

Overesch, Michael; Schindler, Dirk; Wamser, Georg

Working Paper

Design and Consequences of CFC and GILTI Rules: A Review and Potential Lessons for the Global Minimum Tax

CESifo Working Paper, No. 11018

Provided in Cooperation with:

Ifo Institute – Leibniz Institute for Economic Research at the University of Munich

Suggested Citation: Overesch, Michael; Schindler, Dirk; Wamser, Georg (2024) : Design and Consequences of CFC and GILTI Rules: A Review and Potential Lessons for the Global Minimum Tax, CESifo Working Paper, No. 11018, Center for Economic Studies and ifo Institute (CESifo), Munich

This Version is available at:

<https://hdl.handle.net/10419/296107>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Design and Consequences of CFC and GILTI Rules: A Review and Potential Lessons for the Global Minimum Tax

Michael Overesch, Dirk Schindler, Georg Wamser

Impressum:

CESifo Working Papers

ISSN 2364-1428 (electronic version)

Publisher and distributor: Munich Society for the Promotion of Economic Research - CESifo GmbH

The international platform of Ludwigs-Maximilians University's Center for Economic Studies and the ifo Institute

Poschingerstr. 5, 81679 Munich, Germany

Telephone +49 (0)89 2180-2740, Telefax +49 (0)89 2180-17845, email office@cesifo.de

Editor: Clemens Fuest

<https://www.cesifo.org/en/wp>

An electronic version of the paper may be downloaded

- from the SSRN website: www.SSRN.com
- from the RePEc website: www.RePEc.org
- from the CESifo website: <https://www.cesifo.org/en/wp>

Design and Consequences of CFC and GILTI Rules: A Review and Potential Lessons for the Global Minimum Tax

Abstract

This chapter provides a description of one of the key anti-tax-avoidance rules to combat profit shifting by multinational corporations, so called Controlled Foreign Corporation (CFC) rules that directly target income in low-tax countries. We explain some key institutional features of CFC provisions. We then present some data and descriptive statistics before we review existing theoretical and empirical research analyzing CFC rules. Our review also includes the new U.S. GILTI rules. CFC rules are effective in curbing profit shifting, but their effect on the real economy is still unclear. In contrast, GILTI seems to be ineffective when it comes to profit shifting, but it has consequences for real activity. We finally argue that research on CFC regulations and GILTI can be informative in assessing the recent global minimum tax initiative.

JEL-Codes: H250, F230.

Keywords: Controlled-foreign-company (CFC) Rules, Global Intangible Low-taxed Income (GILTI), tax havens, tax avoidance, effects of regulation, global minimum tax.

Michael Overesch
University of Cologne / Germany
overesch@wiso.uni-koeln.de

Dirk Schindler
Erasmus School of Economics
Rotterdam / The Netherlands
Schindler@ese.eur.nl

Georg Wamser
University of Tübingen / Germany
georg.wamser@uni-tuebingen.de

March 15, 2024

This draft chapter has been prepared for the Research Handbook on the Economics of Tax Havens (edited by Arjan Lejour and Dirk Schindler). We thank Sarah Clifford, Ruby Doeleman, Arjan Lejour, Mohammed Mardan, Hirofumi Okoshi, and Martin Ruf for very valuable comments.

1 Introduction

Many countries have adopted controlled foreign company (CFC) rules with the objective to prevent multinational corporations (MNCs) from shifting profits to low-tax jurisdictions. In particular, CFC rules aim at taxing foreign profits generated by MNCs' affiliates in low-tax jurisdictions that would otherwise be tax exempt or subject to tax deferred in the investor's country. CFC rules generally distinguish between passive and active income. Usually, only passive income is included in the investor's tax base so that it is subject to additional taxation at the level of the investor.¹ Across countries, the definitions of passive income vary but take into account types of income that are often associated with international profit shifting, such as interest or royalty income.

Numerous countries have implemented CFC rules. Already in 1998, the OECD expressed in its report on harmful tax practices “that countries that do not have such rules [should] consider adopting them and that countries that have such rules [should] ensure that they apply in a fashion consistent with the desirability of curbing harmful tax practices.” (OECD 1998, 4). With its 2015 Base Erosion and Profit Shifting (BEPS) action plan, the OECD (2015) spells out this point in Action 3 and makes very clear that countries are supposed to strengthen their CFC Rules. They are a key policy instrument that directly tackles the role of tax havens in profit-shifting structures.

The first country to adopt CFC legislation was the U.S. by implementing anti-tax-avoidance provisions in its Subpart F of the Internal Revenue Code in 1962. In the 1970s, some large countries added CFC rules to their tax law: Germany in 1972, Canada in 1976, and Japan in 1978 (see OECD Data Explorer, CFC rules). Despite their important role and their long history, CFC rules received only limited attention in (accounting and economics) research. Nevertheless, the available studies provide valuable insights on impact and effectiveness of CFC rules.

In this chapter, we present an overview on CFC rules. We first provide some institutional background on CFC rules, their application and consequences in Section 2. The overview also considers a new design of a CFC rule, namely the U.S. Global Intangible Low-taxed Income (GILTI) regime, which was enacted as part of the 2017 U.S. Tax Cut and Jobs Act (TCJA). Section 3 reviews the scarce theoretical literature on CFC rules. This literature justifies the

¹ The investor is often the parent firm (headquarters) of an MNC or a subordinate holding (parent) company in an ownership chain.

existence of CFC rules, in addition to other anti-tax-avoidance regulation, via double tax discrimination of MNCs according to their investment elasticities, and it predicts some behavioral responses both in profit shifting and real investment. Section 4 focuses on the available empirical evidence on CFC rules. We review studies that identify changes in profit-shifting behavior based on implemented CFC rules, changes in CFC rules over time, and specific events such as the U.S. “check-the-box” (CTB) provisions and the Cadbury-Schweppes judgment in the EU. We additionally summarize the (limited) evidence on responses in the real economy (i.e., in real economic activity). Section 5 provides an overview on studies investigating the effects of the new U.S. GILTI provisions. We discuss potential avenues for future research on CFC rules, particularly in light of the global minimum tax (GMT) initiative under OECD Pillar II in Section 6.² Section 7 concludes.

2 Institutional Setting

CFC rules are a central policy instrument to combat international profit shifting of MNCs. The OECD (2015) highlights that these rules allow for targeting the MNCs’ possibilities to shift income from high(er)-taxed affiliates and the parent company to a controlled affiliate in a low-tax country. In the absence of CFC rules, the presence of a CFC in a low-tax country provides the MNCs with opportunities for a long-term deferral or complete avoidance of taxation (OECD 2015, 9).

2.1 The General Design of CFC Rules

In Action 3 of its 15-points action plan to address BEPS, published in 2015, the OECD (2015) outlines the decisive building blocks for the design of effective CFC rules. Basically, there are three criteria that, jointly met, trigger the application of CFC rules:³ (i) There is a foreign affiliate (i.e., a “CFC”) of an MNC that is headquartered in the country of the CFC rule; (ii) this CFC earns passive income; and (iii) the CFC faces an effective tax rate that is (too) low.

A basic condition for the application of a CFC Rule is that a domestic investor (e.g., the parent firm of an MNC) must have a *controlling influence* over a foreign affiliate. Usually, controlling influence means a direct or indirect ownership of at least 50% of the shares or the voting rights in the foreign affiliate. The second criterion states that income of the foreign

² For details on the GMT and the OECD Pillar II project, see Hebous, Hillier, and Mengistu (2024) and de Wilde (2024), both in this handbook, who provide discussions based on perspectives from economics and legal studies, respectively.

³ For details of the rules, including recommendations on exemption clauses and measures to avoid double taxation, see OECD (2015). For example, one prominent exemption clause is the presence of sufficient active income relative to the passive income in the low-taxed CFC.

affiliate must be classified by the respective tax legislation as *passive income*.⁴ Passive income is either directly defined or indirectly determined as all income that is not listed as active income.⁵ The definition of passive and active income varies, but active income is usually income derived from production, sales, and trade of services. Passive income often includes interest payments (from related affiliates) and royalty payments earned on intangible assets. Finally, there is a *tax threshold* to identify low taxation. If the effective tax rate (ETR) of the CFC, based on the tax-base calculation following the rules of the country setting the CFC legislation, falls below the CFC tax threshold, and the other two criteria are also fulfilled, CFC taxation kicks in. The definition of the tax threshold can be in absolute terms (e.g., less than 25% ETR under the German rule until 2023, 15% since 2024), as a percentage of the corporate income tax (CIT) rate in the country of the CFC rule (e.g., two thirds of the Norwegian CIT rate in the Norwegian rule) or a mix of both (e.g., 9% CIT rate plus some blacklisted countries in the Dutch rule).

