implemented CFC rules. *Source: Own data collection.*

**Figure 2. Distribution of target country STR.**



This figure shows the distribution of target country STR depending on whether the acquirer country applies CFC rules or not. It is clearly visible that acquirers from CFC rule countries acquire less low-tax targets than acquirers from non-CFC rule countries. *Source: M&A data set.*

**Figure 3. Distribution of cross-border M&As for acquirers from CFC rule countries.**
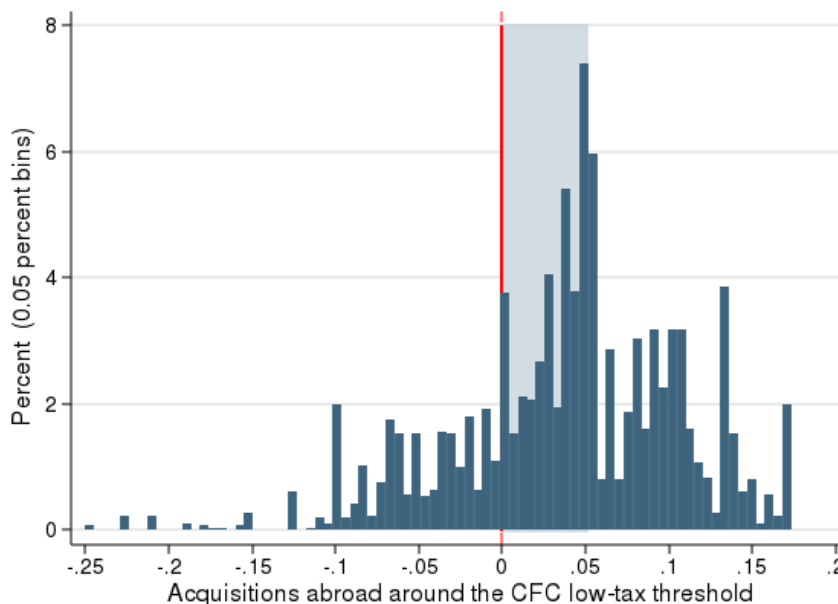


This figure shows the distribution of acquired targets around the low tax rate threshold of CFC rules if target STR is lower than acquirer STR. It is clearly visible that acquirers from CFC rule countries acquire less targets if these targets have an STR below the low tax rate threshold. *Source: M&A data set.*

**Figure 4. Distribution of cross-border M&As for acquirers from CFC rule countries within the EAA before and after the Cadbury-Schweppes ruling in 2006.**
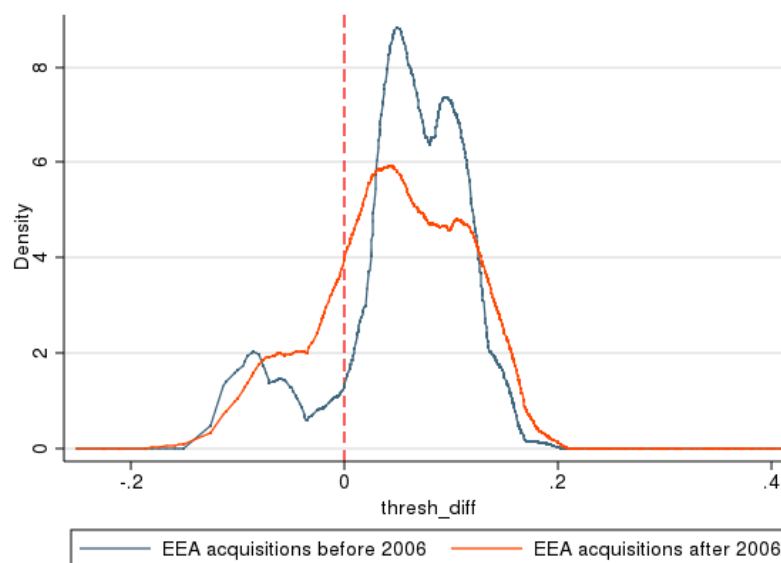


This figure shows the distribution of acquired targets around the low tax rate threshold of CFC rules if target STR is lower than acquirer STR and acquirer and target reside within the EEA. It is clearly visible that that acquisitions after the Cadbury-Schweppes ruling in 2006 increased in low-tax countries. *Source: M&A data set.*

**Figure 5. Identification Variable Example.**

Base case in t=0

|  | Parent Country 1 | Parent Country 2 | Parent Country 3 |
|---|---|---|---|
| STR Parent | 30% | 26,25% | 20% |
| CFC rule with min. tax threshold at | < 25 % | < 90% of own STR (i.e., 23.63%) | none |
| Subsidiary Country A (STR = 20,5%) | X | X | |
| Subsidiary Country B (STR = 19%) | X | X | |
| Subsidiary Country C (STR = 12%) | X | X | |

Change in CFC law threshold in t=1

|  | Parent Country 1 | Parent Country 2 | Parent Country 3 |
|---|---|---|---|
| STR Parent | 30% | 26,25% | 20% |
| **CFC rule with min. tax threshold at** | **< 20 %** | **< 80% of own STR (i.e., 21%)** | none |
| Subsidiary Country A (STR = 20,5%) | | X | |
| Subsidiary Country B (STR = 19%) | X | X | |
| Subsidiary Country C (STR = 12%) | X | X | |

Change in parent country STR in t=2

|  | Parent Country 1 | Parent Country 2 | Parent Country 3 |
|---|---|---|---|
| **STR Parent** | **25%** | **21.25%** | **17%** |
| CFC rule with min. tax threshold at | < 20 % | < 80% of own STR (i.e., 17%) | none |
| Subsidiary Country A (STR = 20,5%) | | | |
| Subsidiary Country B (STR = 19%) | X | | |
| Subsidiary Country C (STR = 12%) | X | X | |

Change in subsidiary country STR in t=3

|  | Parent Country 1 | Parent Country 2 | Parent Country 3 |
|---|---|---|---|
| STR Parent | 30% | 21-25% | 17% |
| CFC rule with min. tax threshold at | < 20 % | < 80% of own STR (i.e., 17%) | none |
| Subsidiary Country A (STR = **18%**) | X | | |
| Subsidiary Country B (STR = **16%**) | X | X | |
| Subsidiary Country C (STR = **10%**) | X | X | |

Note: An "X" indicates that this subsidiary country is potentially affected by CFC rules. These depicted changes in the different triggering law settings occur over time in various countries so that various subsidiaries are potentially affected by CFC legislation and others are not. In our regressions, we use various fixed effects and other control variables to account for other potentially influencing effects.

**Table 1. Country examples for the four categories of Δ*CFC_value*.**

| Δ*CFC_value* of country | Exemplary country | CFC rules? | Tax rate threshold > 15%? | Passive-to-active-income ratio < 10%? |
|---|---|---|---|---|
| 0 | Netherlands | no | n/a | n/a |
| 1 | China (from 2008) | yes (since 2008) | no (12.5%) | no (50%) |
| 2 | Korea, Rep. | yes | yes (15%) | no (50%) |
| 3 | Japan | yes | yes (20%) | yes (no ratio) |

**Table 2. Cross-border M&A sample (2002-2014) for analyzing effect of acquirer CFC rules on probability of being acquirer country (Section 3.4.2).**

| Country | CFC rule | Number of acquirers | Number of targets | Country | CFC rule | Number of acquirers | Number of targets |
|---|---|---|---|---|---|---|---|
| Australia | 1 | 923 | 663 | Japan | 1 | 529 | 166 |
| Austria | 0 | 125 | 73 | Korea, Rep. | 1 | 187 | 147 |
| Belarus | n/a | none | 6 | Latvia | n/a | none | 2 |
| Belgium | 0 | 154 | 186 | Lithuania | n/a | none | 14 |
| Bermuda | n/a | none | 29 | Malaysia | 0 | 212 | 157 |
| Brazil | n/a | none | 251 | Malta | n/a | none | 4 |
| British Virgin Islands | n/a | none | 70 | Mexico | n/a | none | 197 |
| Bulgaria | n/a | none | 30 | Netherlands | 0 | 421 | 355 |
| Canada | 1 | 1,124 | 1,074 | New Zealand | 1 | 68 | 196 |
| Cayman Islands | n/a | none | 17 | Norway | 1 | 296 | 144 |
| Chile | n/a | none | 95 | Panama | n/a | none | 10 |
| China | 1 | 338 | 846 | Poland | n/a | none | 140 |
| Croatia | n/a | none | 20 | Portugal | n/a | none | 69 |
| Cyprus | n/a | none | 16 | Russian Federation | 0 | 39 | 112 |
| Czech Republic | n/a | none | 81 | Seychelles | n/a | none | 2 |
| Denmark | 1 | 42 | 158 | Singapore | 0 | 490 | 271 |
| Estonia | n/a | none | 12 | Slovak Republic | n/a | none | 16 |
| Finland | 1 | 62 | 142 | Slovenia | n/a | none | 15 |
| France | 1 | 644 | 667 | South Africa | n/a | none | 119 |
| Germany | 1 | 622 | 842 | Spain | 1 | 324 | 360 |
| Greece | n/a | none | 25 | Sweden | 1 | 71 | 369 |
| Hong Kong SAR, China | 0 | 560 | 343 | Switzerland | 0 | 344 | 209 |
| Hungary | n/a | none | 45 | Taiwan, China | n/a | none | 105 |
| Iceland | n/a | none | 3 | Turkey | n/a | none | 79 |
| India | 0 | 337 | 214 | Ukraine | n/a | none | 31 |
| Ireland | 0 | 342 | 152 | United Kingdom | 1 | 1,670 | 1,772 |
| Israel | 1 | 206 | 129 | United States | 1 | 4,020 | 2,857 |
| Italy | 1 | 271 | 314 | **Total** | | **14,421** | **14,421** |

Note: This table shows the number of acquirer ultimate parents and targets per country in our cross-border M&A sample to investigate Hypothesis 1a. In this context, cross-border M&As are defined as acquirer ultimate parent and target residing in different countries; the direct acquirer and acquirer ultimate parent reside in the same country. To keep the mixed logit regressions computationally feasible, the set of considered candidate acquirer countries is restricted (see Section 3.3). CFC rule takes the value one, if the acquirer country has implemented CFC rules in 2014.

