



ORIGINAL ARTICLE

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Assessing impact of base erosion and profit shifting on performance of subsidiaries of multinational corporations in Baltic countries

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Abstract

Research background: The problem of base erosion and profit shifting by multi-national corporations has been debated from different perspectives because of its multiple impact on the key actors in the economy. Studies refer to its positive impact on companies via corporate taxes saved, but its negative impact on governments via reduced tax collection. A number of empirical studies conducted in different countries support the substantial BEPS impact on company performance, but report differences in its magnitude. Other authors claim that, despite a wide range of tax avoidance opportunities available, tax avoidance is limited due to institutional measures imposed (tax audits, penalties for non-compliance) and high implementation costs. A majority of the previous empirical research covered large countries (USA, Germany) or regions (e.g. Europe), but there is a gap in the re-search assessing the BEPS impact on multinational corporations' subsidiaries' performance in countries with lower corporate income tax rates such as the Baltic countries. **Purpose of the article:** To assess the impact of base erosion and profit shifting on multinational corporations' subsidiaries' performance in the Baltic countries.

Methods: Empirical research is conducted based on the framework employed by Hines and Rice (1994) to measure BEPS impact on company performance. Regression analysis with fixed effects was applied to a sample of 3,422 Latvian, Lithuanian and Estonian subsidiaries of multinational corporations, which are characterized by low corporate tax rates. The data for the period of 2007–2015 was retrieved from the Amadeus database.

Findings & Value added: The research revealed that Baltic countries' tax differentials between multinational corporations' parent and subsidiary countries might have a significant impact on the subsidiary's financial performance. When the tax rate differences between Baltic and the foreign countries decrease by 1%, reported profits in Baltic countries increase by 2.3%, indicating profit-shifting behaviour. This is in line with the empirical literature and practices applied by multinational corporations. It is also in favour of anti-tax avoidance measures introduced by the EC to be adopted by Baltic and other EU countries.

Introduction

Base erosion and profit shifting (BEPS) is about international corporate income tax avoidance, i.e. taking advantage of tax loopholes, using differences in different countries' tax systems. The problem of BEPS by multinational corporations has been debated from different perspectives because of its multiple impact on the key actors in the economy. Studies refer to its positive impact on companies via corporate taxes saved (Devereux, 2006; Dharmapala, 2014), but its negative impact on governments via reduced tax collections (Clausing, 2009; Fuest & Riedel, 2010; OECD, 2015; Murciego & Laborda, 2017).

A number of empirical studies conducted in different countries supported the view that there is a substantial BEPS impact on a company performance. However, reporting differs in magnitude. Other authors (Hines, 2014) claim that, despite a wide range of tax avoidance opportunities available, tax avoidance is limited due to institutional measures imposed (tax audits, penalties for non-compliance) and high implementation costs.

Previous research of corporate tax avoidance impact on the performance of companies usually covers US companies (Grubert & Mutti, 1991; Hines & Rice, 1994), foreign subsidiaries of US companies (Clausing, 2009; Blouin *et al.*, 2011), European companies (Huizinga & Laeven, 2008; Dischinger, 2010; Dischinger & Riedel, 2011; Lohse & Riedel, 2013; Dischinger *et al.*, 2014; Loretz & Morkas, 2011; De Simone, 2016), German companies (Weichenrieder, 2009) or companies from selected countries (i.e. Spain — Murciego & Laborda, 2017), where data for research is available. However, in the Baltic countries, characterized as small open economies with comparatively lower taxation, which attract foreign investments in the form of subsidiaries of foreign multinational corporations, the studies on tax avoidance measure's impact on the performance of companies are very limited.

This paper aims to assess the impact of base erosion and profit shifting on multinational corporations' subsidiaries' performance in the Baltic countries. The empirical research is conducted based on the framework

employed by Hines and Rice (1994) and is adopted to measure BEPS impact on company performance in the Baltic countries.