When conditions (i) to (iii) are met, the CFC's income is attributed to the tax base of the investor (e.g., the parent company of an MNC), usually according to the investor's ownership share in the CFC. Some differences apply to whether only the passive income of the CFC ('tainted income approach') or both passive and active income of the CFC ('jurisdictional approach') are added to the investor's tax base. In any case, binding CFC rules override the tax exemption principle and enforce an inclusion of the low-taxed foreign passive income in the investor's own tax base so that effectively the investor's CIT rate applies.

To illustrate the functioning of the rules, let us take the French CFC rule of 2020 as an example.⁶ The French CFC legislation applies to a foreign affiliate of a French MNC if the foreign CIT is below 40% of the French CIT rate. Thus, given the French tax rate of 34% in 2020, passive income of the foreign affiliates (without substantial active business) located in countries with a CIT below 13.6% (40% of 34%), and outside the EEA, is subject to tax at the level of the French parent, i.e., at a rate of 34%.

It is important to note that in ownership chains, the CFC regulation always works from the top down; the rules of the investor's residence country, e.g., the headquarters or a holding company of an MNC, are relevant. Then, all affiliates directly or indirectly controlled by a

⁴ A few countries (additionally) use blacklists where any income in a blacklisted country can trigger the CFC rule (e.g., Australia and Japan).

⁵ A case in point for an indirect definition of passive income by listing "acceptable" active income is the German CFC rule.

⁶ The example is taken from Hansen, Merlo, and Wamser (2023).

parent firm or a holding company fall under the CFC rules of that country.⁷ The residence-country perspective is a striking difference to other anti-avoidance legislation like thin capitalization rules and transfer price regulation that rest on economic activity in the source country but are independent of the ownership structure of the targeted affiliates.

2.2 Restrictions on Application: The U.S. “Check-the-box” Rules and the ECJ Cadbury-Schweppes Judgment

Although CFC rules are intended to include profits of low-taxed affiliates in the investor's higher-taxed income, legal restrictions both in the U.S. and Europe have made the applicability of CFC rules considerably more difficult.

The so-called CTB option of the U.S. CFC rule changed its effectiveness in a fundamental way. In January 1997, the new CTB rule became effective. It was intended to simplify tax compliance and filings. This new procedure became infamously known as the CTB regime.⁸ CTB allows for declaring a foreign firm entity as a permanent affiliate (i.e., a branch with pass-through taxation) for U.S. tax purposes. This affiliate can be the permanent establishment of another foreign, non-U.S. affiliate. Of course, the CTB declaration in the U.S. does not affect the corporation status of the apparent permanent establishment in its foreign country of residence. Consequently, CTB allows for establishing hybrid companies.

Via these hybrid companies, the CTB option can be used to avoid application of the U.S. CFC rule as soon as a foreign affiliate is a disregarded entity for U.S. tax purposes. To do so, a U.S. parent company checks the box and declares a tax haven affiliate as a permanent establishment for U.S. tax purposes. The latter is owned by a foreign affiliate in a high-tax country that itself is owned by the U.S. MNC. Income shifting to the haven affiliate implies base erosion in countries where income is generated, while there is low (or no) taxation in the haven. For U.S. tax purposes, however, income of the haven affiliate virtually accrues in the other, high-taxed foreign affiliate that owns the haven affiliate. As a pass-through entity, the haven affiliate will be disregarded by the U.S. Internal Revenue Service (IRS). Hence, there is no low taxation of any income and the Subpart F provisions do not apply. This illustrates that the IRS has – seemingly unintentionally – limited the effectiveness of the U.S. CFC rule by administratively simplifying the tax return.

⁷ In ownership chains, a cascading effect can emerge in that the CFC rules of the countries of both the intermediate holding company and the ultimate parent owner apply.

⁸ We follow Blouin and Krull (2014, Section 2) for the details of the CTB rule.

A comparable restriction on the applicability of CFC Rules has arisen for countries of the European Union (EU). This is due to the Cadbury-Schweppes judgment by the European Court of Justice (ECJ) in September 2006. This judgment limits the applicability of CFC rules within the European Economic Area (EEA) to wholly artificial arrangements that are not associated with real economic activity, such as pure letter boxes (see Schenkelberg 2020).⁹

The background for the judgment is as follows (see Schreiber 2013, Section 4.3.4). The firm Cadbury Schweppes contested the U.K. CFC rule in general and the specific attempts by the British tax authority to include substantial passive income of an Irish affiliate into the tax base of Cadbury Schweppes in the U.K. The ECJ agreed with Cadbury Schweppes that the CFC rule violates the freedom of establishment, one of the five fundamental freedoms guaranteed by the Treaty on the Functioning of the European Union. CFC rules only apply if there is passive income in a low-taxed foreign affiliate; but not if there is passive income in another domestic affiliate or in a high-taxed foreign affiliate. Hence, there is outbound discrimination. As a consequence of this, CFC rules of EU countries had to be amended. Accordingly, after the ECJ judgment, most European CFC rules do only apply to affiliates in EEA countries if they are not associated with real economic activities. Anecdotal evidence from tax practice suggests that depending on the type of business, a minimal activity with only a few employees can fulfill the substance requirement easily.¹⁰

2.3 Data and Descriptive Statistics

Data from the International Tax Institutions (ITI) database provided by the Research School of International Taxation (RSIT)¹¹ document that more and more countries add CFC provisions to their tax laws (see Wamser et al. 2024). Figure 1 depicts the number of countries that have implemented a CFC rule in a given year. It shows that many countries have enacted CFC legislation over the last 20 years, in particular EU and OECD member countries. Following the adoption of the EU Anti-Tax Avoidance Directive (ATAD) in 2016, particularly EEA countries have adopted CFC provisions since the implementation deadline in 2019. By the start of 2024, the only OECD member countries that do not have CFC legislation in their national tax laws

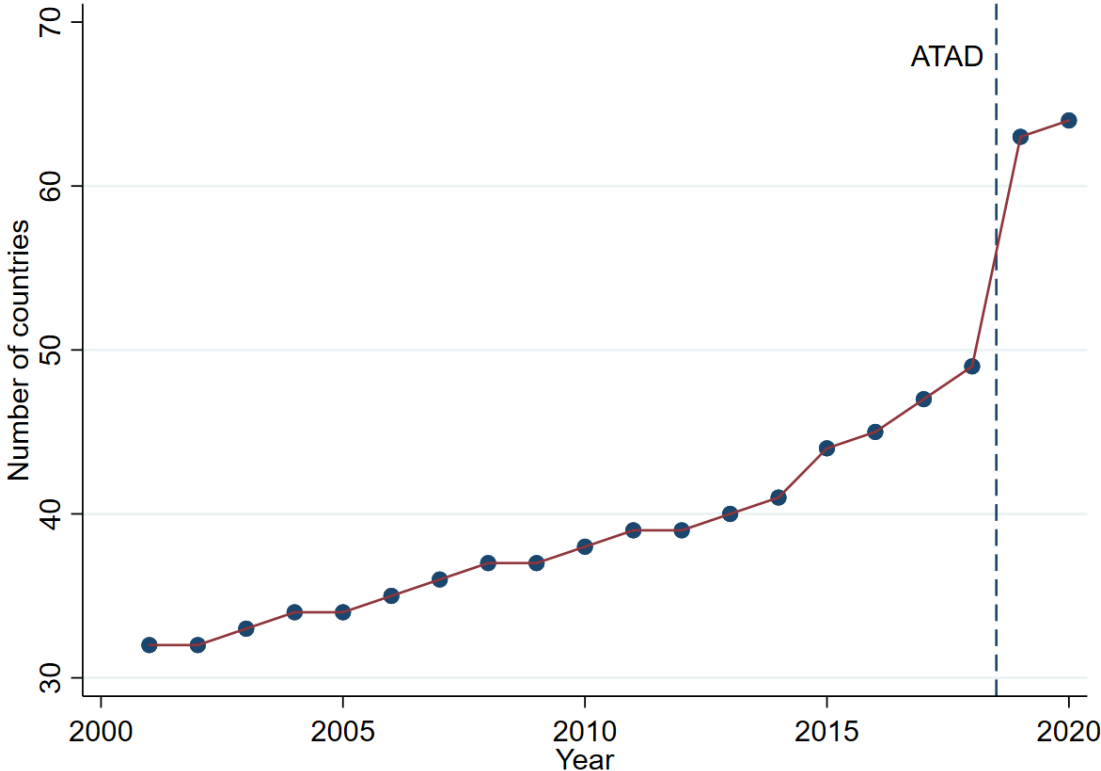
⁹ See Bräutigam, Spengel, and Streif (2017) for an overview on responses by governments and the consequences of the judgment.