**Table 3. Definition, data sources and summary statistics of variables for analyzing effect of acquirer CFC rules on probability of being acquirer country (Section 3.4.2).**

| Variable | Definition | Data source | Obs. | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|---|---|
| $CFC^{dummy}$ | Binary dummy variable coded one if target country STR is smaller than acquirer country's tax rate threshold of CFC rule or acquirer country applies CFC rules without a tax rate threshold, and 0 otherwise | Tax guides | 317,835 | 0.111 | 0.315 | 0 | 1 |
| $CFC^{diff}$ | Difference between acquirer country STR and target country STR if target country STR is smaller than acquirer country's tax rate threshold of CFC rule or acquirer country applies CFC rules without a tax rate threshold, and 0 otherwise | Tax guides | 317,835 | 0.012 | 0.043 | 0.000 | 0.409 |
| $CFC^{diffEATR}$ | Difference between acquirer country STR and target country STR if target country EATR is smaller than acquirer country's tax rate threshold of the CFC rule or acquirer country applies CFC rules without a tax rate threshold, and 0 otherwise | Tax guides; Oxford University Centre for Business Taxation | 317,835 | 0.011 | 0.039 | -0.011 | 0.409 |
| $CFC^{diffEEA}$ | Same as $CFC^{diff}$; however, set to zero if acquirer and target country are both EEA member states and M&A year is after 2006 | Tax guides | 317,835 | 0.012 | 0.042 | 0.000 | 0.409 |
| Below | See expression (6) | Tax guides | 317,835 | 0.012 | 0.043 | 0.000 | 0.409 |
| Above | See expression (7) | Tax guides | 317,835 | 0.010 | 0.029 | 0.000 | 0.273 |
| Higher | See expression (8) | Tax guides | 317,835 | 0.015 | 0.031 | 0.000 | 0.155 |
| $CFC^{taxbase}$ | See expression (10) | Tax guides | 317,835 | 0.318 | 0.066 | 0.000 | 0.409 |
| $CFC^{profitable}$ | Same as $CFC^{diff}$; however, for non-profitable targets set to zero | Tax guides; SDC Platinum; Compustat North America; Compustat Global | 55,715 | 0.007 | 0.034 | 0.000 | 0.395 |
| $CFC^{non\_profitable}$ | Same as $CFC^{diff}$; however, for profitable targets set to zero | Tax guides; SDC Platinum; Compustat North America; Compustat Global | 55,715 | 0.003 | 0.021 | 0.000 | 0.409 |
| STR | STR in candidate acquirer country, including typical local taxes | Tax guides | 317,835 | 0.291 | 0.071 | 0.125 | 0.409 |
| ExemptionMethod | Binary dummy variable coded one if candidate acquirer country unilaterally applies the exemption method to avoid double taxation of foreign dividends, and 0 if it unilaterally applies the credit method | Tax guides | 294,697 | 0.606 | 0.489 | 0 | 1 |
| GDP per capita | GDP per capita in candidate acquirer country (natural logarithm) | World Bank | 317,835 | 10.416 | 0.620 | 7.942 | 11.284 |
| GDP growth | Growth of GDP in candidate acquirer country (in %) | World Bank | 317,835 | 3.095 | 3.168 | -7.821 | 15.240 |
| Stock market capitalization per GDP | Stock market capitalization of listed domestic firms in candidate acquirer country (in % of GDP) | World Bank | 317,835 | 121.5 | 175.6 | 15.767 | 1,254.5 |
| Size of private credit market | Domestic credit to private sector in candidate acquirer country (in % of GDP) | World Bank | 317,835 | 115.3 | 39.525 | 31.081 | 233.4 |
| Distance | Simple distance (in km) between most populated cities of candidate acquirer and target country (natural logarithm) | Mayer and Zignago (2011) | 317,835 | 8.498 | 1.100 | 4.088 | 9.883 |
| Common language | Common language index between candidate acquirer and target country (0 (low similarity) to 1 (high similarity)) | Melitz and Toubal (2014) | 317,835 | 0.242 | 0.217 | 0.000 | 0.983 |
| Past colonial relationships | Binary dummy variable coded one if candidate acquirer and target country were ever in a colonial relationship, and 0 otherwise | Mayer and Zignago (2011) | 317,835 | 0.095 | 0.294 | 0 | 1 |
| Common legal system | Binary dummy variable coded one if legal system of candidate acquirer and target country have common legal origins, and 0 otherwise | Head et al. (2010) | 317,835 | 0.319 | 0.466 | 0 | 1 |
| TargetAssets | Pre-deal consolidated target total assets in the last year before the effective M&A date (natural logarithm) | SDC Platinum; Compustat North America; Compustat Global | 52,809 | 18.118 | 2.297 | 11.513 | 28.060 |
| TargetROA | Pre-deal consolidated target pre-tax income in the last year before the effective M&A date divided by pre-deal consolidated target total assets in the last year before the effective M&A date | SDC Platinum; Compustat North America; Compustat Global | 52,809 | -0.036 | 0.844 | -11.800 | 18.000 |
| TargetSales | Pre-deal consolidated target net sales in the last year before the effective M&A date (natural logarithm) | SDC Platinum; Compustat North America; Compustat Global | 78,495 | 17.667 | 2.320 | 6.908 | 26.216 |
| TargetEBITDA | Pre-deal consolidated target EBITDA (earnings before interest, taxes, depreciation and amortization) in the last year before the effective M&A date (natural logarithm) | SDC Platinum; Compustat North America; Compustat Global | 34,405 | 16.369 | 2.093 | 7.601 | 24.300 |

Note: Data on country fixed effects are not reported but are available upon request.

**Table 4. Effect of acquirer CFC rules on probability of being acquirer country (Section 3.4.2).**

| Explanatory variables | (1) Conditional logit | (2) Conditional logit | (3) Mixed logit | (4) Mixed logit |
|---|---|---|---|---|
| $CFC^{dummy}$ | -0.0523[a] | | | |
| | (0.0407) | | | |
| $CFC^{diff}$ | | -1.4569*** | -1.2387*** | -1.2387** |
| | | (0.3277) | (0.3482) | (0.5606) |
| STR | -2.0538*** | -1.7568*** | -2.0903*** | -2.0903** |
| | (0.6319) | (0.6330) | (0.6442) | (0.8423) |
| GDP per capita | 1.0541*** | 1.0452*** | 1.1104*** | 1.1104*** |
| | (0.1619) | (0.1625) | (0.1652) | (0.2118) |
| GDP growth | -0.0034 | -0.0032 | -0.0041 | -0.0041 |
| | (0.0076) | (0.0075) | (0.0076) | (0.0099) |
| Stock market capitalization per GDP | 0.0005*** | 0.0005*** | 0.0005*** | 0.0005 |
| | (0.0002) | (0.0002) | (0.0002) | (0.0003) |
| Size of private credit market | 0.0007 | 0.0006 | 0.0007 | 0.0007 |
| | (0.0006) | (0.0006) | (0.0006) | (0.0011) |
| Distance | -0.5852*** | -0.5789*** | -0.5906*** | -0.5906*** |
| | (0.0114) | (0.0115) | (0.0119) | (0.0217) |
| Common language | 1.8148*** | 1.8112*** | 1.8494*** | 1.8494*** |
| | (0.0620) | (0.0620) | (0.0629) | (0.1289) |
| Past colonial relationships | 0.3020*** | 0.2868*** | 0.2994*** | 0.2994*** |
| | (0.0360) | (0.0359) | (0.0364) | (0.0569) |
| Common legal system | 0.1029*** | 0.1145*** | 0.1117*** | 0.1117** |
| | (0.0251) | (0.0252) | (0.0254) | (0.0470) |
| Acquirer country FE & target country FE & target firm FE & year FE | YES | YES | YES | YES |
| Observations | 317,835 | 317,835 | 317,835 | 317,835 |
| Log-likelihood | -32,188 | -32,178 | -32,165 | -32,165 |

Note: The table shows regressions of probability of being the acquirer country on (potential) CFC rule application; see expression (3). For each deal, the dependent variable equals one if country *i* is the actual acquirer's country of origin, and zero if country *h* is a counterfactual acquirer country. For variable definitions and data sources, see Table 3. Only cross-border M&As where the direct acquirer country is equal to the acquirer ultimate parent country are considered. All regressions control for acquirer country fixed effects, which are available upon request. The variables of interest follow a random distribution in the mixed logit regressions. Regressions (1) and (2) are estimated by a conditional logit model and regressions (3) and (4) are estimated by a mixed logit model. Regression (4) is identical to regression (3) except for standard errors, which are robust to clustering on the target-country-year level. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Robust standard errors are provided in parentheses.
[a] The level of statistical significance is 19.9%.

