

MASTER DEGREE
FINANCE AND TAXATION

The Impact of Country-by-Country Reporting on Corporate Profit Shifting

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Abstract

This study investigates the effects of mandatory Country-by-Country Reporting (CbCR), on Corporate Profit Shifting, in the European Union (EU), introduced by the Organization for Economic Cooperation and Development (OECD) under Action 13 of the Base Erosion and Profit Shifting (BEPS) project.

The CbCRs are an important step towards the international harmonization of the corporate tax system, with the main objective of reducing profit shifting opportunities between multinational enterprises (MNEs), by increasing transparency.

Treating the introduction of CbCRs as an exogenous shock and exploiting the threshold of €750M, difference-in-differences estimation tests are conducted to examine whether the aim of reducing profit-shifting opportunities among MNEs has been achieved.

The results obtained show that the introduction of CbCR appears to have had an impact, but not a significant one, being noticeable mainly in the first year of adoption and in 2020. Moreover, the impact also does not seem to have been felt in all regions and industries.

The findings of this study contribute to the growing literature on the real effects of the introduction of CbCR on corporate tax outcomes and firm decisions.

Keywords: Multinational Enterprises, Profit Shifting, Corporate Income Tax, Country by Country Report.

Resumo

Este estudo investiga os efeitos das Declarações Financeiras e Fiscais por país (CbCR) sobre a Transferência de Lucros das Empresas, na União Europeia (UE), introduzidas pela Organização para a Cooperação e Desenvolvimento Económico (OCDE) no âmbito da Acção 13 do projecto BEPS (*Base Erosion and Profit Shifting*).

Os CbCR representam um passo importante na harmonização internacional do sistema fiscal corporativo, tendo como principal objetivo a redução das oportunidades de transferência de lucros entre empresas multinacionais (MNE), através do aumento da transparência.

Assim, considerando a introdução dos CbCR como um choque exógeno e explorando o limite dos 750 milhões de euros, testes de diferença em diferenças são conduzidos de forma a examinar se o objetivo de reduzir as oportunidades de transferência de lucros entre as MNEs foi alcançado.

Os resultados mostram que a introdução do CbCRs parece ter tido um impacto, mas não um impacto significativo, sendo perceptível principalmente no primeiro ano de adoção e em 2020. Além disso, o impacto também não parece ter sido sentido em todas as regiões e indústrias.

Os resultados deste estudo contribuem para a crescente literatura sobre os efeitos reais da introdução do CbCR nos resultados fiscais das empresas e nas decisões firmes.

Palavras-chave: Empresas Multinacionais, Transferência de Lucros, Imposto sobre o Rendimento das Pessoas Coletivas, Declaração Financeira e Fiscal por país.

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Introduction

The current system of corporate taxation in the European single market provides multinational enterprises (MNEs) with opportunities for tax avoidance due to high tax competition between countries.

The fierce tax competition in Europe has even led to a sharp decline in corporate income (CIT) tax rates and has caused the European average CIT rate to be below the average rate in OECD countries, decreasing to 21% in 2021, according to the IMF report "Taxing Multinationals in Europe" (2021).

The implied revenue losses from such a large drop in CIT rates are significant for all countries involved.

Thus, for governments with higher tax rates, it becomes critical to fight against tax base erosion and profit shifting by MNEs in order to prevent reduced tax revenues.

There is a widespread view that MNEs shift a large proportion of their profits to low-tax countries or "tax havens" in order to reduce the tax burden in high-tax countries (Fuest, C., Hugger, F. and Neumeier F., 2021).

Therefore, to move towards a more equitable taxation of economic activities and curb excessive tax competition and tax evasion, a response needs to be formulated on the basis of international cooperation, preferably at the global level.

Hence, in 2013, the OECD has issued BEPS project containing 15 measures to fight against tax base erosion and profit shifting, having Europe adopted two of its anti-tax avoidance directives on May 2016. Therefore, under Action 13 and starting in 2016, MNEs with a parent or subsidiary in the EU and consolidated revenues higher than €750M were required to complete the Country-by-Country Report (CbCR) annually, where they provide financial and tax information by country or tax jurisdiction, including a list of all subsidiaries, revenues, pre-tax profits, cash income taxes paid, number of employees, and tangible assets (Council of the European Union, 2016).

Since the main objective of CbCRs is to enable the detection of profit shifting activities, the introduction of mandatory reporting could alter tax behavior and decisions of MNEs if they believe that the reports contain new information for the recipients (e.g., Kanodia and Sapra, 2016). However, even if CbCRs are not informative, MNEs could alter their behavior if they believe the information will lead to increased enforcement or to increased

reputational costs associated with reporting income in low tax countries. Nevertheless, MNEs could respond to the introduction of CbCRs by reducing tax avoidance, consistent with evidence of higher effective tax rates (ETRs) and reduced cross-jurisdictional income shifting among treated entities (Joshi, 2020; Hugger, 2020), or by making investments that better align their taxation with economic activity.

Little is known about how firms responded to the introduction of CbCRs, thus understanding the impact of CbCRs is crucial to evaluate the economic growth consequences.

Treating the introduction of CbCRs as an exogenous shock and exploiting the threshold of €750M, we examine whether MNEs undertake less aggressive tax strategies after the implementation period.

This study makes several contributions to the literature. First, it responds to the call of Leuz & Wysocki (2016), by constructing a suitable control group and then assessing the usefulness of CbCR as a weapon against MNEs tax avoidance.

Second, we complement the studies of Joshi (2020) and Hugger (2020), which call for research in terms of evaluation of the impact of CbCRs in the longer run. The findings in our study report a significant impact of the CbCRs in 2016, which started to dissipate in the following years. In 2020, we report a large increase in the impact, that can be attributed to factors other than the CbCRs, such as the start of the discussion of a minimum tax rate for MNEs. As the minimum tax rate framework is similar to the CbCR framework, it may have acted as a deterrent on profit shifting activities. It can also be attributed to Covid 19 Pandemic, which brought great uncertainties and constraints to companies.

Third, we contribute to the literature by conducting a unique set of tests that have not been explored in previous studies: assessing the impact of the CbCRs by country and by industry. We report higher impact in Eastern European, Mediterranean, and Iberian countries, leading to the conclusion that CbCRs are more effective in countries more exposed to tax avoidance by MNEs and with less strict transfer pricing regulations. We also report higher impact in Real Estate Activities and in Wholesale and Retail Trade, which are industries with reduced tax enforcement and more sensitive to transfer pricing regulations.

Finally, this study contributes to the growing literature on the real effects of the introduction of CbCRs on corporate tax outcomes and firm decisions (e.g., Christensen, H. B., Floyd, E., Liu, L. Y., Maffett, M., 2017; Chen, Y.-C., Hung, M., Wang, Y., 2018; Rauter, 2020; Dyreng and Maydew, 2018), and to the ongoing debate on whether CbCRs should be made publicly available.