¹⁰ For example, in the (extreme) case of an investment funds company in Luxembourg that is owned by a Swedish parent, it turned out that having an external trustee and regular board meetings on site fulfill the substance requirement. See decision No. 6446-19 (October 7, 2020) by the Supreme Administrative Court of Sweden, which argued that more manpower and activity is not necessary to manage capital investments.

¹¹ The RSIT Tübingen is an interdisciplinary team of researchers, working on policy-relevant topics in international taxation and cross-border activities of MNC (see www.rsit-tuebingen.de).

are Switzerland and Costa Rica. All in all, the number of countries with CFC legislation has doubled from 32 countries in 2001 to 64 in 2020 (of 220 countries in total for which information on CFC rules is available). For more information on minimum tax thresholds see Table 1. The three columns in the table depicting the thresholds over the years 2004, 2014, and 2020 reflect the trend that more and more countries implement CFC rules and that countries that have rules sometimes have made them tighter over time (e.g., France).

Figure 1: Number of Countries with CFC Rule



Source: Data taken from ITI database provided by RSIT.

Many countries’ CFC rules become effective vis-à-vis host countries if the latter apply an ETR that is lower than about 50% of the investor country’s CIT rate, see Table 1. The reason is, of course, that these are the relevant foreign jurisdictions when it comes to profit-shifting activities of MNCs incorporated in high-tax countries. Naturally, from a country’s perspective, there is an increased incentive to implement a CFC rule if the country is a high-tax location (as profit-shifting activities come at the cost of these countries).

In our data for the year 2020, the pairwise correlation coefficient between a CFC rule indicator (which equals one if a country has a CFC rule and zero otherwise) and the statutory tax rate of the country is about 0.2. Moreover, the unconditional probability that a country has

implemented a CFC rule is increasing by 24 percentage points if the country is among the 10% highest-tax countries.

2.4 A Special Case: U.S. Taxation of Global Intangible Low-tax Income (GILTI)

Traditional CFC rules aim at the taxation of certain types of income in foreign affiliates. As described above, a distinction is usually made between passive and active income, where passive income is possibly subject to additional taxation at the level of the investor. This principle is also applied by the U.S. CFC rule in Subpart F of the U.S. tax code. However, as a part of the U.S. tax reform (TCJA) in 2017, the inclusion of CFC income under Subpart F was supplemented by a new regulation that specifies GILTI (see IRC 951A). GILTI is now also subject to inclusion in the investor's U.S. tax base.

The term GILTI suggests that a specific type of income is considered. However, GILTI is not determined on the basis of qualitative income criteria, but as an excess return in relation to so-called qualified business asset investments (QBAI). The innovation of this new rule is therefore no longer to identify specific types of passive income. Instead, residual profits above a basic return on observable assets are related to some intangible assets that often cannot be observed. The GILTI amount is determined as follows. In a first step, the QBAI of all CFCs of a group is determined. QBAI is the average of tangible property subject to depreciation used in a trade or business. A rate of 10% on the QBAI can be deducted from total income of the controlled entities. GILTI is then the residual amount, i.e., after 10% times QBAI has been deducted from the CFC income. Half of this GILTI amount is subject to U.S. taxation of the U.S. investor. Since the TCJA, the U.S. CIT rate is 21%, and the tax burden on the GILTI amount is therefore 10.5 % for corporations ($10.5\% = 0.5 \times 21\%$). At the same time, however, 80% of foreign taxes can be credited against the U.S. tax. Consequently, an additional tax liability in the U.S. only arises if foreign taxes are less than 13.125% (because $10.5\% = 13.125\% \times 0.8$). From 2026, 62.5% of the GILTI amount will instead be subject to U.S. taxation so that the effective U.S. tax burden will increase from 10.5% to 13.125% ($13.125\% = 0.625 \times 21\%$) and additional U.S. taxes arise only if foreign taxes are less than 16.4%.

Table 1: CFC tax thresholds in OECD countries

Country	Threshold (%) in 2004	Threshold (%) in 2014	Threshold (%) in 2020
Australia	CL	CL	CL
Austria	–	–	12.5%
Belgium	–	–	50% of CIT
Canada	100% of CIT	100% of CIT	100% of CIT
Chile	–	–	17.5%
Colombia	–	–	CL
Czech Republic	–	–	50% of CIT
Denmark	100% of CIT	100% of CIT	100% of CIT
Estonia	–	–	100% of CIT
Finland	60% of CIT	60% of CIT	60% of CIT
France	2/3 of CIT	50% of CIT	40% of CIT
Germany	25%	25%	25%
Greece	–	50% of CIT	50% of CIT
Hungary	12%	10%	50% of CIT
Iceland	–	2/3 of CIT	2/3 of CIT
Ireland	–	–	50% of CIT
Israel	20%	15%	15%
Italy	CL	50% of CIT + CL	50% of CIT
Japan	25%	20%	20% + CL
Korea(Rep.)	15%	15%	15%
Latvia	–	–	50% of CIT
Lithuania	75% of CIT	75% of CIT	50% of CIT
Luxembourg	–	–	50% of CIT
Mexico	75% of CIT	75% of CIT	75% of CIT
Netherlands	–	–	9% + CL
NewZealand	CL	100% of CIT	100% of CIT
Norway	2/3 of CIT	2/3 of CIT	2/3 of CIT
Poland	–	–	50% of CIT + CL
Portugal	60% of CIT + CL	60% of CIT + CL	50 % of CIT + CL
Slovak Republic	–	–	50% of CIT
Slovenia	–	–	50% of CIT
Spain	75% of CIT	75% of CIT	75% of CIT
Sweden	55% of CIT + CL	55% of CIT + CL	55% of CIT + CL
Switzerland	–	–	–
Turkey	–	10%	10%
U.K.	75% of CIT	75% of CIT	75% of CIT
U.S.	90% of CIT	90% of CIT	90% of CIT + GILTI

Sources: EY Worldwide Corporate Tax Guide, PwC Worldwide Tax Summaries, ITI. CIT: Corporate Income Tax; CL: Country List (including white, black, or general country lists that are associated with differential treatment); “– “ indicates that there is no CFC rule in place.

This regulation, therefore, appears to result in additional taxation of low-taxed foreign profits if profits exceed the 10% base rate of the QBAI. For typical letterbox companies or intellectual property (IP) companies, the QBAI is regularly very low, which could result in high GILTI amounts. Thus, at first glance, the GILTI regime seems suitable for subjecting profits in tax havens to a minimum taxation of at least 10.5%. However, this is not necessarily the case because both the QBAI and the foreign tax credit are recorded for all locations of an MNC in total (global blending). This means that QBAI and tax payments in high-tax locations are also considered so that income from tax havens can be effectively shielded from the GILTI regime. The effects of the GILTI regime are therefore difficult to predict.¹²

3 Theoretical Work on CFC Rules

To the best of our knowledge, there are only three theoretical papers that (directly) focus on CFC rules and their effects.