**Table 5. Robustness tests of effect of acquirer CFC rules on probability of being acquirer country (Section 3.4.2).**

| Explanatory variables | (1) Controlling for double taxation avoidance method | (2) Using target effective average tax rate | (3) Considering EAA exemption (post 2006) | (4) Considering included income of CFC rule | (5) Randomizing STR | (6) Excl. acquirers from AU&CA&NZ | (7) Excl. acquirers from CA&UK&US | (8) OLS regression |
|---|---|---|---|---|---|---|---|---|
| $CFC^{diff}$ | -0.6035* | | | | -1.2130*** | -1.6977*** | -1.0453* | |
| | (0.3472) | | | | (0.3507) | (0.3588) | (0.5643) | |
| $CFC^{diffEATR}$ | | -1.2961*** | | | | | | |
| | | (0.3162) | | | | | | |
| $CFC^{diffEEA}$ | | | -1.5406*** | | | | | |
| | | | (0.3491) | | | | | |
| $CFC^{taxbase}$ | | | | -1.7810*** | | | | |
| | | | | (0.3993) | | | | |
| $CFC^{dummy}$ | | | | | | | | -0.0108*** |
| | | | | | | | | (0.0020) |
| STR | -2.3967*** | -1.9075*** | -1.9575*** | -2.0217*** | -2.1346*** | -1.6298** | -1.9436*** | -0.0093 |
| | (0.6431) | (0.6363) | (0.6440) | (0.6433) | (0.6472) | (0.6774) | (0.7260) | (0.0197) |
| ExemptionMethod | 0.8440*** | | | | | | | |
| | (0.0859) | | | | | | | |
| GDP per capita | 1.2497*** | 1.0501*** | 1.1225*** | 1.1152*** | 1.0906*** | 1.1571*** | 1.0672*** | 0.0116*** |
| | (0.1661) | (0.1621) | (0.1655) | (0.1653) | (0.1666) | (0.1680) | (0.1805) | (0.0043) |
| GDP growth | -0.0071 | -0.0034 | -0.0040 | -0.0044 | -0.0046 | 0.0051 | -0.0106 | 0.0001 |
| | (0.0077) | (0.0076) | (0.0076) | (0.0076) | (0.0077) | (0.0085) | (0.0086) | (0.0003) |
| Stock market capitalization per GDP | 0.0006*** | 0.0005*** | 0.0005*** | 0.0005*** | 0.0005*** | 0.0004*** | 0.0003** | 0.0000*** |
| | (0.0002) | (0.0002) | (0.0002) | (0.0002) | (0.0002) | (0.0002) | (0.0002) | (0.0000) |
| Size of private credit market | 0.0012* | 0.0006 | 0.0007 | 0.0007 | 0.0007 | 0.0006 | 0.0010 | 0.0000 |
| | (0.0007) | (0.0006) | (0.0006) | (0.0006) | (0.0007) | (0.0008) | (0.0010) | (0.0000) |
| Distance | -0.5657*** | -0.5890*** | -0.5884*** | -0.5948*** | -0.5919*** | -0.5696*** | -0.6515*** | -0.0351*** |
| | (0.0121) | (0.0115) | (0.0119) | (0.0119) | (0.0119) | (0.0143) | (0.0175) | (0.0007) |
| Common language | 1.9151*** | 1.8596*** | 1.8491*** | 1.8603*** | 1.8598*** | 1.9419*** | 2.2097*** | 0.0954*** |
| | (0.0641) | (0.0625) | (0.0630) | (0.0631) | (0.0627) | (0.0676) | (0.0770) | (0.0041) |
| Past colonial relationships | 0.2454*** | 0.3005*** | 0.2971*** | 0.3004*** | 0.2937*** | 0.2334*** | 0.4303*** | 0.0132*** |
| | (0.0370) | (0.0360) | (0.0364) | (0.0365) | (0.0371) | (0.0388) | (0.0475) | (0.0019) |
| Common legal system | 0.0946*** | 0.1030*** | 0.1139*** | 0.1136*** | 0.1122*** | 0.1244*** | 0.1925*** | 0.0046*** |
| | (0.0258) | (0.0251) | (0.0254) | (0.0254) | (0.0256) | (0.0258) | (0.0277) | (0.0010) |
| Acquirer country FE & target country FE & target firm FE & year FE | YES | YES | YES | YES | YES | YES | YES | YES |
| Observations | 294,697 | 317,835 | 317,835 | 317,835 | 317,835 | 243,136 | 151,651 | 317,835 |
| Log-likelihood | -30,936 | -32,175 | -32,164 | -32,161 | -32,164 | -25,945 | -19,203 | |
| R squared adjusted | | | | | | | | 0.136 |

Note: The table shows regressions of probability of being the acquirer country on (potential) CFC rule application; see expression (3). For each deal, the dependent variable equals one if country $i$ is the actual acquirer's country of origin, and zero if country $h$ is a counterfactual acquirer country. For variable definitions and data sources, see Table 3. Only cross-border M&As where the direct acquirer country is equal to the acquirer ultimate parent country are considered. All regressions control for acquirer country fixed effects, which are available upon request, and are estimated by a mixed logit model. The variables of interest follows a random distribution. Regression (1) additionally controls for double taxation avoidance method, regression (2), (3) and (4) check whether our variable of interest is robust to using effective average tax rates, considering potential non-application of CFC rules within the EEA and considering the included income by CFC rules. In regression (5), also *STR* follows a random distribution. Regressions (6) and (7) exclude certain countries. Regression (8) is estimated by an OLS regression; the constant is not reported but available upon request. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Robust standard errors are provided in parentheses.

**Table 6. Further robustness tests of effect of acquirer CFC rules on probability of being acquirer country (Section 3.4.2).**

| Explanatory variables | (1) Excl. control variables | (2) Profitable vs. non-profitable targets | (3) Incl. target assets & target return on assets | (4) Incl. target sales | (5) Incl. target EBITDA |
|---|---|---|---|---|---|
| $CFC^{diff}$ | -4.1258*** | | -3.1934*** | -2.8136*** | -2.1391* |
| | (0.3294) | | (1.1995) | (0.7548) | (1.2086) |
| $CFC^{profitable}$ | | -1.9250** | | | |
| | | (0.9653) | | | |
| $CFC^{non\_profitable}$ | | -5.5943*** | | | |
| | | (1.7488) | | | |
| STR | | 0.8489 | 0.4872 | -0.6872 | -0.5640 |
| | | (1.5131) | (1.5582) | (1.2818) | (1.8920) |
| GDP per capita | | 1.6639*** | 1.8388*** | 1.2574*** | 1.1308** |
| | | (0.3762) | (0.3851) | (0.3246) | (0.5062) |
| GDP growth | | 0.0383** | 0.0455** | 0.0166 | 0.0272 |
| | | (0.0195) | (0.0202) | (0.0176) | (0.0258) |
| Stock market capitalization per GDP | | 0.0003 | -0.0002 | -0.0000 | -0.0007 |
| | | (0.0004) | (0.0005) | (0.0004) | (0.0006) |
| Size of private credit market | | 0.0001 | 0.0003 | -0.0010 | -0.0008 |
| | | (0.0017) | (0.0018) | (0.0014) | (0.0023) |
| Distance | | -0.5018*** | -0.4904*** | -0.4932*** | -0.5148*** |
| | | (0.0313) | (0.0338) | (0.0266) | (0.0422) |
| Common language | | 1.7924*** | 1.6550*** | 1.5999*** | 1.4257*** |
| | | (0.1765) | (0.1951) | (0.1562) | (0.2360) |
| Past colonial relationships | | 0.2783*** | 0.2070** | 0.1570** | 0.1919* |
| | | (0.0862) | (0.0921) | (0.0731) | (0.1080) |
| Common legal system | | 0.2239*** | 0.3270*** | 0.3013*** | 0.3555*** |
| | | (0.0654) | (0.0713) | (0.0560) | (0.0860) |
| Acquirer country FE & target country FE & target firm FE & year FE | YES | YES | YES | YES | YES |
| Observations | 317,835 | 55,715 | 52,809 | 78,495 | 34,405 |
| Log-likelihood | -35,450 | -5,495 | -5,157 | -7,715 | -3,287 |

Note: Regressions of probability of being the acquirer country on (potential) CFC rule application; see expression (3). For each deal, the dependent variable equals one if country $i$ is the actual acquirer's country of origin, and zero if country $h$ is a counterfactual acquirer country. For variable definitions and data sources, see Table 3. Only cross-border M&As where the direct acquirer country is equal to the acquirer ultimate parent country are considered. All regressions control for acquirer country fixed effects, which are available upon request, and are estimated by a mixed logit model. The variables of interest follow a random distribution. Regression (1) drops all control variables and regression (2) distinguishes between profitable and non-profitable targets. Regression (3) includes the interaction between acquirer country fixed effects and *TargetAssets* and the interaction between acquirer country fixed effects and *TargetROA*. Regression (4) includes the interaction between acquirer country fixed effects and *TargetSales*. Regression (5) includes the interaction between acquirer country fixed effects and *TargetEBITDA*. The coefficients and standard errors of these interactions are shown in Table 7. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Robust standard errors are provided in parentheses.

**Table 7. Supplemental regression results for candidate acquirer country fixed effects interacted with target-specific financial data.**