Literature Review

The literature provides several empirical evidence of profit shifting by MNEs from countries with higher CIT rates to countries with lower CIT rates, or even to tax havens. Showing that, increasing the CIT rate by 1 percentage point in a country, reduces the pre-tax profits reported in that country by about 1% (Heckemeyer and Overesch, 2017, Huizinga and Laeven, 2008, Beer, S., de Mooij, R., & Liu, L., 2020, Dharmapala, 2014).

Still, these studies assume that the response of MNEs to changes in CIT rates is the same regardless of whether the change in taxation occurs in a high-tax or low-tax country. However, Dowd, T, P Landefeld and A Moore (2017), finds significant evidence that the response of MNEs to changes in CIT rates is actually more intense in countries with lower taxes.

According to the IMF report "Taxing Multinationals in Europe" (2021), an MNE can transfer profits from high-tax countries to low-tax countries through a variety of techniques such as Abusive Transfer Pricing, where there are several studies reporting empirical evidence of mispricing intra-group trade and percentages of revenue forgone up to 3,2% (Table 1).

COUNTRY	STUDY	REVENUE FOREGONE (% OF CIT REVENUE)
DENMARK	Cristea and Nguyen (2016)	3.2
FRANCE	Davies and others (2018)	1.0
GERMANY ¹	Hebous and Johannessen (2021)	2.0
UNITED KINGDOM	Liu Schmidt-Eisenlohr, and Guo (2020)	0.4
USA	Flaaen (2018)	0.7

Table 1 - Impact on revenue of abusive transfer pricing manipulation in intra-group transactions.
Source: IMF - Taxing Multinationals in Europe.

The location of intellectual property (IP) is another technique used by MNEs, which can be done by two different ways: by transferring intellectual property rights to low-tax jurisdictions early in their development when they are difficult to value; or by transferring

¹ The studies listed in the table look at transfer pricing abuse in goods, with the exception of Hebous and Johannessen (2019) which looks at transfer pricing abuse in services.

mature intellectual property assets from zero-tax jurisdictions to low-tax jurisdictions in order to claim capital allowances based on the market value of the intellectual property at the time of transfer. In this case, empirical literature documents a significant negative relationship between effective taxation of intellectual property and intangible assets, including patents (Alstadsæter et al. 2018; Griffith, Miller, and O'Connell 2014).

Another technique employed by MNEs is intragroup loans, through which MNEs deduct interest expenses in high-tax jurisdictions and earn interest income in low-tax jurisdictions. Also, there are studies providing significant evidence that debt shifting activities are being performed by MNEs (IMF 2016b; Feld, Heckemeyer, and Overesch 2013; Hebus and Ruf 2017).

The most common technique of profit shifting used by MNEs is the so-called aggressive tax planning, where MNEs exploit opportunities of tax arbitrage caused by diverse categorization of the same entity, transaction, or financial instrument by the different countries (Harris 2014).

Finally, another of the techniques employed by MNEs is the Treaty Shopping, where tax treaty networks can be used to route income and consequently reduce taxes (Weichenrieder and Mintz 2010; Van't Riet and Lejour 2018). In particular, the absence of withholding tax on outbound payments coupled with the absence of withholding tax within the EU may enhance aggressive tax planning.

The transfer of profits, by any of these techniques, carries accounting and other potentially significant costs for the company and, most importantly, deprives governments of substantial tax revenue.

In order to fight tax base erosion and profit shifting, the G20/OECD Base Erosion and Profit Shifting (BEPS) project was completed in 2015, where, according to action number 13, MNEs must submit annually to the tax administrations the CbCRs, where they provide specific tax information for each tax jurisdiction in which they do business.

This obligation to submit the CbCRs applies to all groups of MNEs whose total consolidated income in the fiscal year preceding the reporting year is equal to or greater than €750M. The purpose of this limitation is to exclude most companies, but still include most of the tax revenue (OECD, 2015).

The information transmitted to the tax administrations through the CbCRs will thus allow them to act more assertively in the inspection of high tax risk companies, thus increasing the efficiency and effectiveness of tax enforcement.

At the same time, the mere mandatory submission of the CbCRs acts as a deterrent for MNEs to undertake aggressive tax planning actions.

Thus, the CbCRs are an important step towards the international harmonization of the corporate tax systems, with the main objective of reducing profit-shifting opportunities between MNEs by increasing transparency.

Prior related research provides evidence that after the introduction of CbCRs, MNEs reduced the number of subsidiaries in tax havens and the investment in employees, although no significant change in taxes paid was found (Simone & Olbert, 2019). However, by comparing the unconsolidated accounts of high-tax and low-tax affiliates, Simone & Olbert (2019) also find positive effects of CbCR on income, employment, and total assets in the low-tax subsidiaries in Europe.

On the other hand, Joshi (2020) reports an increase in the ETR of about 1-2 percentage points and a reduction in profit-shifting, at the affiliate level, starting in 2018.

Using a difference-in-differences approach and exploring the income threshold for the CbCR, Hugger (2020), concludes that the goal of introducing CbCRs was achieved, finding an increase in the ETR by 1 percentage point in MNEs subject to CbCR submission.

However, there are some doubts related to the effectiveness of the CbCRs against profit shifting. Henry, Massel, & Towery (2016) compared the effects of the three tax disclosure requirements existing in the United States and found that only one of the regimes successfully lowered tax avoidance, suggesting that not all financial information provided by companies to tax authorities increases the detection probability and is useful to fight against tax avoidance. Also, the fact that the CbCRs are not publicly disclosed reduces the efficacy in decreasing the attractiveness of tax avoidance, as the companies will not fear the public scrutiny.

Durst (2015) argues that while CbCRs can provide data to enable tax administrations to be more efficient in their actions, the main problem lies in the complexity of transfer pricing legislation rather than in the lack of information on the part of tax administrations. Evers, Meier & Spengel (2017) put in question even if CbCRs provide additional information to tax authorities arguing that tax planning mostly relies on tax arbitrage opportunities.

Considering this debate, the success of the introduction of private CbCR seems to be unclear and thus the importance of this study.

Hypothesis development

This research aims to investigate the response of MNEs to the introduction of CbCRs, testing whether the goal of reducing profit-shifting opportunities between MNEs has been achieved.

For that matter we follow Hugger (2020), who developed a unique model to identify the impact of the introduction of CbCRs on MNEs' profit shifting activities. The structure of this model is based on an adaptation of the model proposed by Allingham & Sandmo (1972). According to these authors, an increase in disclosures would increase the detection probability and consequently reduce profit-shifting activities to low tax countries.