3.1 International Investment Efficiency

Weichenrieder (1996) provides a positive analysis of exogenously given domestic CFC rules in a setting with exemption vs. tax credit method and investment in a productive foreign low-tax affiliate. The model thus does not incorporate a tax haven affiliate. In the relevant case where the CFC rule is active, but withholding taxes on dividend repatriations are absent, the analysis suggests that the marginal productivity in the foreign affiliate will drop below the market interest rate. The author concludes that the domestic parent firm will never repatriate active investment income (sheltering it by investing in foreign bonds and enjoying the low tax burden on the principal) and only pays out passive income (p. 73). Furthermore, provisions that waive CFC rules as long as passive income (or passive assets) lies below a certain percentage of total income (assets), set incentives to invest too much active capital in the low-tax country to comply with CFC provisions. More active investment allows for more passive income in the low-tax country such that there is an extra return on active investment. Weichenrieder (1996, 76f.) concludes that a tight passive-to-active-income threshold appears beneficial for the high-tax country to mute the reallocation of (active) capital to the low-tax country.

3.2 Solving a Puzzle: Double Tax Discrimination of Multinationals

More recently, Haufler, Mardan, and Schindler (2018) address the justification of CFC rules. Source-based anti-avoidance rules like thin capitalization rules protect the domestic tax base of

¹² Dharmapala (2018) provides a good overview of the literature on the expected effects of the U.S. tax reform and the new GILTI regime in particular.

a country against debt shifting (i.e., the use of internal debt) in all domestic affiliates, no matter whether their parent companies reside in that country or are headquartered abroad. Similarly, transfer pricing rules restrict profit shifting both via intra-firm trade and royalty payments (on intangibles) in all domestic affiliates. Hence, both sets of regulation together cover the full scope of shifting via passive income. Different from these source-based rules, CFC rules only limit tax avoidance in affiliates of domestically headquartered MNCs, and hence, only protect a subset of the domestic tax base. However, they additionally force domestic MNCs to pay higher taxes in their foreign affiliates and potentially reduce their competitiveness relative to foreign MNCs. What could the value added of CFC rules be for a domestic government?

A part of the answer is that CFC rules (as residence-based approach) help to limit profit shifting when source-based rules like thin capitalization rules and transfer price regulation offer leeway and cannot be perfectly enforced. Combining various sets of rules allows for better limiting profit shifting. The main reason, however, for adding CFC rules to the other regulation is allowing for an efficient double tax discrimination of firms and affiliates within a country. This result rests on the idea that foreign direct investment (FDI) suffers from additional costs (e.g., agency issues) that do not matter for domestic investment.¹³ These additional costs make FDI more tax sensitive and increase the tax-base elasticity of foreign-owned affiliates relative to affiliates of domestic MNCs. Similar to the optimal discrimination between immobile domestic firms and mobile MNCs (Hong and Smart 2010; Haufler and Runkel 2012),¹⁴ this triggers an incentive to optimally differentiate the ETRs of affiliates depending on where their parent firm resides. Just as MNCs should face lower ETRs than domestic firms, foreign-owned affiliates should face a lower ETR than a domestically owned MNC affiliate. Like statutory tax rates, thin capitalization and transfer pricing rules cannot – due to legal constraints – be directly conditioned on where the parent firm resides. Haufler et al. (2018) show, however, that the optimal differentiation can be achieved by setting weak(er) thin capitalization rules to substantially reduce the ETR for foreign-owned affiliates. At the same time, strict CFC rules reduce this tax advantage for domestically owned affiliates and ensure that their ETR is optimally higher (as their tax elasticity is lower).

Let us be more specific about the model in Haufler et al. (2018). The authors use a setting with two large countries plus a continuum of tax havens that differ in their tax rate. Each

¹³ See, for example, the ‘home market effect’ in Krugman (1980). The reasoning is similar to ‘iceberg shipping costs’ in international trade.

¹⁴ See Gresik and Wilson (2024) in this handbook for an overview on how tax havens allow for optimal tax discrimination between domestic firms and MNCs.

country hosts one immobile, purely national firm and one representative (small) MNC. Each MNC owns a productive domestic affiliate, a productive affiliate in the other country, and a tax haven affiliate that serves as internal bank. The parent equips the internal bank with equity, which is then provided as internal debt to the productive affiliates. FDI causes additional investment costs and ensures a higher tax elasticity in foreign affiliates. The governments set their statutory tax rates and choose the strictness of their thin capitalization and CFC rules. In the tax competition equilibrium, a high statutory tax rate on domestic firms emerges whereas affiliates of foreign MNCs face a substantially lower ETR as they can use high levels of internal debt to avoid taxes. Domestic MNC affiliates face an effective tax burden in between the other two groups as they can also use internal debt, but the CFC rules significantly restrict this avoidance channel for them. Importantly, with decreasing mobility of FDI, the optimal CFC rules become stricter (and the optimal thin capitalization rule gets weaker) as the elasticity difference between the two types of MNC affiliates increases.

3.3 Implications for Tax Competition

Paulus (2022) extends the scope to tax competition between heterogeneous countries and analyzes the EU ATAD. The basic set-up is similar to Haufler et al. (2018), but the two productive countries differ in (geographical) size. Furthermore, the paper assumes a linear production technology, fixed investment per firm, and shifting costs that effectively reduce the amount that can be used as internal debt, proportionally to the CFC threshold tax rate. The ‘home market bias’ reenters via heterogeneous investors that face costs for FDI, depending on their distance to the border with the other country. In sum, Paulus (2022) eliminates the intensive investment margin, and all effects happen at the extensive one.

Assuming a staggered time sequence where revenue-maximizing countries first choose their CFC rules (threshold rate) and then their corporate tax rate, the author shows that the effect of stricter CFC rules (i.e., a higher threshold rate) on the statutory tax rates depends on whether the CFC threshold is above or below a critical level. If the CFC threshold is still below this level, a stricter CFC rule reduces the CIT rates in both countries and triggers more tax competition. The intuition is in line with the findings on optimal tax discrimination by preferential tax regimes (Keen 2001; Janeba and Smart 2003): Taking out the targeted instrument for tax competition requires to rely on the broader, more distortive statutory tax rate to attract firms. In contrast, if the CFC threshold crosses the critical value, profit shifting does not really matter any longer, and countries have incentives to exploit ‘locked-in investment’ to a larger extent.

Generally, the existing literature suggests that CFC rules are always part of a country's policy mix, even if all countries set their policies non-cooperatively. For homogenous countries, Haufler et al. (2018) can even show that CFC rules do not suffer from tax competition as long as the government objective is tax-revenue maximization. However, CFC rules become laxer relative to the globally coordinated policies as soon as there is a positive welfare weight on private (capital) income. Haufler et al. (2018, 34) suggest that a high welfare weight on private income (including MNCs' profits) can explain why the U.S. government never repealed the CTB rule.¹⁵

Although these findings show that concerns about domestic MNCs weaken the case of CFC rules, the existing literature, being exclusively based on perfect-competition models, cannot address a concern and debate among policymakers and the general public: What if a country uses tax incentives to create 'national champions' and give them a competitive advantage? For example, the U.S. effectively abolished its CFC rules with the CTB provision. Did this tilt competition with non-U.S. MNCs and should other countries have abolished their CFC rules as well? To answer these questions properly, one would need a model of imperfect competition with strategic interaction among MNCs. We consider this an interesting avenue for future research of high policy relevance.

3.4 Implications for Firm Behavior

The theoretical literature also provides some testable results and hypotheses both on profit-shifting behavior and for real economic activity. If a CFC rule is perfectly binding, the optimal profit-shifting response of an MNC, falling under this rule, is to put its internal bank (and profit center) into an affiliate that just faces the threshold tax rate of the CFC rule. That implies a reduced tax differential in profit shifting. For that reason, the MNC reduces its internal debt shifting (i.e., the internal debt-to-asset ratios in its non-haven affiliates drop) and it lowers its income shifting via royalty payments.¹⁶ Consequently, there will be less equity (to be passed on as internal debt) and less income in tax havens and low-tax affiliates for which CFC rules bind.

¹⁵ In concurrent work, Kalamov (2024, Section 6) in this handbook provides a more elaborate overview on how tax competition affects the setting of CFC rules and how they embed into an optimal package of corporate tax avoidance regulation.

¹⁶ If CFC rules are not perfectly binding but offer some leeway when costly tax planning effort is exerted, they still reduce international tax avoidance via passive income shifting because the CFC rules increase marginal tax planning costs for given marginal tax savings.