This research paper consists of four sections. In the first section, a review of the profit-shifting literature is presented. The second section describes the research methodology used to assess BEPS. The third section provides the results of a regression analysis using different sets of variables and discusses the empirical findings. The fourth section concludes the research findings.

Literature review

Murciego and Laborda (2017) classify the empirical assessment of profit shifting behaviour into direct and indirect approaches. The indirect approach focuses on estimating the overall expected results of BEPS. It originates from the Hines and Rice (1994) conceptual framework, which has been widely used by other researchers. The direct approach focuses on estimating the impact of particular BEPS strategies like transfer pricing, debt shifting, and usage of intellectual property. According to Dischinger (2010), significant data limitations restrict the application of the direct approach, so the indirect approach is more widely used in empirical studies.

As presented in Table 1, a literature review on the influence of profit shifting on corporate performance shows that most researchers agree on the existence of the corporate tax avoidance phenomena, but there is no consensus on its magnitude.

Hines and Rice (1994) were one of the first to find that US multinational firms in 1982 reported significantly higher (pre-tax) profits in low-tax countries than in high-tax countries after controlling for labour, capital and local economic conditions. There have been several subsequent studies of this type by Grubert and Mutti (1991), Hines and Rice (1994) and Clausing (2009).

Huizinga and Laeven (2008) show that a 1% lower tax rate differential in absolute terms is related to 1.43% (1.43 semi-elasticity) increased profitability of European firms and their estimated effect is smaller than the one reported by Hines and Rice (1994) — 6.3% (6.3 semi-elasticity). The key methodological reason for such a significant difference might be related to the use of firm level data by Huizinga and Laeven (2008) and the employment of firm fixed effects. Furthermore, it is worth noting that both Hines and Rice and Huizinga and Laeven used cross-sectional data (1982 and 1999 respectively) while recent studies mostly use panel data, giving more reliable estimations.

In contrast to the previous studies, Loretz and Mokka (2011) analysed the impact of corporate taxes on both pre- and post-tax profitability using a 2003–2011 panel dataset of European subsidiaries. They found that a 1% decrease in the tax rate increases post-tax profitability (excluding financial profits) by up to 0.06%. Furthermore, they indicate that financial profits and losses are particularly responsive to taxes. A total increase up to 0.11% percentage points of post-tax profitability (including financial profits) indicates that a large part of profit shifting (i.e. difference of 0.05% of post-tax profitability) takes place via debt shifting.

Using panel data of European firms from 1999 to 2009 and controlling for affiliate location, Lohse and Riedel (2013) found even smaller effects than those reported by Huizinga and Laeven (2008). Their findings suggest that 1% higher tax rate is related to 0.4% reduced profitability.

Analysis of tax avoidance from the perspective of Spain for the period 2005–2014 by Murciego and Laborda (2017) also revealed that reported profits are influenced by taxes. When the tax rate differences between Spain and foreign countries vary by 1%, reported profits of Spanish subsidiaries vary by around 2.7–3%.

According to studies by Dischinger and Riedel (2009) and Dischinger (2010), which exploit a large data set of European firms for the years 1999–2006, profit shifting is not homogenous. The alternative explanation for low profit shifting might indicate that parents are more profitable than subsidiaries (with a profitability gap of 30%) due to the agency costs and parents control of value enhancing functions and valuable assets (vertical FDI), and due to the higher competitiveness of parents in their home markets (horizontal FDI). Furthermore, researchers note that the profitability gap has been declining over time in vertical FDI firms due to falling communication and travel costs, but remains constant in horizontal FDI group.

Based on mixed research outcomes, Hines (2014) suggested that the BEPS problem might be overstated. He claims that the economic consequences of corporate tax avoidance cannot be material considering that CIT amounts to 8–10% of the total tax revenues of most economies in OECD countries. Only a fraction of CIT revenues is paid by multinational companies, and only 2–4% of profits of multinationals are shifted to low-tax countries. Tax enforcement regulation introduced by governments results in substantial tax planning costs, which restricts tax avoidance.