Thus, as the objective of CbCRs is to increase the likelihood of detection of profit shifting activities, the additional information on MNEs' activities globally made available to tax administrations will allow them to assign their resources more efficiently, thereby further increasing the likelihood of detection.

However, some authors such as Hanlon (2018) or Spengel (2018) suggest that CbCR may not help tax administrations detect abusive transfer pricing activities and may even lead to a disconnection between taxation and transfer pricing rules as the latter are not based on formulary apportionment². That is the reason why the OECD states that *CbCR information should not be used as a substitute for a detailed transfer pricing analysis of individual transactions* (OECD [2017], 49).

OECD has also issued a disclaimer³ regarding the limitations of CbCR statistics, alerting all users about the limitations and data quality issues identified and about their potential impact on analysis carried out using CbCRs statistics. Thus, according to it, the CbCR statistics do not contain information about intangibles assets, debt, intracompany interest and royalty payments, which are frequently used as means of profit shifting (Johansson, Skeie, Sorbe and Menon, 2017; Fuest C., Finke K., Heckemeyer J. and Nusser H., 2013). Another of the issues identified is related with the treatment of intracompany dividends. In the absence of specific guidance, some jurisdictions exclude dividends from profit before tax while others include it if they are reported in profit for financial accounting purposes. Consequently, the analyses concerning the calculation of profit margins, ETR, return per employee,

² Formulary apportionment is a method of allocating profit earned (or loss incurred) by a corporation or corporate group to a particular tax jurisdiction in which the corporation or group has a taxable presence.

³ [Important disclaimer regarding the limitations of the Country-by-Country report statistics \(oecd.org\)](https://www.oecd.org/tax/cbcr/important-disclaimer-regarding-the-limitations-of-the-country-by-country-report-statistics/)

return on tangible assets or, return on capital must be inferred with prudence. Furthermore, the inclusion of intercompany dividends in profit or loss before tax can result in artificial low ETRs that will affect the ultimate owners as they potentially receive a large amount of dividends from affiliates.

To avoid potential double counting of dividends income in pre-tax profits Fuest, C., Greil S., Hugger, F. and Neumeier F. (2022) modified their empirical model to be able to measure whether MNEs report excessively large profits in their headquarters countries (which would be the case if dividend income is double counted) and thereby be able to exclude profits reported in MNE's headquarters countries when estimating the tax semi-elasticity of corporate profits.

On the other hand, Blouin and Robinson (2019), have developed a simple correction for the accounting treatment of indirectly owned foreign affiliates in the United States, that significantly reduces the magnitude of the BEPS estimates from 30-45% to 4-8% of corporate tax revenues.

Finally, the OECD disclaimer also raises awareness regarding the use of aggregated versus consolidated data, as the use of aggregated data could distort a number of key ratios such as profit margins, revenue per employee, revenue per unit of tangible asset, and return on capital.

Thus, and in light of the above, it does not seem clear whether CbCR can provide meaningful insights that could facilitate the detection of profit-shifting activities.

Therefore, and in order to assess whether the introduction of the CbCR has achieved its objective of reducing profit shifting between MNEs, the research hypothesis of this study is the following:

H1 - MNEs with a CbCR filing obligation have decreased their profit shifting activities.

Methodology

In this research, we employ a difference-in-differences approach. This methodology allows us to compare MNEs before and after the mandatory filling of CbCRs, which happened in 2016, but also to compare them with other MNEs that did not have the obligation to report CbCR. Overall, the introduction of the CbCRs is interpreted as an exogenous shock to the probability of profit shifting detection. This technique is commonly used to estimate the effects of new policies, combining before-after and treatment-control group comparisons. By applying this method, we are able to calculate the effect of the introduction of CbCR on ETR and tax rate differentials (TRD). We hypothesize that the introduction of CbCR increased ETRs and decreased TRD (a proxy of tax avoidance).

This research relies on a panel dataset, in which we consider MNEs at several points in time (from 2012 until 2020) (Schmidheiny, 2012). Panel data enables us to work with more information, greater variability, and less collinearity between the variables, as the analyses consists in several sectional units over different points in time. Additionally, it provides better control of individual heterogeneity and of the unobservable effects that are hidden in temporal or sectional series. It also benefits from a greater number of degrees of freedom and greater efficiency in the estimations (Gujarati and Porter, 2009 and Greene, 1997).

We compute the following estimation to assess the impact of the introduction of the CbCRs:

$$y_{i,t} = \beta_0 + \beta_1 CbCR_i \times post2016_t + \gamma_i + \mu_t + X_{i,t}\delta + \varepsilon_{i,t} \quad (1)$$

Where $CbCR_i$ is a dummy variable that equals one if a MNE is required to submit CbCR. $post2016_t$ is a dummy variable that corresponds to one for all years after the introduction of CbCR (in 2016). Also, β_1 is the coefficient of the interaction term. The interaction term identifies MNEs that had to report CbCRs after 2016. The coefficient β_1 indicates the impact of the mandatory filling of CbCRs.

Then, μ_t corresponds to time fixed effects, γ_i to the cross-sectional fixed effects and $X_{i,t}$ refers to a set of control variables which includes the statutory corporate income tax (CIT) rate, gross domestic product (GDP) per capita growth and the inflation rate. The architecture of the regression is based on Joshi (2020). Nevertheless, we still employ different

specifications. For instance, we use different cross-sectional approaches. We use firm fixed effects, after applying the Hausman test. The null hypothesis of the test is that random effects are the preferred model. When conducting the test, we obtained a p-value lower than 0.05, which allowed us to reject the hypothesis that random effects were the preferred model. In separate tests, instead of considering firm fixed effects, we use both country and industry fixed effects. When we did this, we noticed that the Durbin-Watson statistic tends to point out that the models suffer from autocorrelation for each cross-section. As a result, we computed these estimations using a period SUR.

The estimations include two kinds of MNEs. There is an analysis group, which consists of MNEs required to submit CbCRs after 2016. There is also a control group that includes MNEs which are not required to submit CbCRs. In most UE27 countries, MNEs are obliged to report CbCRs if their turnover was greater than €750M (or an equivalent amount in domestic currency) in the preceding fiscal year.

To distinguish between MNEs with and without obligation to file CbCR, the following criteria are applied:

1. Revenues are higher than €750M (or an equivalent amount in domestic currency).
2. Are headed in a country with CbCR legislation or has subsidiaries in countries with local filing obligations (Annex A).

The entity with the filing obligation is the ultimate parent entity of the group and the reporting will be made in the jurisdiction in which the ultimate parent entity is resident for tax purposes. The definition of ultimate parent entity is based on the requirement to prepare consolidated financial statements under accounting principles generally applied in the jurisdiction of tax residence.