Turning to responses in the real economy, there is, however, a price that high-tax countries using CFC rules must pay: They experience lower (real) investment.¹⁷ For example, the reduction of profit shifting via internal debt increases effective capital costs and makes investment in MNCs less attractive (Haufler et al. 2018). Furthermore, there is a negative investment effect via royalty payments (i.e., transfer pricing in intangibles). Applying insights from the literature on royalty taxes (Juraneck, Schindler, and Schjelderup 2018; Juraneck, Schindler, and Schneider 2023) that rest on the same mechanism like CFC rules, there is no real effect from reducing profit shifting via royalty payments as marginal tax savings and marginal tax planning costs net out at the investment margin. However, for sales-dependent royalty payments, which are a wide-spread feature (San Martín and Saracho 2010), investment will still decrease. The reason is that CFC rules also enforce a higher tax burden on the arm's-length payment on the underlying intangible asset, earned in the haven affiliate. This higher tax does increase effective capital costs.

4 Empirical Work on CFC Rules

Despite their key role in international tax legislation and the attention CFC rules have received in the policy debate and the OECD's action plan, there is only a relatively small empirical literature investigating the consequences of CFC rules.

4.1 The Effect on Profit-Shifting Behavior

Early work of Altshuler and Hubbard (2002) examine the effects of the 1986 U.S. tax reform with respect to changes in the U.S. Subpart F provisions that made it more difficult to defer U.S. taxes on financial income held in low-tax countries. The authors use data provided by the U.S. Internal Revenue Service (IRS) and show, based on OLS regressions, that taxes affect the allocation of assets held by financial-services affiliates of U.S. MNCs before the 1986 tax reform. It seems, however, that the asset allocation is no longer tax-driven after the reform. The authors explain this with the tightening of anti-avoidance provisions.

The findings by Ruf and Weichenrieder (2012) suggest that the German CFC rule effectively restricts the allocation of passive assets to low-tax jurisdictions. Using data from the MiDi database (Microdatabase Direct Investment) provided by the German Bundesbank (the German central bank), their main specification includes more than 85,000 foreign affiliate-year observations of German MNCs. The authors exploit variation in the German CFC rule and run

¹⁷ See Alstadsæter, Davies, Parenti, and Toubal (2024) in this handbook for an overview on the empirical literature dealing with real effects of profit shifting.

panel fixed effects regressions. They also exploit the fact that double tax agreements (DTAs) without activity clauses sheltered affiliates in these DTA countries from the application of the German CFC rule. As control group serve those affiliates in countries where an activity clause in the DTA precludes passive income from the application of the tax exemption principle, i.e., allows for CFC taxation. Their findings suggest that affiliates located in countries that are treated as low-tax jurisdictions by the German CFC rule (i) hold substantially lower amounts of passive assets and (ii) are less likely to serve as conduit entity. Additional results show that the German CFC rule also has an effect on the extensive margin of FDI, as it significantly (negatively) affects the allocation of foreign affiliates held by German MNCs.

More recently, Clifford (2019) contributes to this literature by demonstrating that if a CFC rule becomes binding, the financial profits of these treated foreign affiliates drop by about 13%. At the same time, the financial profits of affiliates in the ultimate-owner country increase by 4.4% and financial profits of other foreign affiliates by 5.2%. By showing that MNCs incorporate more foreign affiliates in countries that are just above the minimum tax threshold implied by a CFC rule (i.e., in countries that are just not treated by a CFC rule of the ultimate owner), the findings also suggest that CFC rules affect location choices of MNCs and the profit centers (i.e., the effective ‘haven affiliates’) reside just at the CFC threshold. In sum, the results in Clifford (2019) perfectly support the earlier theoretical predictions in Haufler et al. (2018). The empirical analysis of the paper is based on Orbis, an affiliate-level dataset, and exploits variation in CFC rules between ultimate firm owners and foreign affiliates. More precisely, it exploits differences in profitability and location of affiliates around the CFC tax threshold for a regression discontinuity analysis and it also exploits variation in the tightness of CFC rules over time and across countries.

A recent contribution by Hansen, Merlo, and Wamser (2023) demonstrates that implementing CFC rules by parent-firm countries does not lead to a relocation of profits to parent firms (from treated low-tax affiliates). In fact, if affiliates of MNCs are treated by a CFC rule, profits are reallocated to other foreign affiliates of the MNC that are just not treated. The study is based on direct parent-affiliate ownership data also from Orbis, and a sample of more than one million observations. Interestingly, while profits are relocated away from those foreign affiliates that are affected by CFC rules, other firm entities within MNCs see a significant increase in various measures of real activity (see below).

Albertus (2023), finally, investigates tax-motivated income shifting by analyzing data on foreign-owned U.S. subsidiaries. The study exploits variation in CFC rules implemented in foreign parent countries. The results of the paper suggest that if parent countries adopt CFC rules, there is less tax-motivated income shifting out of the U.S. to third countries with low taxes.

4.2 Evidence on “Check-the-box” and the Cadbury-Schweppes Judgment

A few papers exploit the implementation of the U.S. CTB rule and the ECJ Cadbury-Schweppes judgment as experiments, undermining the effectiveness of existing CFC rules.

Analyzing the U.S. Subpart F regulation, Mutti and Grubert (2009) argue that the CTB regulations significantly simplified the use of hybrid entities. The latter allow MNCs to retain earnings in low-tax locations. The authors test their hypothesis by using data from the U.S. Bureau of Economic Analysis (BEA). Their empirical findings, including a broad descriptive analysis as well as OLS regressions, suggest that the Subpart F regulation effectively lost its effectiveness because of the CTB opportunity.

Blouin and Krull (2014) also use data from the BEA and analyze how current ETRs of U.S. MNCs have changed after the 1997 CTB tax legislation came into force. Their findings indicate that worldwide ETRs declined quite substantially in the post-1996 period and that this decline is mainly driven by the foreign affiliates of the U.S. MNCs. One interpretation of that finding is that the CTB rule allows U.S. MNCs to conduct more profit shifting from non-U.S. affiliates to tax havens.

Overesch, Strueder, and Wamser (2020) focus on effective tax expenses of U.S. and European MNCs to learn about the consequences of CFC rules. The study uses Compustat data and compares the ETRs taken from the consolidated financial accounts of MNCs over the last three decades. Using propensity score matching methods, very similar U.S. MNCs and European MNCs are compared and analyzed with respect to their ETRs. The authors first exploit the introduction of the CTB option in the U.S. in a difference-in-differences setting (based on the matched sample of U.S. and European MNCs for financial years from 1995 - 2003) and test the earlier claim (also by many tax practitioners) that CTB has rendered the U.S. Subpart F provisions inefficient. This is confirmed in the empirical analysis demonstrating that CTB has led to lower ETRs of U.S. MNCs compared to their European peers. Depending on the specification and tax measure, the CTB option is associated with a substantial drop in ETRs by four to six percentage points. Moreover, the ECJ’s Cadbury-Schweppes judgment in 2006

has changed the application of CFC rules within the EEA. The empirical findings suggest that the Cadbury-Schweppes judgment led to a drop in ETRs of European MNCs of about two to five percentage points, depending on tax measure and specification.

Based on the affiliate-level dataset Amadeus and a difference-in-differences approach, Schenkelberg (2020) finds that pre-tax earnings of affiliates in European low-tax countries increase substantially after the ECJ's Cadbury Schweppes judgment. Additional tests suggest that this finding is mainly driven by MNCs with enhanced incentives to shift profits. Furthermore, it seems that the main channel is abusive transfer pricing rather than debt shifting activities.

Relatedly, Ruf and Weichenrieder (2013) follow up on their earlier analysis (see Ruf and Weichenrieder 2012) and argue that the ECJ Cadbury-Schweppes judgment has limited the applicability of CFC rules within the EEA. The paper, therefore, focuses on changes around the ECJ judgment, suggesting substitution away from low-tax non-EEA countries to low-tax EEA countries after 2006.