| Regression (3) of Table 6 | | Regression (4) of Table 6 | | Regression (5) of Table 6 | |
|---|---|---|---|---|---|
| Australia*TargetAssets | -0.1275** | Australia*TargetSales | -0.1167*** | Australia*TargetEBITDA | -0.1229* |
| | (0.0526) | | (0.0417) | | (0.0696) |
| Austria*TargetAssets | 0.0927 | Austria*TargetSales | 0.0242 | Austria*TargetEBITDA | 0.2592** |
| | (0.0960) | | (0.0851) | | (0.1150) |
| Belgium*TargetAssets | 0.0394 | Belgium*TargetSales | -0.0256 | Belgium*TargetEBITDA | 0.0561 |
| | (0.0890) | | (0.0693) | | (0.1021) |
| Canada*TargetAssets | -0.1606*** | Canada*TargetSales | -0.1735*** | Canada*TargetEBITDA | -0.1486** |
| | (0.0541) | | (0.0380) | | (0.0643) |
| China*TargetAssets | 0.0502 | China*TargetSales | -0.0781 | China*TargetEBITDA | -0.0301 |
| | (0.0579) | | (0.0507) | | (0.1096) |
| Denmark*TargetAssets | 0.0591 | Denmark*TargetSales | 0.0749 | Denmark*TargetEBITDA | 0.0275 |
| | (0.1467) | | (0.1215) | | (0.1813) |
| Finland*TargetAssets | -0.0130 | Finland*TargetSales | -0.1980*** | Finland*TargetEBITDA | 0.0561 |
| | (0.1863) | | (0.0728) | | (0.0490) |
| France*TargetAssets | 0.1841*** | France*TargetSales | 0.1561*** | France*TargetEBITDA | 0.1999*** |
| | (0.0477) | | (0.0420) | | (0.0603) |
| Germany*TargetAssets | 0.1779*** | Germany*TargetSales | 0.1239*** | Germany*TargetEBITDA | 0.2245*** |
| | (0.0482) | | (0.0479) | | (0.0636) |
| HongKongSARChina*TargetAssets | -0.0375 | HongKongSARChina*TargetSales | -0.0809* | HongKongSARChina*TargetEBITDA | -0.0597 |
| | (0.0544) | | (0.0477) | | (0.0725) |
| India*TargetAssets | -0.1437** | India*TargetSales | -0.0593 | India*TargetEBITDA | -0.3182*** |
| | (0.0591) | | (0.0369) | | (0.0755) |
| Ireland*TargetAssets | -0.1022** | Ireland*TargetSales | -0.0565 | Ireland*TargetEBITDA | -0.1737** |
| | (0.0504) | | (0.0410) | | (0.0714) |
| Israel*TargetAssets | -0.0013 | Israel*TargetSales | -0.0859 | Israel*TargetEBITDA | 0.0781 |
| | (0.0810) | | (0.0572) | | (0.1288) |
| Italy*TargetAssets | 0.0162 | Italy*TargetSales | 0.0067 | Italy*TargetEBITDA | 0.0309 |
| | (0.0585) | | (0.0457) | | (0.0794) |
| Japan*TargetAssets | 0.1112** | Japan*TargetSales | 0.1007** | Japan*TargetEBITDA | 0.0818 |
| | (0.0461) | | (0.0404) | | (0.0696) |
| KoreaRep*TargetAssets | 0.0875 | KoreaRep*TargetSales | -0.0338 | KoreaRep*TargetEBITDA | 0.2206 |
| | (0.1026) | | (0.0893) | | (0.2751) |
| Malaysia*TargetAssets | -0.1075 | Malaysia*TargetSales | -0.1171* | Malaysia*TargetEBITDA | -0.2086 |
| | (0.1090) | | (0.0707) | | (0.1310) |
| Netherlands*TargetAssets | 0.1765*** | Netherlands*TargetSales | 0.0893* | Netherlands*TargetEBITDA | 0.1696** |
| | (0.0504) | | (0.0458) | | (0.0699) |
| NewZealand*TargetAssets | -0.0111 | NewZealand*TargetSales | 0.2038** | NewZealand*TargetEBITDA | -0.1343 |
| | (0.1395) | | (0.0951) | | (0.1243) |
| Norway*TargetAssets | -0.2134*** | Norway*TargetSales | -0.1773*** | Norway*TargetEBITDA | -0.2307** |
| | (0.0732) | | (0.0423) | | (0.1167) |
| RussianFederation*TargetAssets | 0.0481 | RussianFederation*TargetSales | -0.1325 | RussianFederation*TargetEBITDA | 0.2715 |
| | (0.2429) | | (0.1597) | | (0.1787) |
| Singapore*TargetAssets | -0.0009 | Singapore*TargetSales | -0.0877 | Singapore*TargetEBITDA | -0.0784 |
| | (0.0640) | | (0.0580) | | (0.0812) |
| Spain*TargetAssets | 0.2229*** | Spain*TargetSales | 0.1261** | Spain*TargetEBITDA | 0.1338 |
| | (0.0759) | | (0.0589) | | (0.0972) |
| Sweden*TargetAssets | 0.3177*** | Sweden*TargetSales | -0.0665 | Sweden*TargetEBITDA | 0.0543 |
| | (0.1215) | | (0.0901) | | (0.1561) |
| Switzerland*TargetAssets | 0.1798*** | Switzerland*TargetSales | 0.0347 | Switzerland*TargetEBITDA | 0.1748** |
| | (0.0563) | | (0.0557) | | (0.0872) |
| UnitedKingdom*TargetAssets | -0.0638 | UnitedKingdom*TargetSales | -0.1709*** | UnitedKingdom*TargetEBITDA | -0.0150 |
| | (0.0475) | | (0.0314) | | (0.0577) |
| Australia*TargetROA | 0.0451 | | | | |
| | (0.1562) | | | | |
| Austria*TargetROA | -0.3821** | | | | |
| | (0.1873) | | | | |
| Belgium*TargetROA | 0.0782 | | | | |
| | (0.3381) | | | | |
| Canada*TargetROA | 0.0885 | | | | |
| | (0.2366) | | | | |
| China*TargetROA | -0.3323** | | | | |
| | (0.1653) | | | | |
| Denmark*TargetROA | 0.3034 | | | | |
| | (0.2514) | | | | |
| Finland*TargetROA | 0.4007** | | | | |
| | (0.1818) | | | | |
| France*TargetROA | 0.1699 | | | | |
| | (0.1596) | | | | |
| Germany*TargetROA | -0.3493** | | | | |
| | (0.1597) | | | | |
| HongKongSARChina*TargetROA | 0.0771 | | | | |
| | (0.1329) | | | | |
| India*TargetROA | 0.0564 | | | | |
| | (0.1776) | | | | |
| Ireland*TargetROA | 0.2417* | | | | |
| | (0.1374) | | | | |
| Israel*TargetROA | -0.3429** | | | | |
| | (0.1377) | | | | |
| Italy*TargetROA | -0.1279 | | | | |
| | (0.1952) | | | | |

| | |
|---|---|
| *Japan\*TargetROA* | 0.4780*** |
| | (0.1482) |
| *KoreaRep\*TargetROA* | -0.3778** |
| | (0.1693) |
| *Malaysia\*TargetROA* | 0.1243 |
| | (0.1701) |
| *Netherlands\*TargetROA* | 0.3409 |
| | (0.2256) |
| *NewZealand\*TargetROA* | 0.3107** |
| | (0.1298) |
| *Norway\*TargetROA* | -0.0062 |
| | (0.1873) |
| *RussianFederation\*TargetROA* | 0.1880 |
| | (0.3663) |
| *Singapore\*TargetROA* | -0.2435* |
| | (0.1407) |
| *Spain\*TargetROA* | 0.1719 |
| | (0.2793) |
| *Sweden\*TargetROA* | 7.1903** |
| | (3.2794) |
| *Switzerland\*TargetROA* | -0.2943* |
| | (0.1715) |
| *UnitedKingdom\*TargetROA* | 0.2905** |
| | (0.1420) |

Note: Table reports supplemental results of regressions (3), (4) and (5) of Table 6. In particular, the coefficient of the interaction between candidate acquirer country fixed effects with target-specific consolidated financial data (target total assets, target return on assets, target net sales and target earnings before interest, taxes, depreciation and amortization) are shown. In all regressions, the US represent the base category *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Robust standard errors are provided in parentheses.

**Table 8. Cross-border M&A sample (2002-2014) for analyzing effect of acquirer CFC rules on probability of being target country (Section 3.4.3).**

| Country | CFC rule | Number of acquirers | Number of targets | Country | CFC rule | Number of acquirers | Number of targets |
|---|---|---|---|---|---|---|---|
| Australia | 1 | 712 | 801 | Japan | 1 | 431 | 170 |
| Austria | 0 | 77 | none | Korea, Rep. | 1 | 162 | 153 |
| Belarus | 0 | 1 | none | Lithuania | 1 | 5 | none |
| Belgium | 0 | 123 | 197 | Malaysia | 0 | 178 | 174 |
| Bermuda | 0 | 56 | none | Malta | 0 | 5 | none |
| Brazil | 1 | 40 | 320 | Mexico | 1 | 54 | 270 |
| British Virgin Islands | 0 | 28 | none | Netherlands | 0 | 296 | 404 |
| Bulgaria | 0 | 1 | none | New Zealand | 1 | 92 | 141 |
| Canada | 1 | 1,824 | 594 | Norway | 1 | 130 | 260 |
| Cayman Islands | 0 | 17 | none | Panama | 0 | 5 | none |
| Chile | 0 | 19 | none | Poland | 0 | 25 | 170 |
| China | 1 | 271 | 897 | Portugal | 1 | 35 | none |
| Croatia | 0 | 1 | none | Russian Federation | 0 | 51 | 82 |
| Cyprus | 0 | 35 | none | Seychelles | 0 | 7 | none |
| Czech Republic | 0 | 7 | none | Singapore | 0 | 416 | 290 |
| Denmark | 1 | 118 | 35 | Slovak Republic | 0 | 2 | none |
| Estonia | 0 | 1 | none | Slovenia | 0 | 5 | none |
| Finland | 1 | 112 | 44 | South Africa | 1 | 58 | 156 |
| France | 1 | 490 | 708 | Spain | 1 | 239 | 369 |
| Germany | 1 | 433 | 951 | Sweden | 1 | 365 | none |
| Greece | 1 | 17 | none | Switzerland | 0 | 268 | 240 |
| Hong Kong SAR, China | 0 | 487 | 377 | Taiwan, China | 0 | 90 | none |
| Hungary | 1 | 7 | none | Turkey | 1 | 17 | none |
| Iceland | 1 | 38 | none | Ukraine | 0 | 8 | none |
| India | 0 | 295 | 227 | United Kingdom | 1 | 2,023 | 1,084 |
| Ireland | 0 | 253 | 181 | United States | 1 | 2,647 | 3,818 |
| Israel | 1 | 172 | none | | | | |
| Italy | 1 | 198 | 334 | **Total** | | **13,447** | **13,447** |

Note: This table shows the number of acquirer ultimate parents and targets per country in our cross-border M&A sample to investigate Hypothesis 1b. In this context, cross-border M&As are defined as acquirer ultimate parent and target residing in different countries; the direct acquirer and acquirer ultimate parent reside in the same country. To keep the mixed logit regressions computationally feasible, the set of considered candidate target countries is restricted (see Section 3.3). CFC rule takes the value one, if the acquirer country has implemented CFC rules in 2014.