Variables and Data

To analyze the effects of CbCR we retrieved consolidated information from Bureau van Dijk's Orbis database, as it contains detailed financial information on group heads of MNEs.

The sample construction was made first with the EU27 headquartered ultimate parent entities. Then, the sample was restricted to ultimate parent entities with accounts available for the whole period between 2012 and 2020. After that, all financial institutions (banks and insurance companies) were excluded, as these MNEs are subject to additional CbCR requirements. We also excluded a small number of MNEs in rather specific sectors, namely public administration, defence and compulsory social security (section O), education (section P), activities of households as employers, undifferentiated goods and services producing activities of households for own use (section T) and activities of extraterritorial organisations and bodies (section U). In addition, the sample was limited to ultimate parent entities with consolidation codes C1 and C2.⁴

After checking the data, we also excluded MNEs with missing data for any variable that we needed and MNEs with a negative profit before tax. We computed ETRs as tax expenses divided by profit before tax. MNEs with a negative profit before tax can really bias the interpretation of ETRs and the results of the estimations.

Last, we only kept MNEs that report a turnover higher than €750M throughout the whole sample or MNEs that always report a turnover lower than €750M. Thus, we ensured that MNEs do not change between the analysis group and the control group between 2012 and 2020. We have nine observations for all MNEs in the sample, which means that there are not entries nor exists within the whole time frame. The final sample constructed consists in 1243 EU headquartered MNEs. Table 2 provides an overview of the sample selection process.

The statutory corporate tax rate was obtained from the tables provided by KPMG's tax guides. The GDP and inflation rate are obtained using the World Bank database.

⁴ C1 (consolidated accounts with no unconsolidated companion), C2 (consolidated accounts with an unconsolidated companion).

Table 2 – Sample Construction

Sampling Selection Steps	Number of Firms (MNEs)
Active Companies	71 472 010
Ultimate Owners with subsidiaries located in EU27	681 524
Accounts available for the period of 2012 to 2020	177 216
Location within EU27	174 553
All types of entities with exception of financial institutions (banks and insurance companies)	173 687
Consolidated financial statements (Code C1 and C2)	8 519
Additional criteria (sectors, missing data, unprofitable)	1 243

With regards to the variables, to facilitate the interpretation, Table 3 provides the definition of the variables and the sources.

Table 3- Variable definition and source

Variable Name	Definition	Data Source
ETR (in %)	Tax/pre-tax profits	KPMG, Orbis, Own calculations
TRD (in ppts.)	Difference between statutory CIT rate in country of UPE and ETR	KPMG, Orbis, Own calculations
Statutory CIT Rate (in %)	Statutory CIT Rate in country of UPE	KPMG
GDPPC growth (in %)	Growth rate of GDP per capita in country of UPE	World Bank
Inflation (in %)	Inflation (CPI) per capita in country of UPE	World Bank

Tables 4 and 5 summarize the classification of the sample by country and by section. Through table 4 it can be observed that the majority of the MNEs are headquartered in Germany (296), followed by Italy (175), Netherlands (145), France (133), and Sweden (116).

Table 4- Number of MNEs per country

Country/Region	N° of MNEs
Germany	296
France	133

Netherlands	145
Italy	175
Luxembourg	7
Spain	93
Belgium	40
Ireland	20
Sweden	116
Finland	74
Poland	43
Austria	27
Denmark	15
Portugal	10
Hungary	9
Greece	12
Romania	3
Slovenia	2
Lithuania	5
Croatia	9
Cyprus	1
Latvia	5
Czech Republic	1
Malta	0
Bulgaria	2
Estonia	0
Slovakia	0

To facilitate the reading, Figure 1 plots the distribution of the number of observations by country, for the period of 2012 to 2020.

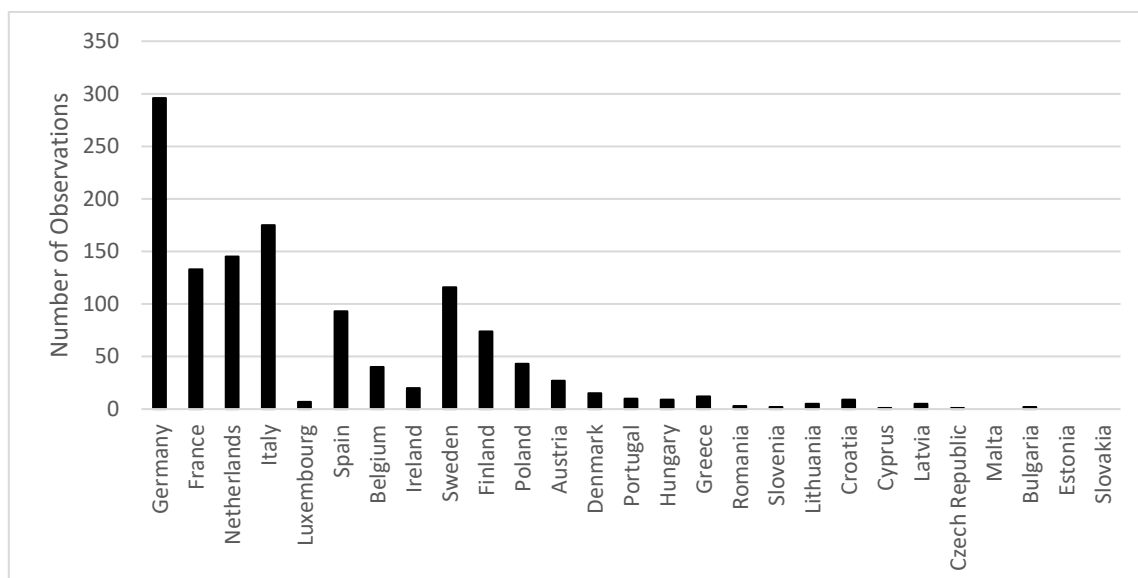


Figure 1 - Sample distribution by country

Observing table 5, the section with more MNEs is section C – Manufacturing (3492), followed by section M – Professional, Scientific and Technical Activities (2547). The least representative section is section I – Accommodation and food service activities (36).

Table 5- Sample distribution by Industry

Industry	N. Obs.
Agriculture, forestry, and fishing - Section A	17
Mining and Quarrying - Section B	9
Manufacturing - Section C	388
Electricity, Gas, Steam and Air Conditioning supply - Section D	32
Water supply - Section E	12
Construction - Section F	39
Wholesale and Retail Trade - Section G	210
Transportation and storage - Section H	43
Accommodation and food service activities - Section I	4
Information and Communication - Section J	78
Real Estate Activities - Section L	67
Professional, Scientific and Technical Activities - Section M	283
Administrative and support service activities - Section N	35

Human Health and Social Work Activities - Section Q	12
Arts, entertainment, and recreation - Section R	5
Other Services Activities - Section S	9

Likewise, to facilitate the reading, Figure 2 plots the distribution of the number of observations by Industry, for the period of 2012 to 2020.