4.3 Consequences for Investment and M&A Dynamics

Egger and Wamser (2015) are the first ones analyzing real consequences – in terms of investment in fixed assets – of CFC rules. They focus on investment effects in the low-tax (haven) affiliates for which the German CFC rule is binding. Using the Bundesbank's MiDi dataset, and a multi-dimensional regression discontinuity design around various thresholds in the German CFC rule, their estimates suggest a long-run local treatment effect of about seven million Euro. This is a substantial impact, as the estimated effect, a conditional local treatment effect, corresponds to a reduction in the fixed assets of about 64%. The results thus imply that CFC rules increase firms' overall cost of capital and lead to adverse investment effects in (targeted low-tax) CFCs. The study by Hansen et al. (2023), using different data and a different research design (see above), confirms a negative effect on employment.¹⁸ Beside foreign (treated) affiliates, Hansen et al. (2023) also investigate real effects at the parent location as well as the effects on other foreign affiliates held by treated parents. Their findings suggest zero effects for all real outcomes (employment, fixed assets, productivity) at the parent firm. Other affiliates within the MNCs, especially those where profits get relocated to (see above), see a significant increase in various measures of real activity.

¹⁸ The effect on the fixed assets is zero, however. It seems that the treated foreign affiliates in Hansen et al. (2023) are pure profit-shifting entities without any substantial real activity before treatment. This may explain the zero effect on fixed assets.

Voget (2011) investigates headquarters location decisions of MNCs, comparing 140 MNCs relocating their headquarters to 1,943 MNCs that do not relocate. Based on logit regressions, an interesting finding of the study is that the lack of CFC rules attracts headquarters. This confirms the hypothesis that CFC rules constrain an MNC's ability to shift profits, which makes a location less attractive.

Adding to the evidence on the impact of CFC rules on extensive-margin decisions of MNCs, Prettl and von Hagen (2023) examine how CFC rules affect cross-border merger and acquisition (M&A) activity. The empirical results are based on a global M&A dataset with more than 14,000 deals over the time period 2002 to 2014 (provided by Thomson Financial) and on discrete choice methods. An important finding of the analysis is that CFC rules generally lead to less M&A activity in low-tax countries as the probability of being an acquirer of a low-tax foreign affiliate decreases if CFC rules possibly apply to a target's income. The authors argue, however, that this effect is quantitatively relatively small.

4.4 Summary

To sum up, the empirical work on CFC rules suggests that these rules quite effectively restrict the allocation of passive assets and profits within MNCs, confirming theoretical predictions. Empirical studies also show that more complex restrictions on the applicability of the CFC rules can massively limit their effectiveness.¹⁹ Tax havens suffer from effective CFC regulation, and the new “effective” haven affiliates within MNCs are those affiliates that face a tax rate just above the CFC tax threshold. Whether regulating countries, however, benefit in terms of positive tax base effects is unclear and more research is needed to find out about this. In particular analyses on how investment (or more generally economic activity) in the implementing countries and other high-tax affiliates of MNCs respond to CFC rules is scarce. Moreover, to the best of our knowledge, there is no research on the effects of CFC rules on certain channels such as debt shifting. The latter may inform about the cost of capital implications and help quantify the consequences for firms' real investments.

5 Empirical Evidence on the GILTI Provisions

A relatively recent literature empirically analyzes the implications of the new U.S. GILTI provisions (see also Dharmapala 2024). We differentiate between papers that focus on profit shifting and studies that try to learn about the consequences for the real economy.

¹⁹ In addition, administrative and compliance costs may be massive.

5.1 Effects of the GILTI Regime on Profit Shifting

The impact of GILTI on international profit-shifting activities of MNCs cannot be clearly predicted. In particular, it is uncertain how many MNCs are really affected by GILTI due to the aforementioned aggregation of tax bases for the GILTI calculation across all group locations, including haven and non-haven, as well as high-tax jurisdictions. Nevertheless, as a result of the taxation of foreign profits of U.S. companies recognized as GILTI, some decline in the shifting of profits to tax havens can be expected. Using simulations based on data from the BEA and the IRS, Clausing (2020) predicts a decrease of 12 to 16% in the profits reported by U.S. MNCs in tax havens, modestly increasing the tax base in both the U.S. and in higher-tax foreign countries. Recent empirical studies imply, though, that the impact of the new GILTI regime on profit shifting by U.S. MNCs is rather modest actually. Atwood and Johnson (2021) use Compustat data of about 500 U.S. MNCs and analyze the relationship between the return on foreign sales and the return on total sales of the company. As an indication of additional profit shifting of U.S. MNCs after the TCJA, the study finds an increase in the association between return on foreign sales and total sales. Additional tests focus on those MNCs that are most likely affected by the GILTI regime. For this purpose, Atwood and Johnson (2021) use information from the tax footnotes in the so-called 10-k financial reports to identify companies affected by GILTI. The analysis of this information suggests that only a few companies are affected by the GILTI regime and that it has not led to less profit shifting.

Two additional empirical studies, each with very different data and identification strategies, come to a similar conclusion: There is no decline in profit shifting in response to the new GILTI regulations. Overesch, Reichert, and Wamser (2023) examine the consequences of the TCJA and particularly GILTI on profit shifting. Propensity-score matching is used to obtain a sample of very similar, large MNCs from the U.S. and Europe. The affiliate-level data is taken from the Amadeus/Orbis database. The empirical results suggest that profits of affiliates of U.S. MNCs respond more strongly than those of European companies to the local tax rate. This result holds for years before as well as after the TCJA. In other words, profit-shifting behavior of U.S. MNCs seems to be unaffected by the TCJA. Moreover, profit-shifting behavior is also unchanged for those MNCs that could potentially be affected by GILTI because of a low tax rate on foreign profits.

Due to the nature of the data used, the findings by Overesch et al. (2023) can primarily be interpreted as evidence that profit shifting in the operating part of MNCs located in countries with predominantly medium or high tax levels has not decreased as a result of GILTI. However,

complementary research by Garcia-Bernardo, Janský, and Zucman (2022) examines the profits of U.S. MNCs in tax havens more closely. This study finds a small decline in profit shifting of U.S. MNCs as a result of the TCJA and the associated introduction of GILTI. At the same time, the authors do not find a change in the level of profits reported by U.S. MNCs in tax havens.

In sum, first empirical evidence suggests that the GILTI regime does not significantly affect the attractiveness of tax havens for MNC profits. The empirical findings therefore support the concerns that the global blending of the GILTI calculation could limit the effectiveness of the GILTI regime vis-à-vis profit reporting in tax havens and low-tax locations. The study by Clausing (2020) also predicts a significantly greater decrease in profits reported in tax havens if GILTI were determined separately for each CFC.

5.2 Effects of the GILTI Regime on Investment and M&A Activity

The investment incentives of GILTI are complex.²⁰ On the one hand, we would expect that the attractiveness of investments in low-tax locations and tax havens decreases. On the other hand, due to the calculation methodology of GILTI as excess return in relation to QBAI, there are also incentives to increase the QBAI through additional investments, particularly through additional tangible investments with moderate returns. Therefore, some empirical studies have analyzed the impact of GILTI on the investment activity of U.S. MNCs.

A recent study by Samuel (2023) uses similar data of MNC affiliates as the study by Overesch et al. (2023) and analyzes the impact of the TCJA on additional investments. Using a difference-in-differences approach, the investment activity of U.S. affiliates is compared to that of affiliates of non-U.S. MNCs. The results suggest a significant decrease in investments in fixed assets, in particular for locations with a low local tax level. The finding of declining investments, particularly in low-tax locations, might be interpreted as an effect of the GILTI regime.

Beyer, Downes, Mathis, and Rapley (2023) consider Compustat data and analyze capital expenditures of U.S. firms after the TCJA. For companies that are affected by GILTI and have no financial constraints, they find an increase in foreign capital expenditures but not in domestic capital expenditures. The authors interpret their findings as a response to the GILTI provision that allows a deduction of a 10% presumptive return on investments in foreign tangible assets (i.e., the QBAI).

²⁰ See also Dharmapala (2018, 2024) for an overview.

Additional studies have focused on the M&A activities of U.S. MNCs, and thus, on the extensive margin of investment decisions by these MNCs. Amberger and Robinson (2023) consider data from the Zephyr M&A database, financial information of targets from the Orbis database, and data of U.S. acquirers from Compustat. Mainly using linear probability estimations, they find a decline in international M&A activities by U.S. MNCs after the U.S. tax reform, particularly with regard to the acquisition of highly profitable companies in low-tax countries. This finding is in line with the expectation that high-yield investments in low-tax locations become less attractive.