**Table 9. Definition, data sources and summary statistics of variables for analyzing effect of acquirer CFC rules on probability of being target country (Section 3.4.3).**

| Variable | Definition | Data source | Obs. | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|---|---|
| $CFC^{dummy}$ | Binary dummy variable coded one if target country STR is smaller than acquirer country's tax rate threshold of CFC rule or acquirer country applies CFC rules without a tax rate threshold, and 0 otherwise | Tax guides | 317,444 | 0.345 | 0.475 | 0 | 1 |
| $CFC^{diff}$ | Difference between acquirer country STR and target country STR if target country STR is smaller than acquirer country's tax rate threshold of CFC rule or acquirer country applies CFC rules without a tax rate threshold, and 0 otherwise | Tax guides | 317,444 | 0.037 | 0.063 | 0.000 | 0.284 |
| $CFC^{diffEATR}$ | Difference between acquirer country STR and target country STR if target country EATR is smaller than acquirer country's tax rate threshold of the CFC rule or acquirer country applies CFC rules without a tax rate threshold, and 0 otherwise | Tax guides; Oxford University Centre for Business Taxation | 317,444 | 0.031 | 0.057 | -0.033 | 0.284 |
| $CFC^{diffEEA}$ | Same as $CFC^{diff}$; however, set to zero if acquirer and target country are both EEA member states and M&A year is after 2006 | Tax guides | 317,444 | 0.035 | 0.062 | 0.000 | 0.284 |
| Below | See expression (6) | Tax guides | 317,444 | 0.037 | 0.063 | 0.000 | 0.284 |
| Above | See expression (7) | Tax guides | 317,444 | 0.008 | 0.026 | 0.000 | 0.258 |
| Higher | See expression (8) | Tax guides | 317,444 | 0.014 | 0.030 | 0.000 | 0.259 |
| $CFC^{taxbase}$ | See expression (10) | Tax guides | 317,444 | 0.305 | 0.058 | 0.125 | 0.409 |
| $CFC^{profitable}$ | Same as $CFC^{diff}$; however, for non-profitable targets set to zero | Tax guides; SDC Platinum; Compustat North America; Compustat Global | 53,270 | 0.026 | 0.057 | 0.000 | 0.284 |
| $CFC^{non\_profitable}$ | Same as $CFC^{diff}$; however, for profitable targets set to zero | Tax guides; SDC Platinum; Compustat North America; Compustat Global | 53,270 | 0.013 | 0.042 | 0.000 | 0.277 |
| STR | STR in candidate target country, including typical local taxes | Tax guides | 317,444 | 0.287 | 0.071 | 0.125 | 0.409 |
| GDP per capita | GDP per capita in candidate target country (natural logarithm) | World Bank | 317,444 | 10.267 | 0.687 | 7.942 | 11.284 |
| GDP growth | Growth of GDP in candidate target country (in %) | World Bank | 317,444 | 3.221 | 3.206 | -7.821 | 15.240 |
| Stock market capitalization per GDP | Stock market capitalization of listed domestic firms in candidate target country (in % of GDP) | World Bank | 317,444 | 124.1 | 178.4 | 17.020 | 1,254.5 |
| Size of private credit market | Domestic credit to private sector in candidate target country (in % of GDP) | World Bank | 317,444 | 109.5 | 47.091 | 13.353 | 233.4 |
| Distance | Simple distance (in km) between most populated cities of acquirer and candidate target country (natural logarithm) | Mayer and Zignago (2011) | 317,444 | 8.609 | 1.046 | 5.153 | 9.883 |
| Common language | Common language index between acquirer and candidate target country (0 (low similarity) to 1 (high similarity)) | Melitz and Toubal (2014) | 317,444 | 0.235 | 0.212 | 0.000 | 0.991 |
| Past colonial relationships | Binary dummy variable coded one if acquirer and candidate target country were ever in a colonial relationship, and 0 otherwise | Mayer and Zignago (2011) | 317,444 | 0.103 | 0.304 | 0 | 1 |
| Common legal system | Binary dummy variable coded one if legal system of acquirer and candidate target country have common legal origins, and 0 otherwise | Head et al. (2010) | 317,444 | 0.329 | 0.470 | 0 | 1 |
| Corruption control | Corruption control index of candidate target country (-3 (low control) to 3 (high control)) | World Bank | 317,444 | 1.072 | 0.976 | -1.088 | 2.527 |
| Business start-up cost | Cost of business start-up procedures in candidate target country (in % of GNI per capita) | World Bank | 317,444 | 9.601 | 12.746 | 0.000 | 78.400 |
| Unemployment rate | Unemployment rate in candidate target country (in % of total labor force) | World Bank | 317,444 | 7.031 | 5.050 | 2.493 | 27.140 |
| Domestic firms | Number of listed domestic firms in candidate target country (natural logarithm) | World Bank | 317,444 | 6.426 | 1.232 | 3.714 | 8.638 |
| Business disclosure | Business extent of disclosure index of in candidate target country (0 (less disclosure) to 10 (more disclosure)) | World Bank | 264,159 | 7.188 | 2.344 | 0 | 10 |
| AcquirerAssets | Pre-deal consolidated acquirer total assets in the last year before the effective M&A date (natural logarithm) | SDC Platinum; Compustat North America; Compustat Global | 215,197 | 20.280 | 2.808 | 11.513 | 28.710 |
| AcquirerROA | Pre-deal consolidated acquirer pre-tax income in the last year before the effective M&A date divided by pre-deal consolidated acquirer total assets in the last year before the effective M&A date | SDC Platinum; Compustat North America; Compustat Global | 215,197 | 0.035 | 5.999 | -191.9 | 360.5 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *AcquirerSales* | Pre-deal consolidated acquirer net sales in the last year before the effective M&A date (natural logarithm) | SDC Platinum; Compustat North America; Compustat Global | 206,176 | 19.979 | 2.732 | 8.219 | 26.834 |
| *AcquirerEBITDA* | Pre-deal consolidated acquirer EBITDA (earnings before interest, taxes, depreciation and amortization) in the last year before the effective M&A date (natural logarithm) | SDC Platinum; Compustat North America; Compustat Global | 180,202 | 18.594 | 2.365 | 9.210 | 24.723 |

Note: Data on country fixed effects are not reported but are available upon request.

**Table 10. Effect of acquirer CFC rules on probability of being target country (Section 3.4.3).**

| Explanatory variables | (1) Conditional logit | (2) Conditional logit | (3) Mixed logit | (4) Mixed logit |
|---|---|---|---|---|
| $CFC^{dummy}$ | -0.1078** | | | |
| | (0.0450) | | | |
| $CFC^{diff}$ | | -1.7115*** | -2.8880*** | -2.8880*** |
| | | (0.3921) | (0.5306) | (0.8075) |
| STR | 2.6019*** | 2.4139*** | 2.0753*** | 2.0753** |
| | (0.6293) | (0.6309) | (0.6398) | (0.8535) |
| GDP per capita | -0.0639 | -0.0388 | -0.0848 | -0.0848 |
| | (0.1740) | (0.1739) | (0.1744) | (0.3059) |
| GDP growth | 0.0142* | 0.0143* | 0.0134* | 0.0134 |
| | (0.0081) | (0.0081) | (0.0081) | (0.0112) |
| Stock market capitalization per GDP | -0.0003 | -0.0003 | -0.0003 | -0.0003 |
| | (0.0002) | (0.0002) | (0.0002) | (0.0003) |
| Size of private credit market | -0.0019** | -0.0019** | -0.0021*** | -0.0021** |
| | (0.0008) | (0.0008) | (0.0008) | (0.0011) |
| Distance | -0.5799*** | -0.5740*** | -0.5736*** | -0.5736*** |
| | (0.0112) | (0.0114) | (0.0114) | (0.0188) |
| Common language | 1.9043*** | 1.9006*** | 1.9162*** | 1.9162*** |
| | (0.0639) | (0.0638) | (0.0641) | (0.1225) |
| Past colonial relationships | 0.2992*** | 0.2777*** | 0.2712*** | 0.2712*** |
| | (0.0375) | (0.0377) | (0.0378) | (0.0489) |
| Common legal system | 0.0172 | 0.0311 | 0.0345 | 0.0345 |
| | (0.0269) | (0.0271) | (0.0272) | (0.0483) |
| Corruption control | 0.1651* | 0.1644* | 0.1600* | 0.1600 |
| | (0.0859) | (0.0860) | (0.0863) | (0.1337) |
| Business start-up cost | -0.0073** | -0.0072** | -0.0075** | -0.0075* |
| | (0.0033) | (0.0033) | (0.0033) | (0.0044) |
| Unemployment rate | -0.0004 | 0.0001 | 0.0004 | 0.0004 |
| | (0.0064) | (0.0064) | (0.0064) | (0.0085) |
| Domestic firms | 0.1775** | 0.1651* | 0.1834** | 0.1834 |
| | (0.0848) | (0.0846) | (0.0848) | (0.1338) |
| Acquirer country FE & target country FE & target firm FE & year FE | YES | YES | YES | YES |
| Observations | 317,444 | 317,444 | 317,444 | 317,444 |
| Log-likelihood | -31,158 | -31,151 | -31,144 | -31,144 |

Note: Regressions of probability of being the target country on (potential) CFC rule application in acquirer country; see expression (12). For each deal, the dependent variable equals one if country $j$ is the actual target's country of origin, and zero if country $g$ is a counterfactual target country. For variable definitions and data sources, see Table 9. Only cross-border M&As where the direct acquirer country is equal to the acquirer ultimate parent country are considered. All regressions control for target country fixed effects, which are available upon request. The variables of interest follow a random distribution in the mixed logit regressions. Regressions (1) and (2) are estimated by a conditional logit model and regressions (3) and (4) are estimated by a mixed logit model. Regression (4) is identical to regression (3) except for standard errors, which are robust to clustering on the acquirer-country-year level. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Robust standard errors are provided in parentheses.