Research methodology

This research, based on Baltic country data, aims to identify the existence of profit shifting and base erosion from bigger and more developed countries with higher corporate income tax rates to smaller and less developed countries with lower corporate income tax rates. The Baltic countries were selected as they are characterized by lower corporate income tax rates and are dominated by the subsidiaries of multinational parent companies from bigger and more developed countries with higher tax rates.

Research method

The main question addressed in this research is: what is BEPS's impact on the performance of Baltic subsidiaries of multinational corporations. Based on the previous research practices, the approach by Hines and Rice (1994), employing an indirect method to verify the existence of BEPS activity, was chosen as a conceptual framework of analysis. The model was extensively used and further developed by Haufler and Schjelderup (2000), Grubert (2003), Weichenrieder (2009). Their studies support the main hypothesis, which states that, given the inputs of capital and labour, a larger tax rate difference of two companies leads to a higher optimal level of shifting between the two companies, which consequently reduces the pre-tax profits of high-tax companies and, vice versa, increases pre-tax profits of the low-tax company. The Hines and Rice approach is based on the assumption that reported profits are equal to the sum of true profits derived from real economic activity and profits artificially shifted. Reported profits act as the dependent variable. The tax incentive measure takes the form of various types of tax rates or tax rate differentials and acts as a tax avoidance proxy. Real economic activity is expressed via various assets, employment and productivity measures and act as control variables.

The following expression in logarithms can be used to analyse the existence of the BEPS activity:

$$\begin{aligned} \ln(\pi_{it}) = & \beta_1 + \beta_2 \ln A_{it} + \beta_3 \ln L_{it} + \beta_4 \ln K_{it} \\ & - \gamma(\text{Tax incentive})_{it} + \phi_i + \rho_t + \mu_i \end{aligned} \quad (1)$$

Where π_i are reported profits in country i , and at year t , A is the level of productivity in the country, L is the labour input, K is the capital input; the sample units are individual companies, ϕ_i expresses affiliate fixed effects which comprise unobservable characteristics constant over the period (like subsidiary position in the value chain or accumulated know-how) and ρ_t are

the time effects, which control for common shocks over the years (common changes in the profitability of all affiliates in a given year).

Profitability, as the dependent variable in our model could be measured by pre-tax profit (profit before tax — PBT or earnings before tax — EBT), earnings before interest and taxes (EBIT), post-tax profit (profit after tax — PAT or earnings after tax — EAT) and return on equity (ROE) measures, therefore, four regression models with four alternative profitability measures are constructed and tested. PBT/EBT is selected because it captures all the BEPS channels (TP, debt, IP). EBIT is used as it does not capture debt shifting and afterwards the results can be compared with the PBT measure. PAT and ROE are primarily used to conduct robustness test.

In our model, invested capital, the labour force (as company level measures) and country GDP per capita (as a country level measure) are chosen to act as control variables. The key independent variable is tax avoidance measure. Some papers use the statutory tax rates or statutory tax rate differentials while the others (De Simone, 2016; Markle, 2016) calculate weighted average tax rate differences. According to Dischinger (2010), tax rate differentials are more accurate in capturing profit shifting than single tax rates, because a single tax rate may itself incentivise investment in a given country. Based on the above reasoning, the authors use the tax rate difference between territories (the subsidiary and the parent residence country) as a proxy for the international tax incentive to shift profits, in the same way as some earlier authors (Clausing, 2009; Dischinger, 2010).