Studies by Atwood, Downes, Henley, and Mathis (2020), as well as Dunker, Overesch and Pflitsch (2023) also take particular account of the acquirer's risk of being affected by GILTI. Atwood et al. (2020) examine the extent of corporate takeovers by U.S. corporations around the U.S. tax reform. The study considers M&A data taken from the SDC database as well as Compustat and compares U.S. MNCs and U.S. domestic firms using a difference-in-differences design. Probit regressions suggest a general decline in the likelihood of M&A acquisition announcements by a U.S. firm after the TCJA, but for those U.S. MNCs that have retained substantial profits in low-taxed foreign affiliates before the reform, an opposite effect is found. The latter MNCs are now increasingly buying new foreign affiliates after the TCJA, and the effect is more pronounced if MNCs are potentially affected by GILTI. The authors use data on foreign profits prior to the TCJA to determine whether a group could potentially be affected by GILTI. One possible explanation for the finding could be that, in the event of high returns abroad, U.S. MNCs are now increasingly acquiring target companies abroad that are less profitable and include many tangible assets. As a result of the global calculation methodology of GILTI, such expansions of the group structure are suitable for shielding the previously high foreign profits from being recognized as GILTI.

Dunker et al. (2022) take into account the target's foreign tax level but also the acquirer's risk of GILTI inclusion. The study considers a global sample of M&A announcements from the SDC database and financial data from Compustat. The empirical results confirm findings of the previous studies that after the TCJA, U.S. MNCs acquired less targets in low-tax locations. However, additional analyses suggest that the negative effect on M&A in low-tax jurisdictions and particularly in tax havens only occurs for those U.S. MNCs, for which GILTI inclusion is very likely due to an already low ETR on foreign profits. At the same time, the results suggest an increase in takeovers of less profitable targets in high-tax countries for those U.S. MNCs

that are potentially affected by the GILTI regime. The findings suggest that it is primarily the M&A pattern that has changed.

Putting together the available empirical evidence on the influence of GILTI, it seems that the new regime leads to a reduction in investments in low-tax locations and tax havens. However, findings are less clear for investments at other locations, as some studies suggest that investments in tangible assets and those with low profitability have actually increased.

6 Future Research and Implications for the Global Minimum Tax

Our review has shown that CFC rules reduce profit-shifting activities of MNCs. Moreover, experience with CFC rules in the U.S. and Europe suggests that too many restrictions and exemptions in application limit their effectiveness. There is generally only little evidence on how CFC rules affect the channels of profit shifting, and there is hardly any research examining real investment effects. The results in Hansen et al. (2023) suggest that we also do not yet fully understand the underlying mechanisms with respect to the activities of MNCs in high-tax countries and locations with a moderate tax level. Moreover, both analytical research and empirical studies have so far hardly analyzed the potential implications of CFC rules in a world with imperfect competition between MNCs and a preference of governments to promote MNCs headquartered in their country. Therefore, we believe that more research on these issues is needed to improve our understanding of the consequences of CFC rules for economic activity.

Importantly, research along these avenues would, together with the existing evidence on CFC rules, provide valuable predictions and insights on the effects of a new instrument against international tax competition: the global minimum tax (GMT). As part of the OECD's Pillar II framework, the OECD member states agreed on the GMT in 2021. The aim of this framework is that many countries implement a GMT in a fundamental tax reform. In 2024, for example, all EU Member States have introduced a minimum rate of effective taxation of 15% for MNCs active within the EU.

Though the GMT and CFC rules differ in scope and application, they also share some common features. Therefore, the research dealing with CFC rules should be informative due to the similarities between CFC rules and the GMT.²¹ Both rules imply higher taxation of under-taxed foreign profits. In case of the GMT, either the haven country, via the Qualified Domestic

²¹ While CFC rules are not restricted to large firms, the GMT applies only to MNCs with consolidated turnover above 750 million Euro. For those MNCs falling under the GMT, however, the insights on CFC rules will predict the effects of a binding GMT's top-up tax on passive income.

Minimum Top-up Tax, or the parent-firm country, via the Income Inclusion Rule, raises a so-called top-up tax. The top-up tax corresponds to the tax difference between a 15% minimum tax and the ETR in the foreign country.²² As a result, the effective tax under the GMT is always 15%. Similarly, the CFC threshold implicitly defines a minimum tax (on passive income), as MNCs optimally respond to a CFC rule and relocate profits to foreign affiliates (or profit centers) that are just not affected by the relevant CFC threshold (e.g., Clifford 2019). Thus, the CFC threshold determines incentive effects at the level of the parent and other non-haven affiliates.²³ Understanding how the higher tax burden on passive income, induced by CFC rules, affects real investment in non-haven countries is informative for those effects of the GMT that stem from taxing passive income in haven affiliates as well.

An important difference between GMT and CFC rules is that top-up taxes apply to all types of foreign income (whereas CFC rules usually apply to passive income only). In addition, a substance-based allowance can be deducted as a proportion of firms' tangible assets and their payroll. This allowance is similar to the deductions, based on a percentage of QBAI, under the GILTI rule. Consequently, the lessons learned from the studies on GILTI provisions directly apply to the GMT. Also, CFC rules implicitly subsidize real production – through the active-to-passive income thresholds (Weichenrieder 1996). This effect is similar to the GMT substance-base deduction (Schjelderup and Stähler 2023). The latter point implies that both rules possibly intensify competition for mobile (real) capital.

There are more differences between the GMT and the U.S. GILTI regime that might deserve attention of future research. In particular, GILTI allows for global blending of affiliates' profits. This may substantially reduce the effectiveness of GILTI with respect to curbing profit shifting (see Section 5.1). In contrast, the GMT always requires consideration per jurisdiction (country-level blending) and no offsetting between tax havens and high-tax locations is allowed. Moreover, to some extent, the GMT introduces new accounting rules in addition to tax accounting and financial reporting. The interplay of these new rules with the existing systems requires more attention. It also could lead to another similarity: The parallel systems likely allow for gaming the rules and effectively achieving a global blending rather than country-level blending of affiliates' profits under the GMT (see de Wilde 2024, Section 3.3).

²² See, e.g., de Wilde (2024) for the legal details of the GMT.

²³ In the absence of behavioral responses, the tax consequence of CFC rules is that income is taxed at the parent level, where the relevant tax rate may be substantially higher than 15%.

The GILTI literature may therefore be informative on how large the quantitative effect of such GMT avoidance might be.

7 Conclusions

This chapter provides an overview on a small – empirical and theoretical – literature in accounting and economics, analyzing the consequences of CFC rules. It also presents a historical perspective, discussing some recent developments in CFC legislation around the world with a particular focus on the new GILTI regime.

CFC rules have become a key policy instrument, used by countries to restrict profit-shifting activities of MNCs. CFC rules seem to reduce profit shifting to low-tax countries. At the same time, there is evidence that MNCs do not completely eliminate profit shifting as tax rate differentials to next best alternatives seem to be still substantial. Another important point is that CFC rules come at a cost as they affect real investment decisions of MNCs. Future research should focus more on these real effects as the results also will be informative for the effects of the OECD Pillar II framework with the GMT.

Literature

- Alstadsæter, A., R. Davies, M. Parenti, and F. Toubal. 2024. The Real Effects of Tax Havens. In *Research Handbook on the Economics of Tax Havens*, edited by A. Lejour and D. Schindler, PAGES. Cheltenham: Edward Elgar Publishing.
- Altshuler, R., and R.G. Hubbard. 2002. The Effect of the Tax Reform Act of 1986 on the Location of Assets in Financial Services Firms. *Journal of Public Economics* 87: 109 – 127.
- Albertus, J.F. 2023. Income Shifting Out of the United States by Foreign Multinational Firms? SSRN Working Paper No. 2691065.
- Amberger, H.J., and L. Robinson. 2023. The Initial Effect of U.S. Tax Reform on Foreign Acquisitions. *Review of Accounting Studies*: forthcoming.
- Atwood, T.J., and T. Johnson. 2021. U.S. Multinational Corporations' Initial Income-Shifting Response to the TCJA. Mimeo: University of Arkansas.
- Atwood, T.J., J. Downes, J. Henley, and M. Mathis. 2020. The Impact of U.S. Tax Reform on U.S. Firm Acquisitions of Domestic and Foreign Targets. Mimeo: University of Arkansas.
- Beyer, B.D., J.F. Downes, M.E. Mathis, and E.T. Rapley. 2023. U.S. Multinational Companies Payouts and Investment Decisions in Response to International Tax Provisions of the Tax Cuts and Jobs Act of 2017. *Journal of the American Tax Association* 45: 35 – 61.
- Blouin, J.L., and L.K. Krull. 2014. Does Organizational Form Affect Firms' Foreign Operations? The Role of "Check-the-Box" on Multinational Tax Planning. Mimeo: University of Pennsylvania and University of Oregon.
- Bräutigam, R., C. Spengel, and F. Streif. 2017. Decline of Controlled Foreign Company Rules and Rise of Intellectual Property Boxes: How the European Court of Justice Affects Tax Competition and Economic Distortions in Europe. *Fiscal Studies* 38: 719 – 745.
- Clausing, K. 2020. Profit Shifting Before and After the Tax Cuts and Jobs Act. *National Tax Journal* 73: 1233 – 66.