**Table 11. Robustness tests of effect of acquirer CFC rules on probability of being target country (Section 3.4.3).**

| Explanatory variables | (1) Using target effective average tax rate | (2) Considering EAA exemption (post 2006) | (3) Considering included income of CFC rule | (4) Randomizing STR | (5) Excl. acquirers from AU&CA&NZ | (6) Excl. targets from DE&UK&US | (7) Incl. business disclosure index | (8) OLS regression |
|---|---|---|---|---|---|---|---|---|
| $CFC^{diff}$ | | | | -2.9635*** | -3.0176*** | -1.9885*** | -2.1462*** | |
| | | | | (0.5612) | (0.5315) | (0.6091) | (0.5646) | |
| $CFC^{diffEATR}$ | -1.6836*** | | | | | | | |
| | (0.4775) | | | | | | | |
| $CFC^{diffEEA}$ | | -3.2489*** | | | | | | |
| | | (0.5360) | | | | | | |
| $CFC^{taxbase}$ | | | -1.3819[a] | | | | | |
| | | | (0.9350) | | | | | |
| $CFC^{dummy}$ | | | | | | | | -0.0163*** |
| | | | | | | | | (0.0012) |
| STR | 2.3923*** | 1.9682*** | 3.8860*** | 1.8021*** | 2.2549*** | -0.7337 | 1.8860** | 0.0429* |
| | (0.6354) | (0.6407) | (1.0668) | (0.6577) | (0.6744) | (0.9266) | (0.7650) | (0.0251) |
| GDP per capita | -0.0710 | -0.0803 | -0.1884 | -0.3431* | 0.0169 | -0.5203*** | 0.3354 | 0.0117* |
| | (0.1744) | (0.1749) | (0.1798) | (0.1848) | (0.1825) | (0.1978) | (0.2291) | (0.0063) |
| GDP growth | 0.0139* | 0.0137* | 0.0140* | 0.0119 | 0.0109 | 0.0186** | 0.0204** | 0.0004 |
| | (0.0081) | (0.0081) | (0.0082) | (0.0083) | (0.0087) | (0.0093) | (0.0087) | (0.0002) |
| Stock market capitalization per GDP | -0.0003 | -0.0003 | -0.0002 | -0.0001 | -0.0003 | -0.0002 | -0.0002 | -0.0000** |
| | (0.0002) | (0.0002) | (0.0002) | (0.0002) | (0.0002) | (0.0002) | (0.0003) | (0.0000) |
| Size of private credit market | -0.0020** | -0.0022*** | -0.0018** | -0.0022*** | -0.0029*** | -0.0034*** | -0.0025*** | -0.0001*** |
| | (0.0008) | (0.0008) | (0.0008) | (0.0008) | (0.0009) | (0.0011) | (0.0009) | (0.0000) |
| Distance | -0.5834*** | -0.5712*** | -0.5919*** | -0.5985*** | -0.5562*** | -0.6799*** | -0.5717*** | -0.0328*** |
| | (0.0113) | (0.0115) | (0.0122) | (0.0125) | (0.0145) | (0.0166) | (0.0123) | (0.0007) |
| Common language | 1.9332*** | 1.9217*** | 1.9710*** | 2.0260*** | 1.9892*** | 2.0413*** | 1.9405*** | 0.1293*** |
| | (0.0639) | (0.0640) | (0.0670) | (0.0684) | (0.0685) | (0.0805) | (0.0687) | (0.0049) |
| Past colonial relationships | 0.2986*** | 0.2636*** | 0.2760*** | 0.2637*** | 0.2214*** | 0.3984*** | 0.2497*** | 0.0051*** |
| | (0.0377) | (0.0378) | (0.0384) | (0.0387) | (0.0403) | (0.0485) | (0.0413) | (0.0018) |
| Common legal system | 0.0139 | 0.0364 | 0.0282 | 0.0315 | 0.0482* | 0.0919*** | 0.0162 | 0.0020* |
| | (0.0269) | (0.0272) | (0.0278) | (0.0280) | (0.0278) | (0.0341) | (0.0291) | (0.0012) |
| Corruption control | 0.1784** | 0.1504* | 0.1641* | 0.1525* | 0.1277 | 0.0777 | 0.3170*** | 0.0035 |
| | (0.0860) | (0.0865) | (0.0875) | (0.0889) | (0.0922) | (0.1113) | (0.1135) | (0.0027) |
| Business start-up cost | -0.0074** | -0.0074** | -0.0076** | -0.0081** | -0.0052 | -0.0071* | -0.0064* | 0.0002** |
| | (0.0033) | (0.0033) | (0.0033) | (0.0034) | (0.0035) | (0.0037) | (0.0036) | (0.0001) |
| Unemployment rate | 0.0003 | 0.0002 | -0.0026 | -0.0032 | 0.0033 | -0.0134* | 0.0055 | 0.0006*** |
| | (0.0064) | (0.0064) | (0.0065) | (0.0065) | (0.0067) | (0.0081) | (0.0071) | (0.0002) |

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| *Domestic firms* | 0.1715** | 0.1794** | 0.2252*** | 0.2844*** | 0.2078** | 0.2547*** | 0.0623 | 0.0030* |
| | (0.0848) | (0.0849) | (0.0861) | (0.0876) | (0.0883) | (0.0907) | (0.1015) | (0.0018) |
| *Business disclosure* | | | | | | | 0.0820 | |
| | | | | | | | (0.0686) | |
| Acquirer country FE & target country FE & target firm FE & year FE | YES | YES | YES | YES | YES | YES | YES | YES |
| Observations | 317,444 | 317,444 | 317,444 | 317,444 | 255,172 | 161,910 | 264,159 | 317,444 |
| Log-likelihood | -31,155 | -31,140 | -31,136 | -31,119 | -26,594 | -19,327 | -26,172 | |
| R squared adjusted | | | | | | | | 0.133 |

Note: Regressions of probability of being the target country on (potential) CFC rule application in acquirer country; see expression (12). For each deal, the dependent variable equals one if country $j$ is the actual target's country of origin, and zero if country $g$ is a counterfactual target country. For variable definitions and data sources, see Table 9. Only cross-border M&As where the direct acquirer country is equal to the acquirer ultimate parent country are considered. All regressions control for target country fixed effects, which are available upon request, and are estimated by a mixed logit model. The variables of interest follow a random distribution in the mixed logit regressions. Regression (1), (2) and (3) check whether our variable of interest is robust to using effective average tax rates, considering potential non-application of CFC rules within the EEA and considering the included income by CFC rules. In regression (4), also STR follows a random distribution. Regressions (5) and (6) exclude certain countries and regression (7) considers a further control variable (*Business disclosure*). Regression (8) is estimated by an OLS regression; the constant is not reported but available upon request. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Robust standard errors are provided in parentheses.

[a] The level of statistical significance is 13.9%.

**Table 12. Further robustness tests of effect of acquirer CFC rules on probability of being target country (Section 3.4.3).**

| Explanatory variables | (1)<br>Excl.<br>control<br>variables | (2)<br>Profitable vs.<br>non-profitable<br>targets | (3)<br>Incl. acquirer<br>assets & acquirer<br>return on assets | (4)<br>Incl.<br>acquirer<br>sales | (5)<br>Incl. acquirer<br>EBITDA |
|---|---|---|---|---|---|
| $CFC^{diff}$ | -6.4155*** | | -3.5409*** | -3.4268*** | -3.2957*** |
| | (0.4292) | | (0.6830) | (0.6655) | (0.7050) |
| $CFC^{profitable}$ | | -6.4673*** | | | |
| | | (1.6700) | | | |
| $CFC^{non\_profitable}$ | | -7.2323*** | | | |
| | | (1.9287) | | | |
| STR | | -1.8795 | 2.4216*** | 2.7097*** | 2.7031*** |
| | | (1.7514) | (0.7889) | (0.7979) | (0.8450) |
| GDP per capita | | 0.2851 | -0.1952 | -0.0804 | -0.3150 |
| | | (0.5944) | (0.2289) | (0.2319) | (0.2494) |
| GDP growth | | -0.0329 | 0.0119 | 0.0107 | 0.0096 |
| | | (0.0227) | (0.0101) | (0.0104) | (0.0111) |
| Stock market capitalization per GDP | | -0.0003 | 0.0000 | -0.0002 | -0.0000 |
| | | (0.0007) | (0.0003) | (0.0003) | (0.0003) |
| Size of private credit market | | -0.0050*** | -0.0027*** | -0.0029*** | -0.0026** |
| | | (0.0018) | (0.0010) | (0.0010) | (0.0011) |
| Distance | | -0.4524*** | -0.5450*** | -0.5504*** | -0.5388*** |
| | | (0.0303) | (0.0145) | (0.0152) | (0.0162) |
| Common language | | 2.0888*** | 1.6471*** | 1.5955*** | 1.4247*** |
| | | (0.1776) | (0.0896) | (0.0895) | (0.1006) |
| Past colonial relationships | | 0.2331*** | 0.2761*** | 0.2821*** | 0.2991*** |
| | | (0.0901) | (0.0462) | (0.0468) | (0.0489) |
| Common legal system | | 0.1076 | 0.1376*** | 0.1668*** | 0.2000*** |
| | | (0.0681) | (0.0363) | (0.0363) | (0.0388) |
| Corruption control | | 0.0070 | 0.1240 | 0.0248 | 0.0192 |
| | | (0.2145) | (0.1076) | (0.1088) | (0.1168) |
| Business start-up cost | | -0.0087 | -0.0122*** | -0.0110*** | -0.0091** |
| | | (0.0089) | (0.0041) | (0.0042) | (0.0046) |
| Unemployment rate | | -0.0252 | -0.0091 | -0.0124 | -0.0128 |
| | | (0.0160) | (0.0081) | (0.0082) | (0.0087) |
| Domestic firms | | 0.4353* | 0.1074 | 0.0945 | 0.1462 |
| | | (0.2224) | (0.1060) | (0.1069) | (0.1119) |
| Acquirer country FE & target country FE & target firm FE & year FE | YES | YES | YES | YES | YES |
| Observations | 317,444 | 53,270 | 215,197 | 206,176 | 180,202 |
| Log-likelihood | -34,219 | -5,028 | -20,617 | -19,818 | -17,463 |

Note: This table shows regressions of probability of being the target country on (potential) CFC rule application in acquirer country; see expression (12). For each deal, the dependent variable equals one if country *j* is the actual target's country of origin, and zero if country *g* is a counterfactual target country. For variable definitions and data sources, see Table 9. Only cross-border M&As where the direct acquirer country is equal to the acquirer ultimate parent country are considered. All regressions control for target country fixed effects, which are available upon request, and are estimated by a mixed logit model. The variables of interest follow a random distribution in the mixed logit regressions. Regression (1) drops all control variables and regression (2) distinguishes between profitable and non-profitable targets. Regression (3) includes the interaction between target country fixed effects and *AcquirerAssets* and the interaction between target country fixed effects and *AcquirerROA*. Regression (4) includes the interaction between target country fixed effects and *AcquirerSales*. Regression (5) includes the interaction between target country fixed effects and *AcquirerEBITDA*. The coefficients and standard errors of these interactions are shown in Table 13. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Robust standard errors are provided in parentheses.