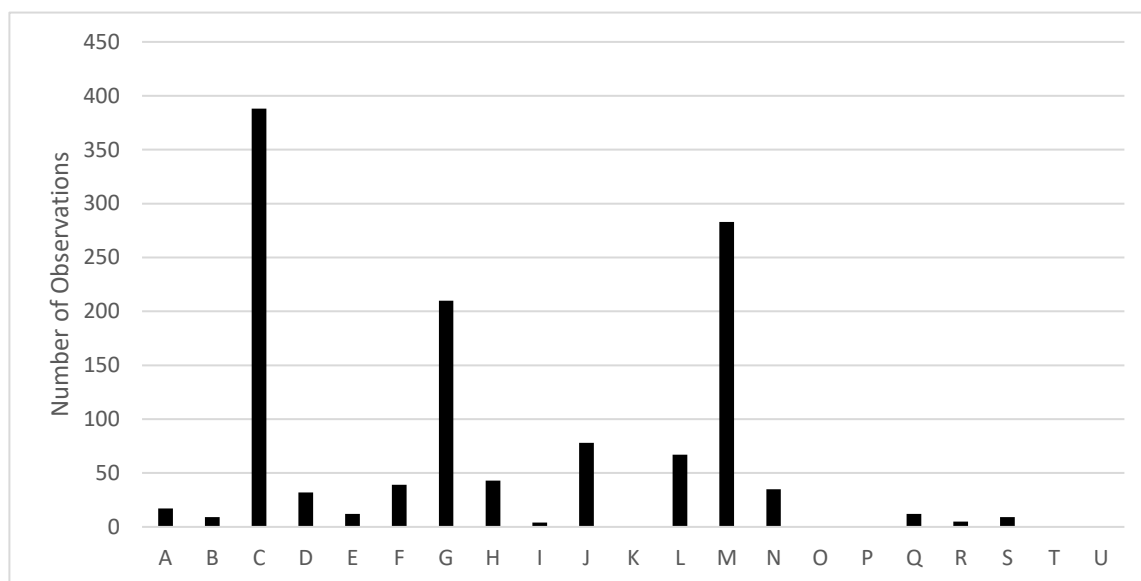


Figure 2 – Sample distribution by Industry

Table 6 shows the descriptive statistics of the variables used in the tests.

To mitigate the impact of outliers ETR, TRD and Size variables are winsorized at the first and last percentile. The growth measures are multiplied by 100 to facilitate the interpretation in percentage terms.

Thus, table 6 reports average ETR of 32.35 percent and average TRD of -5.873 percent.

Table 6 – Summary Statistics

	Obs.	Mean	Median	Std. Dev.	Skewness	Kurtosis
ETR	10967	32.351	25.317	225.132	86.668	8281.066
TRD	10967	-5.873	0.074	225.040	-86.718	8287.221
CIT	10967	26.477	25.000	4.883	-0.667	3.261
GDPPC	10967	0.660	1.188	3.049	-0.404	12.921
Inflation	10967	1.067	1.024	0.909	0.351	3.254

Results

The main purpose of CbCRs is the reduction of profit-shifting opportunities for MNEs. Thus, to assess if CbCRs produced the desired goal, consolidated ETRs were used as primary dependent variable.

ETRs assess taxes paid over pre-tax profits and are frequently used as an ex-post measure of tax avoidance (Hanlon & Slemrod, 2009; Dyreng, Hanlon & Maydrew, 2010; Overesch & Wolf, 2019).

Using ETRs at consolidated level has the advantage of reflecting all types of profit-shifting (Beer, de Mooij & Liu, 2019). Therefore, if MNEs reduce their tax aggressiveness due to CbCR introduction, treated MNEs will experience an increase in the ETR when compared to the control group, in the post-reform period.

Starting with the analysis on the effects of CbCR based on difference-in-differences estimation, Table 7 displays the base line results for ETR, according to equation (1) over the years of 2012 to 2020 with and without basic controls, which consist in control variables including CIT rate, GDP per capita growth and inflation rate; and cross-sectional fixed effects which includes year, firm, country, and industry fixed effects.

The coefficient on the interaction term measures the relative change in ETR of the treatment group relative to the control group. It is positive and statistically significant at 1% level in estimation (2), with basic controls, firm and year fixed effects, demonstrating that the ETR of MNEs with a CbCR filing obligation has increased by 1.440 percentage points relative to MNEs with no obligation.

On the fifth and sixth specifications, the years of 2015 and 2016 were excluded to remove the potential data bias associated to the announcement of the introduction of the CbCRs. Thus, in specification (5) we report an increase in the ETR of MNEs with CbCR filing obligation relative to MNEs without obligation of 1.615 percentage points, with statistical significance of 1%, and in specification (6) we report an increase of 1.144 percentage points, with 10% statistical significance. Both results are in accordance with the results found in specification (2), confirming that the companies with CbCR filing obligation present increased ETRs.

Through specifications (7) and (8) we investigate the timing of the response in more detail by including an individual interaction term for each treatment years (2016-2020) and

we have found a significant impact of the CbCRs in 2016, which was the first year of adoption. Then, its impact started to decrease in the following years, indicating that MNEs' concerns related to the adoption of CbCR were getting dissipated. Basically, the excess ETR of MNE that had to report CbCR over the control group has decreased every year after mandatory adoption in 2016.

In 2020, we find a large increase in the coefficient of the interaction term that can be attributed to the start of the discussion of a minimum tax rate for MNEs. As the minimum tax rate framework is similar to the CbCR framework, it may have acted a deterrent on profit shifting activities. It can also be attributed to Covid 19 Pandemic. Europe was affected by the Pandemic in early 2020, which brought great uncertainties and constraints to companies. Thus, MNEs reduced employee costs due to layoffs and reduced the volume of investments, which could have led to higher ETRs.

As an alternative proxy for profit shifting at consolidated level, TRD was used in the regressions. The TRD is the difference between the statutory CIT rate in the country of the UPE and the ETR of the MNE. In this case, a reduction in profit shifting activities would lead to a reduced TRD in the treatment group.

The regression results are displayed in Table 8, where across all the specifications we find a negative coefficient of the interaction term. This indicates that the adoption of the CbCR led to a lower TRD, hinting that it limited profit shifting strategies. However, the statistical significance of the coefficients is not consistent across all specifications.

Thus, even though CbCR introduction had an impact on profit-shifting aggressiveness, we were not able to find evidence of a structural change.

With regards to the investigation of the time of the response for TRD, the same behavior as the ETR was verified, with changing of sign in the year of 2019 and the results for 2020 being as twice as large as specification (2) and three times larger than specification (4).