- Clifford, S. 2019. Taxing Multinationals Beyond Borders: Financial and Locational Responses to CFC Rules. *Journal of Public Economics* 173: 44 – 71.
- De Wilde, M.F. 2024. Life After OECD Pillar Two? Some Legal Challenges for Effective Regulation. In *Research Handbook on the Economics of Tax Havens*, edited by A. Lejour and D. Schindler, PAGES. Cheltenham: Edward Elgar Publishing.
- Dharmapala, D. 2018. The Consequences of the Tax Cut and Jobs Act's International Provisions: Lessons from Existing Research. *National Tax Journal* 71 (4): 707 – 728.
- Dharmapala, D. 2024. The Consequences of the 2017 U.S. International Tax Reform: A Survey of the Evidence International Tax Reform, *International Tax and Public Finance*: forthcoming.
- Dunker, M., M. Overesch, and M. Pflitsch. 2022. The Effects of the U.S. Tax Reform on Investments in Low-Tax Jurisdictions – Evidence from Cross-Border M&As. SSRN Working Paper No. 3932459.
- Egger, P., and G. Wamser. 2015. The Impact of Controlled Foreign Company Legislation on Real Investments Abroad: A Multi-Dimensional Regression Discontinuity Design. *Journal of Public Economics* 129: 77 – 91.
- Garcia-Bernardo, J., P. Janský, and G. Zucman. 2022. Did the Tax Cuts and Jobs Act Reduce Profit Shifting by U.S. Multinational Companies? NBER Working Paper No. 30086.
- Gresik, T.A., and J.D. Wilson. 2024. Theoretical Analyses of Tax Havens. In *Research Handbook on the Economics of Tax Havens*, edited by A. Lejour and D. Schindler, PAGES. Cheltenham: Edward Elgar Publishing.
- Hansen, J., V. Merlo, and G. Wamser. 2023. Taxes, Profit Shifting, and the Real Activities of MNEs: Evidence from Corporate Tax Notches. CESifo Working Paper No. 10593.
- Haufler, A., and M. Runkel. 2012. Firms' Financial Choices and Thin Capitalization Rules under Corporate Tax Competition. *European Economic Review* 56: 1087 – 1103.
- Haufler, A., M. Mardan, and D. Schindler. 2018. Double Tax Discrimination to Attract FDI and Fight Profit Shifting: The Role of CFC Rules. *Journal of International Economics* 114: 25 – 43.

- Hebous, S., C. Hillier, and A. Mengistu. 2024. Deciphering the GloBE in a Low-tax Jurisdiction. In *Research Handbook on the Economics of Tax Havens*, edited by A. Lejour and D. Schindler, PAGES. Cheltenham: Edward Elgar Publishing.
- Hong, Q., and M. Smart. 2010. In Praise of Tax Havens: International Tax Planning and Foreign Direct Investment. *European Economic Review* 54: 82 – 95.
- Janeba, E., and M. Smart. 2003. Is Targeted Tax Competition Less Harmful Than Its Remedies? *International Tax and Public Finance* 10: 259 – 280.
- Juranek, S., D. Schindler, and G. Schjelderup. 2018. Transfer Pricing Regulation and Taxation of Royalty Payments. *Journal of Public Economic Theory* 20: 67 – 84.
- Juranek, S., D. Schindler, and A. Schneider. 2023. Royalty Taxation under Tax Competition and Profit Shifting. *Canadian Journal of Economics* 56: 1377 – 1412.
- Kalamov, Z. 2024. Unlocking Hidden Treasures: The Theory of Fighting Tax Havens Efficiently. In *Research Handbook on the Economics of Tax Havens*, edited by A. Lejour and D. Schindler, PAGES. Cheltenham: Edward Elgar Publishing.
- Keen, M. 2001. Preferential Regimes Can Make Tax Competition Less Harmful. *National Tax Journal* 54: 757 – 762.
- Krugman, P. 1980. Scale Economies, Product Differentiation, and the Pattern of Trade. *American Economic Review* 70: 950 – 959.
- Mutti, J., and H. Grubert. 2009. The Effect of Taxes on Royalties and the Migration of Intangible Assets Abroad. In: *International Trade in Services and Intangibles in the Era of Globalization*, edited by M. Reinsdorf and M. J. Slaughter, 111 – 138. Chicago: University of Chicago Press.
- OECD. 1998. *Harmful Tax Competition. An Emerging Global Issue*. Paris: OECD Publishing.
- OECD. 2015. *Designing Effective Controlled Foreign Company Rules, Action 3 - 2015 Final Report*. OECD/G20 Base Erosion and Profit Shifting Project. Paris: OECD Publishing.
- Overesch, M., L. Reichert, and G. Wamser. 2023. The Effects of the Tax Cuts and Jobs Act on the Tax-Competitiveness of Multinational Corporations. CESifo Working Paper No. 10310.

- Overesch, M., S. Strueder, and G. Wamser. 2020. Do U.S. Firms Avoid More Taxes Than Their European Peers? On Firm Characteristics and Tax Legislation as Determinants of Tax Differentials. *National Tax Journal* 73: 361 – 400.
- Paulus, N.A. 2022. The Anti-tax-avoidance Directive: An Initiative to Successfully Curb Profit Shifting? *Journal of Public Economic Theory* 24: 529 – 546.
- Prettl, A., and D. von Hagen. 2023. Multinational Ownership Patterns and Anti-tax Avoidance Legislation. *International Tax and Public Finance* 30: 565 – 634.
- Ruf, M., and A.J. Weichenrieder. 2012. The Taxation of Passive Foreign Investment: Lessons from German Experience. *Canadian Journal of Economics* 45: 1504 – 1528.
- Ruf, M., and A.J. Weichenrieder. 2013. CFC Legislation, Passive Assets and the Impact of the ECJ's Cadbury-Schweppes Decision. CESifo Working Paper No. 4461.
- Samuel, D.M. 2023. The Effect of the Tax Cuts and Jobs Act on Foreign Investment of U.S. Multinational Corporations. SSRN Working Paper No. 4255473.
- San Martín, M., and A.I. Saracho. 2010. Royalty Licensing. *Economics Letters* 107: 284 – 287.
- Schenkelberg, S. 2020. The Cadbury Schweppes Judgment and Its Implications On Profit Shifting Activities within Europe. *International Tax and Public Finance* 27: 1 – 31.
- Schjelderup, G., and F. Stähler. 2023. The Economics of the Global Minimum Tax. *International Tax and Public Finance*: forthcoming.
- Schreiber, U. 2013. *International Company Taxation. An Introduction to the Legal and Economic Principles*. Heidelberg: Springer.
- Voget, J. 2011. Relocation of Headquarters and International Taxation. *Journal of Public Economics* 95: 1067 – 1081
- Wamser, G., V. Merlo, M. Ruf, F. Stähler, K. Strohmaier, J. Eklund, J. Hansen, S. Laudage, S. McAuliffe, J. Paraknewitz, and G. U. Thuncke. 2023. A New Database on International Tax Institutions. Mimeo: RSIT Working Paper.
- Weichenrieder, A.J. 1996. Anti-tax-avoidance Provisions and the Size of Foreign Direct Investment. *International Tax and Public Finance* 3: 67 – 81.