**Table 13. Supplemental regression results for candidate target country fixed effects interacted with acquirer-specific financial data.**

| Regression (3) of Table 12 | | Regression (4) of Table 12 | | Regression (5) of Table 12 | |
|---|---|---|---|---|---|
| *Australia*AcquirerAssets* | -0.0867*** | *Australia*AcquirerSales* | -0.0542*** | *Australia*AcquirerEBITDA* | -0.0819*** |
| | (0.0194) | | (0.0199) | | (0.0230) |
| *Belgium*AcquirerAssets* | -0.0737** | *Belgium*AcquirerSales* | -0.0633** | *Belgium*AcquirerEBITDA* | -0.1133*** |
| | (0.0302) | | (0.0301) | | (0.0389) |
| *Brazil*AcquirerAssets* | 0.0321 | *Brazil*AcquirerSales* | 0.1174*** | *Brazil*AcquirerEBITDA* | 0.1288*** |
| | (0.0301) | | (0.0373) | | (0.0361) |
| *Canada*AcquirerAssets* | -0.1900*** | *Canada*AcquirerSales* | -0.1707*** | *Canada*AcquirerEBITDA* | -0.1391*** |
| | (0.0244) | | (0.0245) | | (0.0298) |
| *China*AcquirerAssets* | -0.1894*** | *China*AcquirerSales* | -0.1697*** | *China*AcquirerEBITDA* | -0.1784*** |
| | (0.0212) | | (0.0201) | | (0.0279) |
| *Denmark*AcquirerAssets* | -0.0393 | *Denmark*AcquirerSales* | -0.0148 | *Denmark*AcquirerEBITDA* | -0.0599 |
| | (0.0754) | | (0.0855) | | (0.0968) |
| *Finland*AcquirerAssets* | -0.0406 | *Finland*AcquirerSales* | 0.0486 | *Finland*AcquirerEBITDA* | -0.1441 |
| | (0.0725) | | (0.0660) | | (0.1023) |
| *France*AcquirerAssets* | -0.0699*** | *France*AcquirerSales* | -0.0638*** | *France*AcquirerEBITDA* | -0.1531*** |
| | (0.0168) | | (0.0174) | | (0.0216) |
| *Germany*AcquirerAssets* | -0.0929*** | *Germany*AcquirerSales* | -0.0944*** | *Germany*AcquirerEBITDA* | -0.1481*** |
| | (0.0156) | | (0.0160) | | (0.0196) |
| *HongKongSARChina*AcquirerAssets* | -0.2496*** | *HongKongSARChina*AcquirerSales* | -0.2166*** | *HongKongSARChina*AcquirerEBITDA* | -0.2576*** |
| | (0.0345) | | (0.0277) | | (0.0399) |
| *India*AcquirerAssets* | 0.0178 | *India*AcquirerSales* | 0.0684* | *India*AcquirerEBITDA* | 0.0444 |
| | (0.0334) | | (0.0371) | | (0.0420) |
| *Ireland*AcquirerAssets* | -0.0215 | *Ireland*AcquirerSales* | -0.0067 | *Ireland*AcquirerEBITDA* | -0.0489 |
| | (0.0349) | | (0.0344) | | (0.0421) |
| *Italy*AcquirerAssets* | 0.0233 | *Italy*AcquirerSales* | 0.0241 | *Italy*AcquirerEBITDA* | -0.0159 |
| | (0.0291) | | (0.0300) | | (0.0359) |
| *Japan*AcquirerAssets* | 0.0125 | *Japan*AcquirerSales* | -0.0390 | *Japan*AcquirerEBITDA* | -0.0462 |
| | (0.0403) | | (0.0456) | | (0.0554) |
| *KoreaRep*AcquirerAssets* | 0.0294 | *KoreaRep*AcquirerSales* | 0.0095 | *KoreaRep*AcquirerEBITDA* | 0.0552 |
| | (0.0504) | | (0.0494) | | (0.0542) |
| *Malaysia*AcquirerAssets* | -0.2115*** | *Malaysia*AcquirerSales* | -0.1429*** | *Malaysia*AcquirerEBITDA* | -0.2109*** |
| | (0.0426) | | (0.0421) | | (0.0558) |
| *Mexico*AcquirerAssets* | -0.3658*** | *Mexico*AcquirerSales* | -0.1508*** | *Mexico*AcquirerEBITDA* | -0.0526 |
| | (0.0316) | | (0.0437) | | (0.0550) |
| *Netherlands*AcquirerAssets* | -0.0799*** | *Netherlands*AcquirerSales* | -0.0567*** | *Netherlands*AcquirerEBITDA* | -0.1291*** |
| | (0.0209) | | (0.0215) | | (0.0259) |
| *NewZealand*AcquirerAssets* | -0.1727*** | *NewZealand*AcquirerSales* | -0.1197*** | *NewZealand*AcquirerEBITDA* | -0.3288*** |
| | (0.0307) | | (0.0266) | | (0.0381) |
| *Norway*AcquirerAssets* | -0.1155*** | *Norway*AcquirerSales* | -0.0915*** | *Norway*AcquirerEBITDA* | -0.1021*** |
| | (0.0273) | | (0.0262) | | (0.0340) |
| *Poland*AcquirerAssets* | -0.0356 | *Poland*AcquirerSales* | -0.0602 | *Poland*AcquirerEBITDA* | -0.0928* |
| | (0.0452) | | (0.0441) | | (0.0500) |
| *RussianFederation*AcquirerAssets* | -0.0841 | *RussianFederation*AcquirerSales* | -0.1421** | *RussianFederation*AcquirerEBITDA* | -0.0242 |
| | (0.0558) | | (0.0607) | | (0.0884) |
| *Singapore*AcquirerAssets* | -0.1589*** | *Singapore*AcquirerSales* | -0.1096*** | *Singapore*AcquirerEBITDA* | -0.1836*** |
| | (0.0315) | | (0.0268) | | (0.0356) |
| *SouthAfrica*AcquirerAssets* | -0.1952*** | *SouthAfrica*AcquirerSales* | -0.1524*** | *SouthAfrica*AcquirerEBITDA* | -0.1421*** |
| | (0.0376) | | (0.0371) | | (0.0543) |
| *Spain*AcquirerAssets* | -0.0371 | *Spain*AcquirerSales* | -0.0328 | *Spain*AcquirerEBITDA* | -0.0454 |
| | (0.0317) | | (0.0312) | | (0.0358) |
| *Switzerland*AcquirerAssets* | -0.0841*** | *Switzerland*AcquirerSales* | -0.0741*** | *Switzerland*AcquirerEBITDA* | -0.0619* |
| | (0.0264) | | (0.0285) | | (0.0350) |
| *UnitedKingdom*AcquirerAssets* | -0.0884*** | *UnitedKingdom*AcquirerSales* | -0.0762*** | *UnitedKingdom*AcquirerEBITDA* | -0.1113*** |
| | (0.0174) | | (0.0179) | | (0.0214) |
| *Australia*AcquirerROA* | -0.0370 | | | | |
| | (0.0295) | | | | |
| *Belgium*AcquirerROA* | 0.0158*** | | | | |
| | (0.0057) | | | | |
| *Brazil*AcquirerROA* | -0.0375 | | | | |
| | (0.0277) | | | | |
| *Canada*AcquirerROA* | -0.0413 | | | | |
| | (0.0390) | | | | |
| *China*AcquirerROA* | -0.0043 | | | | |
| | (0.0112) | | | | |
| *Denmark*AcquirerROA* | 0.0424 | | | | |
| | (0.5075) | | | | |
| *Finland*AcquirerROA* | -0.1937 | | | | |
| | (0.1496) | | | | |
| *France*AcquirerROA* | 0.0021 | | | | |
| | (0.0058) | | | | |
| *Germany*AcquirerROA* | 0.0108** | | | | |
| | (0.0053) | | | | |
| *HongKongSARChina*AcquirerROA* | -0.0648* | | | | |
| | (0.0355) | | | | |
| *India*AcquirerROA* | -0.0484 | | | | |
| | (0.0374) | | | | |
| *Ireland*AcquirerROA* | -0.0134 | | | | |
| | (0.0453) | | | | |
| *Italy*AcquirerROA* | -0.0068 | | | | |
| | (0.0254) | | | | |
| *Japan*AcquirerROA* | -0.0642* | | | | |

|  | (0.0346) |
| --- | --- |
| KoreaRep*AcquirerROA | -0.0577* |
|  | (0.0337) |
| Malaysia*AcquirerROA | 0.0007 |
|  | (0.0079) |
| Mexico*AcquirerROA | -0.0010 |
|  | (0.0081) |
| Netherlands*AcquirerROA | -0.0154 |
|  | (0.0531) |
| NewZealand*AcquirerROA | 0.0195 |
|  | (0.0137) |
| Norway*AcquirerROA | -0.0151 |
|  | (0.0344) |
| Poland*AcquirerROA | -0.0394 |
|  | (0.0410) |
| RussianFederation*AcquirerROA | -0.0564* |
|  | (0.0339) |
| Singapore*AcquirerROA | -0.0539 |
|  | (0.0349) |
| SouthAfrica*AcquirerROA | 0.0006 |
|  | (0.0076) |
| Spain*AcquirerROA | -0.0365 |
|  | (0.0386) |
| Switzerland*AcquirerROA | 0.0027 |
|  | (0.0058) |
| UnitedKingdom*AcquirerROA | -0.0098 |
|  | (0.0196) |

Note: Table reports supplemental results of regressions (3), (4) and (5) of Table 12. In particular, the coefficient of the interaction between candidate target country fixed effects with acquirer-specific consolidated financial data (acquirer total assets, acquirer return on assets, acquirer net sales and acquirer earnings before interest, taxes, depreciation and amortization) are shown. In all regressions, the US represent the base category *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Robust standard errors are provided in parentheses.