Table 7 - Effects of CbCR on tax avoidance (ETR)

	(1) ETR Tax/Pre-tax Profit	(2) ETR Tax/Pre-tax Profit	(3) ETR Tax/Pre-tax Profit	(4) ETR Tax/Pre-tax Profit	(5) ETR Tax/Pre-tax Profit Excluding year 2015 and 2016	(6) ETR Tax/Pre-tax Profit Excluding year 2015 and 2016	(7) ETR Tax/Pre-tax Profit	(8) ETR Tax/Pre-tax Profit
CbCR x post2016	0.490 (0.972)	1.440*** (2.802)	0.280 (0.524)	0.895* (1.694)	1.615*** (2.661)	1.144* (1.856)		
CbCR x 2016							1.842** (2.115)	1.284* (1.720)
CbCR x 2017							1.288 (1.475)	0.889 (1.087)
CbCR x 2018							0.504 (0.578)	0.326 (0.420)
CbCR x 2019							-0.385 (-0.443)	-0.547 (-0.641)
CbCR x 2020							3.097*** (3.558)	2.772*** (2.950)
Basic Controls	No	Yes	No	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	No	No	Yes	No	Yes	No
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	No	No	Yes	Yes	No	Yes	No	Yes
Section FE	No	No	Yes	Yes	No	Yes	No	Yes
Observations	10967	10967	10967	10967	8544	8544	10967	10967

Notes: This table summarizes the effects of CbCR on consolidated ETR as proxy for corporate profit-shifting at the company group level. The estimations are based on difference-in-differences estimations following Equation (1). All variables are defined according to table 3. Basic controls are the statutory CIT rate, GDP per capita growth, and the inflation rate in the country of the UPE. Estimations on ETR all include statutory tax rates as control variable. T-Statistics are reported in parentheses. ***, ** and * denote statistical significance at the 1%, 5% and 10% significance level.

Table 8 - Effects of CbCR on tax avoidance (Tax Rate Differential)

	(1) Tax Rate Differential	(2) Tax Rate Differential	(3) Tax Rate Differential	(4) Tax Rate Differential	(5) Tax Rate Differential Excluding year 2015 and 2016	(6) Tax Rate Differential Excluding year 2015 and 2016	(7) Tax Rate Differential	(8) Tax Rate Differential
CbCR x post2016	-0.704 (-1.418)	-1.425*** (-2.787)	-0.437 (-0.847)	-0.876* (-1.668)	-1.597*** (-2.642)	-1.110* (-1.810)		
CbCR x 2016							-1.808** (-2.085)	-1.248* (-1.708)
CbCR x 2017							-1.265 (-1.456)	-0.875 (-1.087)
CbCR x 2018							-0.468 (-0.540)	-0.299 (-0.386)
CbCR x 2019							0.388 (0.448)	0.547 (0.645)
CbCR x 2020							-3.109*** (-3.590)	-2.780*** (-2.970)
Basic Controls	No	Yes	No	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	No	No	Yes	No	Yes	No
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	No	No	Yes	Yes	No	Yes	No	Yes
Industry FE	No	No	Yes	Yes	No	Yes	No	Yes
Observations	10967	10967	10967	10967	8544	8544	10967	10967

Notes: This table summarizes the effects of CbCR on consolidated TRD as proxy for corporate profit-shifting at the company group level. The estimations are based on difference-in-differences estimations following Equation (1). All variables are defined according to table 3. Basic controls are the statutory CIT rate, GDP per capita growth, and the inflation rate in the country of the UPE. T-Statistics are reported in parentheses. ***, ** and * denote statistical significance at the 1%, 5% and 10% significance level.

Additional tests

In addition, we have performed some tests to verify if the results obtained above are related to the difference in size between MNEs that need to prepare the CbCRs and those that do not. For that, we have applied different minimum requirements to the turnover level of MNEs that are not required to prepare the CbCRs.

Through the analysis of Table 9 and Table 10, we can verify that, as the minimum requirement in terms of turnover is increased, a linear relationship is not identified between the coefficients obtained and the turnover of the MNEs in the control group. Even when considering only MNEs with at least 350M of turnover we obtained coefficients that are not statistically significant, although they remain positive.

We also ran some tests by adding the SIZE control variable which corresponds to the logarithm of total assets. We verified that, when introducing this control, we still obtain positive and statistically significant coefficients, for confidence level of 99% and 90%, in specifications (7) and (8), respectively.

Table 9 - Effects of CbCR on tax avoidance (ETR - Turnover Scales)

	Turnover >150M€		Turnover >200M€		Turnover >250M€		Turnover >300M€		Turnover >350M€		Size	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR
	Tax/Pre-tax Profit	Tax/Pre-tax Profit	Tax/Pre-tax Profit	Tax/Pre-tax Profit	Tax/Pre-tax Profit	Tax/Pre-tax Profit	Tax/Pre-tax Profit	Tax/Pre-tax Profit	Tax/Pre-tax Profit	Tax/Pre-tax Profit	Tax/Pre-tax Profit	Tax/Pre-tax Profit
CbCR x post2016	1.669*** (2.846)	1.158* (1.950)	1.114* (1.840)	1.025* (1.664)	0.954 (1.468)	0.663 (1.010)	1.216* (1.750)	1.021 (1.522)	0.959 (1.272)	0.732 (1.030)	1.409*** (2.736)	1.069* (1.906)
Basic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Industry FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	8000	8000	6618	6618	5617	5617	4896	4896	4320	4320	10961	10961

Notes: This table reports the results of the tests for ETR when applying different minimum requirements to the turnover level of MNEs that are not required to prepare the CbCR, in the post-implementation period (≥ 2016). The estimations are based on difference-in-differences estimations following Equation (1). All variables are defined according to table 3. Basic controls are the statutory CIT rate, GDP per capita growth, and the inflation rate in the country of the UPE. SIZE control variable corresponds to the logarithm of total assets. T-Statistics are reported in parentheses. ***, ** and * denote statistical significance at the 1%, 5% and 10% significance level.

Table 10 - Effects of CbCR on tax avoidance (TRD - Turnover Scales)

	Turnover >150M€		Turnover >200M€		Turnover >250M€		Turnover >300M€		Turnover >350M€		Size	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Tax Rate Differen- tial	Tax Rate Differen- tial	Tax Rate Differen- tial	Tax Rate Differen- tial	Tax Rate Differen- tial	Tax Rate Differen- tial	Tax Rate Differen- tial	Tax Rate Differen- tial	Tax Rate Differen- tial	Tax Rate Differen- tial	Tax Rate Differen- tial	Tax Rate Differen- tial
CbCR x post2016	-1.649*** (-2.826)	-1.127* (-1.914)	-1.110* (-1.841)	-0.9995* (-1.636)	-0.956 (-1.480)	-0.649 (-0.997)	-1.226* (-1.770)	-0.999 (-1.500)	-0.975 (-1.300)	-0.711 (-1.009)	-1.393*** (-2.720)	-1.057* (-1.895)
Basic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Industry FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	8000	8000	6618	6618	5617	5617	4896	4896	4320	4320	10961	10961

Notes: This table reports the results of the tests for TRD when applying different minimum requirements to the turnover level of MNEs that are not required to prepare the CbCR, in the post-implementation period (=>2016). The estimations are based on difference-in-differences estimations following Equation (1). All variables are defined according to table 3. Basic controls are the statutory CIT rate, GDP per capita growth, and the inflation rate in the country of the UPE. SIZE control variable corresponds to the logarithm of total assets. T-Statistics are reported in parentheses. ***, ** and * denote statistical significance at the 1%, 5% and 10% significance level.

Additionally, we developed tests about the impact of CbCRs, by region and by industry classification. Table 11 displays the results for ETR and for TRD by region and Table 12 the results by industry classification. Regarding the tests by region, we had to group the countries in regions otherwise some countries would not meet the minimum observation requirements to be included in the tests.

Table 11 shows that the region where the CbCR had a higher impact was Eastern Europe, displaying an increase in the ETR of 6.231 percentage points and a decrease in the TRD of 6.001 percentage points (both with 5% level of significance).

With regards to this region, Johannesen, Troslov and Wier (2016) have investigated whether cross-border profit shifting by MNEs is more prevalent in less developed countries (analyzing two separate sets of countries - Eastern Europe and Western Europe) and found evidence that less developed countries appear to be significantly more exposed to tax avoidance by MNEs, displaying lower levels of tax compliance. On the other hand, Ignat and Feleaga (2017), by analyzing the transfer pricing regulations of all EU countries, found that Eastern European countries have less strict transfer pricing regulations.

The effectiveness of the CbCRs in this region is therefore supported by these two factors, higher prevalence of profit shifting activities by MNEs and less stringent transfer pricing regulations.

The second largest impact was in the Mediterranean with an increase in the ETR of 5.830 percentage points and a decrease in TRD of 5.841 percentage points, with 10% level of significance. In the Iberian region, we found an increase in the ETR of 4.344 percentage points and a decrease in the TRD of 4.380 percentage points (5% level of significance).

However, not all countries responded positively to the impact of CbCRs introduction. France and the countries from North Europe reported a negative impact for the introduction of CbCRs, with statistical significance for both proxies in the North Europe countries and with statistical significance for the ETR in France.

Through these results we can assess that the CbCRs were more effective in countries more exposed to tax avoidance by MNEs and with less strict transfer pricing regulations and was less effective in countries with higher tax compliance levels and stricter transfer pricing regulations.

In Table 12 we tested the effect of the CbCRs by industry and found that it is most effective in Real Estate Activities (section L), with an increase in the ETR of 3.389 percentage

points and a decrease in the TRD of 3.271 percentage points, both without level of significance. The real estate sector has long been identified as an important sector being used to facilitate tax fraud (OECD 2007). Turyatini (2017) has analyzed tax avoidance determinants on the property and real estate companies, and found evidence that tax avoidance is still being practiced by most real estate companies. The low tax enforcement in this sector has therefore led it to be more sensitive to BEPS project actions and transfer pricing regulation and, as consequence, more sensitive to the effect of CbCRs.

The CbCRs were also highly effective in Wholesale and Retail Trade (section G) where we report an increase in the ETR of 2.657 percentage points and a decrease in the TRD of 2.602 percentage points, both with 10% level of significance. The reported results are supported mainly by the high sensitivity of this sector to arm's length principle.

We have however verified here the same behavior reported in the country analysis, which is, not all the industries report positive effect for CbCRs introduction. The information and communication industry reports a negative impact in ETR and TRD, with no statistical significance. This impact is supported by the fact that this industry is highly competitive and has limited scope for profit shifting activities. Furthermore, it is an industry that is subject to public scrutiny, leading MNEs to be cautious with any activities that may be perceived as tax avoidance or evasion.

Table 11 - Effects of CbCR on tax avoidance by Country

	Central Europe (Germany, Austria, and Czech Republic)		France		Benelux (Netherlands, Belgium, and Luxembourg)		Mediterranean (Italy, Greece, Cyprus, Malta, Croatia, and Slovenia)		Iberian (Spain and Portugal)		North Europe (Sweden, Finland, Denmark, and Ireland)		Eastern Europe (Poland, Hungary, Romania, Lithuania, Latvia, Bulgaria, Estonia, and Slovakia)	
	(1) ETR	(2) Tax Rate Differential	(3) ETR Tax/Pre- tax Profit	(4) Tax Rate Differential	(5) ETR Tax/ Pre- tax Profit	(6) Tax Rate Differential	(7) ETR Tax/Pr e-tax Profit	(8) Tax Rate Differen- tial	(9) ETR Tax/Pre -tax Profit	(10) Tax Rate Differ- ential	(11) ETR Tax/Pre -tax Profit	(12) Tax Rate Differ- ential	(11) ETR Tax/Pre -tax Profit	(12) Tax Rate Differ- ential
CbCR x post2016	0.900 (0.871)	-0.898 (-0.864)	-3.301** (-2.182)	1.595 (1.052)	0.045 (0.044)	-0.084 (-0.082)	5.830*** (3.010)	-5.841*** (-2.998)	4.344** (1.950)	-4.380** (-1.994)	-1.794* (-1.895)	1.828** (1.991)	6.231** (2.339)	-6.001** (-2.334)
Basic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2813	2813	1092	1092	1718	1718	1791	1791	927	927	2023	2023	603	603

Notes: This table summarizes the results of the tests for ETR and TRD of MNEs that are required to prepare the CbCR by groups of countries, in the post-implementation period (\Rightarrow 2016). The estimations are based on difference-in-differences estimations following Equation (1). All variables are defined according to table 3. Basic controls are the statutory CIT rate, GDP per capita growth, and the inflation rate in the country of the UPE. T-Statistics are reported in parentheses. ***, ** and * denote statistical significance at the 1%, 5% and 10% significance level.