**Table 14. Further robustness tests of acquirer CFC rules in the form of OLS regressions for acquirer and target country probabilities (Section 3.4.4).**

| Explanatory Variables | (1) Acquirer Perspective | (2) Target Perspective | (3) Acquirer Perspective | (4) Target Perspective | (5) Acquirer Perspective | (6) Target Perspective | (7) Acquirer Perspective | (8) Target Perspective |
|---|---|---|---|---|---|---|---|---|
| $CFC^{dummy}$ | -0.0118*** | -0.0182*** | 0.0021 | 0.0001 | | | | |
| | (0.0021) | (0.0012) | (0.0044) | (0.0023) | | | | |
| $CFC^{diff}$ | | | | | 0.0008 | -0.0458* | 0.0063 | -0.0323* |
| | | | | | (0.0374) | (0.0262) | (0.0265) | (0.0193) |
| Distance | -0.0352*** | -0.0328*** | | | | | | |
| | (0.0007) | (0.0007) | | | | | | |
| Common language | 0.0963*** | 0.1303*** | | | | | | |
| | (0.0041) | (0.0049) | | | | | | |
| Past colonial relationships | 0.0132*** | 0.0053*** | | | | | | |
| | (0.0019) | (0.0018) | | | | | | |
| Common legal system | 0.0045*** | 0.0023** | | | | | | |
| | (0.0010) | (0.0012) | | | | | | |
| Target Country-Year FE | YES | YES | YES | YES | YES | YES | YES | YES |
| Acquirer Country-Year FE | YES | YES | YES | YES | YES | YES | YES | YES |
| Country-Pair FE | | | YES | YES | YES | YES | YES | YES |
| Observations | 317,835 | 318,666 | 317,826 | 318,545 | 317,826 | 318,545 | 471,474 | 497,147 |
| R squared adjusted | 0.1374 | 0.1321 | 0.1805 | 0.1800 | 0.1805 | 0.1801 | 0.1617 | 0.1575 |

Note: This table shows ordinary least squares (OLS) regressions with various fixed effects as robustness checks. For each deal, the dependent variable equals one if country $i$ ($j$) is the actual acquirer's (target's) country of origin, and zero if country $h$ ($g$) is a counterfactual acquirer (target) country in the relevant perspective shown alternately. For variable definitions and data sources, see Table 3 and Table 9. Only cross-border M&As where the direct acquirer country is equal to the acquirer ultimate parent country are considered. All regressions control for target country-year and acquirer country-year fixed effects. In regressions (1) and (2), some country-pair specific control variables are included. In the following regressions (3) to (8), country-pair fixed effects are included to account for these effects even stricter. In regressions (5) to (8), another variable of interest with more heterogeneity is used. The sample base of regressions (7) and (8) is set to its initial size as in these fixed effects regressions no observations have to be deleted due to potential missing control variables as in the former logistic regressions above. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Robust standard errors are provided in parentheses.

**Table 15. Cross-border M&A sample (2002-2014) for analyzing effect of CFC rules on direction of cross-border M&As (Section 4.4).**

| Country | CFC rule | Number of acquirers | Number of targets | Country | CFC rule | Number of acquirers | Number of targets |
|---|---|---|---|---|---|---|---|
| Australia | 1 | 43 | 57 | Luxembourg | 0 | 3 | 6 |
| Austria | 0 | 7 | 3 | Mexico | 1 | 7 | 5 |
| Belgium | 0 | 21 | 27 | Netherlands | 0 | 41 | 19 |
| Brazil | 1 | 3 | 24 | New Zealand | 1 | 4 | 4 |
| Canada | 1 | 70 | 101 | Norway | 1 | 9 | 24 |
| Chile | 0 | 2 | 6 | Poland | 0 | 1 | 5 |
| China | 1 | 14 | 6 | Portugal | 1 | 2 | 1 |
| Denmark | 1 | 7 | 9 | Russian Federation | 0 | 6 | 2 |
| France | 1 | 64 | 83 | South Africa | 1 | 20 | 10 |
| Germany | 1 | 55 | 65 | Spain | 1 | 29 | 40 |
| India | 0 | 32 | 12 | Sweden | 1 | 5 | 5 |
| Ireland | 0 | 32 | 14 | Switzerland | 0 | 40 | 18 |
| Israel | 1 | 21 | 16 | United Kingdom | 1 | 156 | 338 |
| Italy | 1 | 30 | 21 | United States | 1 | 411 | 260 |
| Japan | 1 | 55 | 9 | | | | |
| Korea, Rep. | 1 | 9 | 9 | **Total** | | **1,199** | **1,199** |

Note: This table shows the number of acquirer ultimate parents and target ultimate parents per country in our cross-border M&A sample to investigate Hypothesis 2. In this context, cross-border M&As are defined as acquirer ultimate parent and target ultimate parent residing in different countries; the direct acquirer and acquirer ultimate parent reside in the same country and also the direct target and target ultimate parent reside in the same country. CFC rule takes the value one if the country has implemented CFC rules in 2014. Each country has at least one acquiring firm and one target firm to ensure that maximum likelihood estimation yields finite likelihood.

**Table 16. Definition, data sources and summary statistics of variables for analyzing effect of CFC rules on direction of cross-border M&As (Section 4.4).**

| Variable | Definition | Data source | Obs. | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|---|---|
| $\Delta CFC\_value$ | Difference in CFC value of the two firms (see Section 4.2) | Tax guides | 1,199 | 0.059 | 1.536 | -3 | 3 |
| $\Delta CFC\_dummy$ | Difference in CFC rule of the two firms (see Section 4.2) | Tax guides | 1,580 | -0.069 | 0.466 | -1 | 1 |
| $\Delta STR$ | Difference in STRs, including typical local taxes, of the two firms (in %) | Tax guides | 1,199 | 1.149 | 9.233 | -26.706 | 26.823 |
| $\Delta DTM$ | Difference in method to avoid double taxation on foreign dividends of two firms where 0 (1) represents the credit (exemption) method | Tax guides | 1,199 | -0.008 | 0.690 | -1 | 1 |
| $\Delta Size$ | Difference in total assets of the two firms divided by the sum of the firms' total assets | SDC Platinum; Compustat North America; Compustat Global | 1,199 | 0.799 | 0.301 | -0.990 | 1.000 |
| $\Delta PTI$ | Difference in pre-tax incomes of the two firms divided by the sum of the firms' pre-tax incomes, where non-positive values of pre-tax income are replaced by 0.001 to avoid low values in the denominator | SDC Platinum | 1,199 | 0.645 | 0.550 | -1.000 | 1.000 |
| $\Delta Leverage$ | Difference in leverage ratios of the two firms (total liabilities/total assets, in %) | SDC Platinum; Compustat North America; Compustat Global | 1,199 | -0.082 | 0.942 | -22.413 | 4.314 |
| $\Delta StockMrk$ | Difference in stock market capitalizations of the two countries divided by the sum of the countries' stock market capitalization volume | World Bank | 1,199 | 0.104 | 0.783 | -1.000 | 1.000 |
| $\Delta CreditMrk$ | Difference in domestic credits to private sector of the two countries divided by the sum of the countries' domestic credit volume | World Bank | 1,199 | 0.089 | 0.732 | -0.997 | 0.998 |
| $\Delta Inflation$ | Difference in inflation rates of the two countries (in %) | World Bank | 1,199 | 0.037 | 2.106 | -13.352 | 11.742 |

Note: Data on country fixed effects are not reported but are available upon request. These statistics show relative values of the variables when firm $a$ acquires firm $b$, see expression (11). For example, if firm $a$ has a leverage ratio of 0.45 and firm $b$ has a leverage ratio of 0.50, then $\Delta Leverage$ takes the value -0.05 (=0.45-0.50).

**Table 17. Effect of CFC rules on direction of cross-border M&As (Section 4.4).**

| Explanatory variables | Level of direct acquirer & direct target | | Level of acquirer ult. par. & target ult. par. | | | |
|---|---|---|---|---|---|---|
| | **(1)** | **(2)** | **(3)** | **(4)** | **(5)** | **(6)** |
| $\Delta CFC\_value$ | -1.127** | | -1.438** | | -2.025[a] | |
| | (0.530) | | (0.701) | | (1.558) | |
| $\Delta CFC\_dummy$ | | -2.027* | | -3.543** | | -10.944*** |
| | | (1.132) | | (1.754) | | (2.620) |
| $\Delta STR$ | 0.168* | 0.096** | 0.278*** | 0.062 | 0.693*** | 0.079 |
| | (0.086) | (0.038) | (0.105) | (0.043) | (0.254) | (0.058) |
| $\Delta DTM$ | -0.242 | 0.201 | -0.910 | -0.399 | -1.833** | -0.881 |
| | (0.652) | (0.671) | (0.853) | (0.879) | (0.927) | (1.040) |
| $\Delta Size$ | 5.101*** | 5.509*** | 5.480*** | 5.698*** | 7.523*** | 6.037*** |
| | (0.398) | (0.409) | (0.501) | (0.477) | (1.403) | (0.886) |
| $\Delta PTI$ | 1.177*** | 1.128*** | 1.399*** | 1.307*** | 1.571 | 0.906 |
| | (0.407) | (0.375) | (0.466) | (0.366) | (1.040) | (0.844) |
| $\Delta Leverage$ | 0.158** | 0.216** | 0.123* | 0.206** | -0.098 | -0.372 |
| | (0.068) | (0.086) | (0.068) | (0.083) | (0.983) | (0.638) |
| $\Delta StockMrk$ | 4.914*** | 2.802** | 6.446*** | 3.004** | 9.175*** | 2.896 |
| | (1.615) | (1.292) | (2.278) | (1.459) | (3.105) | (2.410) |
| $\Delta CreditMrk$ | -6.363*** | -2.533* | -8.826*** | -3.069 | -9.829* | 0.013 |
| | (1.848) | (1.403) | (2.851) | (1.884) | (5.900) | (4.130) |
| $\Delta Inflation$ | 0.193 | 0.083 | 0.321 | 0.132 | 0.245 | 0.002 |
| | (0.205) | (0.171) | (0.245) | (0.210) | (0.534) | (0.427) |
| Country fixed effects | YES | YES | YES | YES | YES | YES |
| Observations | 1,199 | 1,580 | 989 | 1,305 | 418 | 492 |
| Number of countries | 30 | 31 | 30 | 30 | 29 | 29 |
| Log-likelihood | -99.2 | -133.6 | -70.2 | -100.7 | -24.8 | -38.1 |
| Time period | 2002-2014 | 1995-2014 | 2002-2014 | 1995-2014 | 2002-2014 | 1995-2014 |

Note: Logit regressions of probability of being the acquirer country on (potential) CFC rules in a cross-border M&A; see expression (11). For variable definitions and data sources, see Table 16. All regressions control for country fixed effects, which are available upon request. Regressions (1) and (2) consider M&As where the direct acquirer and direct target reside in the same country as their respective ultimate parents. Regressions (3) and (4) are the same as (1) and (2), but require that the direct acquirer and the direct target are the respective groups' ultimate parents. Regressions (5) and (6) are the same as (3) and (4), but exclude M&As involving the United States. Regressions (2), (4) and (6) consider in addition years 1995-2001; due to a lack of more detailed historic CFC rule data $\Delta CFC\_value$ cannot be constructed for the time period 1995-2001. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Robust standard errors are provided in parentheses.

[a] The level of statistical significance is 19.4%.