Table 12 - Effects of CbCR on tax avoidance by Industry Classification

	Manufacturing Section C		Wholesale and Retail Trade Section G		Information and Com- munication Section J		Real Estate Activities Section L		Professional, Scientific and Technical Activi- ties Section M	
	(1) ETR Tax/Pre- tax Profit	(2) Tax Rate Differential	(3) ETR Tax/Pre- tax Profit	(4) Tax Rate Differential	(5) ETR Tax/Pre- tax Profit	(6) Tax Rate Differential	(7) ETR Tax/Pre- tax Profit	(8) Tax Rate Differential	(9) ETR Tax/Pre- tax Profit	(10) Tax Rate Differential
CbCR x post2016	1.549* (1.894)	-1.572** (-1.935)	2.657** (2.156)	-2.602** (-2.127)	-0.234 (-0.117)	0.281 (0.143)	3.389 (1.383)	-3.271 (-1.344)	1.568 (1.159)	-1.545 (-1.142)
Basic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3455	3455	1885	1885	698	698	600	600	2415	2415

Notes: This table summarizes the results of the tests for ETR and TRD of MNEs that are required to prepare the CbCR by industry classification, in the post-implementation period (\Rightarrow 2016). The estimations are based on difference-in-differences estimations following Equation (1). All variables are defined according to table 3. Basic controls are the statutory CIT rate, GDP per capita growth, and the inflation rate in the country of the UPE. T-Statistics are reported in parentheses. ***, ** and * denote statistical significance at the 1%, 5% and 10% significance level.

Conclusion

With the introduction of the CbCRs, tax disclosures from MNEs to tax authorities have increased. The data provided by the CbCR should give tax authorities greater visibility on the global tax affairs of MNEs and improve the effectiveness and efficiency of the tax enforcement function, ultimately acting as a deterrent to the implementation of aggressive tax planning by MNEs.

However, there is a disconnection between disclosures under CbCR and the transfer pricing rules used by MNEs to report income in different jurisdictions. There is also a lack of consensus regarding the effectiveness of CbCR in reducing profit shifting practices by MNEs. This study aims to resolve this uncertainty by providing evidence for the ETR and TRD.

Using the €750M threshold for the obligation to submit CbCR and employing a difference-in-differences design, the findings in this study indicate that the introduction of private CbCRs appear to have had an impact, but not a significant one, being noticeable mainly in the first year of adoption and in 2020. This impact also does not seem to have been felt in all regions and industries, being more evident in Eastern European, Mediterranean, and Iberian countries and in the industries of Real Estate Activities and Wholesale and Retail Trade.

These findings are in accordance with the skepticisms about the effectiveness of non-public CbCRs against profit shifting and the concerns that its introduction would only add burden on business without significantly raise the detection probability.

In this regard, Henry, Massel, & Towery (2016) have compared the effects of the three tax disclosure requirements existing in the US and found that only one of the regimes successfully lowered tax avoidance, suggesting that not all financial information provided by companies to tax authorities increases the detection probability and is useful to fight against tax avoidance.

Furthermore, De Simone and Olbert (2021) found that increased monitoring by tax authorities may not achieve the intended results as increased disclosure may have positive impacts on reducing MNE tax avoidance, but may at the same time encourage investment in jurisdictions with relatively preferential tax regimes.

According to the findings of Joshi (2019), MNEs subject to higher detection risk, public pressure, and enforcement strength in the affiliate home country present greater decline in tax avoidance. Hugger (2020) also finds evidence that the effect of the CbCRs is

stronger for companies that experience a more pronounced increase in the detection probability.

Therefore, we can conclude that, as it has been highly debated, the introduction of public CbCRs would improve the effectiveness of CbCRs in the reduction of profit shifting practices, as it increases the detection probability for MNEs.

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Annex A – Country-by-Country Reporting requirements in inclusive framework member jurisdictions

Jurisdiction	UPE filing from	CbCR law	Threshold	Deadline	Local filing from	Notifications	Reciprocity	CbC MCAA	Appropriate use
Austria	01/01/2016	✓	EUR 750 million	12 months	01/01/2017	Yes	R	✓	Yes
Belgium	01/01/2016	✓	EUR 750 million	12 months	01/01/2016	Yes	R	✓	Yes
Bulgaria	01/01/2016	✓	EUR 750 million	12 months	01/01/2017	Yes	N-R	✓	Yes
Croatia	01/01/2016	✓	EUR 750 million	12 months	01/01/2017	Yes	R	✓	Yes
Czech Republic	01/01/2016	✓	EUR 750 million	12 months	01/01/2017	Yes	R	✓	Yes
Denmark	01/01/2016	✓	DKK 5.6 billion	12 months	01/01/2017	Yes	R	✓	Yes
Estonia	01/01/2016	✓	EUR 750 million	12 months	01/01/2017	Yes	R	✓	Yes
Finland	01/01/2016	✓	EUR 750 million	12 months	01/01/2016	Yes	R	✓	Yes
France	01/01/2016	✓	EUR 750 million	12 months	01/01/2016	Yes	R	✓	Yes
Germany	01/01/2016	✓	EUR 750 million	12 months	01/01/2017	Yes	R	✓	Yes
Greece	01/01/2016	✓	EUR 750 million	12 months	01/01/2016	Yes	R	✓	Yes
Hungary	01/01/2016	✓	EUR 750 million	12 months	01/01/2017	Yes	R	✓	Yes
Ireland	01/01/2016	✓	EUR 750 million	12 months	01/01/2016	Yes	R	✓	Yes

Italy	01/01/2016	✓	EUR 750 million	12 months	01/01/2016	Yes	R	✓	Yes
Latvia	01/01/2016	✓	EUR 750 million	12 months	01/01/2016	Yes	R	✓	Yes
Lithuania	01/01/2016	✓	EUR 750 million	12 months	01/01/2016	Yes	R	✓	Yes
Luxembourg	01/01/2016	✓	EUR 750 million	12 months	01/01/2016	Yes	R	✓	Yes
Malta	01/01/2016	✓	EUR 750 million	12 months	01/01/2017	Yes	R	✓	Yes
Netherlands	01/01/2016	✓	EUR 750 million	12 months	01/01/2016	Yes	R	✓	Yes
Poland	01/01/2016	✓	EUR 750 million	12 months	01/01/2017	Yes	R	✓	Yes
Portugal	01/01/2016	✓	EUR 750 million	12 months	01/01/2017	Yes	R	✓	Yes
Romania	01/01/2016	✓	EUR 750 million	12 months	01/01/2017	Yes	N-R	✓	N/A
Slovak Republic	01/01/2016	✓	EUR 750 million	12 months	01/01/2017	Yes	R	✓	Yes
Slovenia	01/01/2016	✓	EUR 750 million	12 months	01/01/2017	Yes	R	✓	Yes
Spain	01/01/2016	✓	EUR 750 million	12 months	01/01/2016	Yes	R	✓	Yes
Sweden	01/01/2016	✓	SEK 7 billion	12 months	01/01/2016	Yes	R	✓	Yes
Turkey	01/01/2019	✓	EUR 750 million	12 months	01/01/2019	Yes	R	✓	Yes

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