As presented in Table 1, in the model's economic activity is expressed via the invested capital measure — fixed assets of a company. Most of the studies used total fixed assets or total assets as an invested capital measure. In some studies (Murciego & Laborda, 2017), more detailed capital measures like intangible fixed assets and tangible fixed assets were used. They aimed to capture intangible assets' impact on profitability as its uniqueness may result in the difficulty of setting an arm's length transfer price and may be used as a tool for BEPS. In our research, total fixed assets, total assets and a set of intangible fixed assets, tangible fixed assets and other fixed assets are used as invested capital measures. The variable representing labour is usually expressed as employment costs in most of the previous empirical studies. Due to data limitations in Amadeus database on Baltic countries, in our research it is replaced by the number of employees in each company. Our productivity measure is expressed in GDP per capita and acts as a proxy for overall economic development. Also, the model uses fixed effects to capture individual company effects and time dummies — to capture common shocks.

Data set

The analysis rests on a sample of companies from Lithuania, Latvia, and Estonia, taken from the AMADEUS database (from the Bureau Van Dijk) for the period from 2007 to 2015. The analysis is limited to non-financial subsidiaries owned by industrial parents. In the sample the parent companies consist of those denominated as Global Ultimate Owners (GUOs) in the AMADEUS database and having a minimum shareholding percentage in subsidiaries of 50.01%.

The initial sample of Baltic companies comprised 32,940 observations, but was reduced to 18,740 observations (3,422 companies) due to missing data. Non-positive values of profitability measures were eliminated in order to transform the financial variables to logarithms.

The number of Estonian (1,177) and Latvian (1,682) companies are more than two to three times higher than Lithuanian companies (563 observations), respectively. This is slightly in contrast with the sizes of the relevant economies. In this respect, Lithuania is the biggest (GDP is of billion 47 USD, GDP per capita is 16,681 USD in 2017), Latvia — the second (GDP is of billion 30 USD, GDP per capita is 15,594 USD in 2017), Estonia — the third (GDP is of billion 26 USD, GDP per capita is 19,704 USD in 2017). It can be assumed that, due to the small Lithuanian sample in comparison with Latvian and Estonian samples, the survey may arrive at biased estimations.

Table 2 shows the data sample split by country of global ultimate owner, which indicates that GUO are dominated by Scandinavian, EU, and Western European countries and close neighbouring countries. In most cases, the tax rates in those countries are higher than in Baltic countries. Exceptions are EU tax haven countries like Cyprus, Luxembourg, and the Netherlands, which are known for their favourable tax regimes on a particular type of income.

Latvia and Lithuania had similar tax rates of 15% and similar taxable bases (with a number of tax adjustments like tax depreciation, bad debts, accruals, etc.). In contrast, Estonia had a higher tax rate of 21%, different taxable moment — upon dividend distribution (instead of accrual principle) and different tax base — accounting profits with minor adjustments (transfer pricing and non-business related expenses). In this research, differences in taxable moment and tax base are not considered, and from the tax perspective it is assumed that Lithuania, Latvia and Estonia represent a single region with similar taxation rules, but with different tax rates. Taking a deeper look at each particular country's sample, substantial differences in the structure of GUOs is noted. Lithuanian companies' GUOs are quite

well balanced; they are represented by different, mostly higher tax rate countries. Estonian companies' GUOs are strongly dominated by a higher tax rate Finnish (26–20% corporate tax rate) and Swedish (28–22%) parent companies, followed by UK (30–20%), Norwegian (28–27%), and German (38–30%) parent companies. Latvian companies' GUOs are strongly dominated by lower tax rate Lithuanian (15% corporate tax rate), Cypriot (10–12.5%), much higher — German (38–30%), as well as Russian (24–20%), and Estonian (21%) parent companies.

Empirical results

Descriptive statistics

Tax rate differences are dominated by negative tax rate difference (80% of all the cases of which 68% are the tax rate differences of more than 5 percent in absolute terms) which shows that in the Baltic countries tax rates are lower than in shareholder countries and may give grounds for profit shifting. Instances of positive tax differences (15% of all the cases) are rather low, neutral tax difference (5% of all the cases) are immaterial, mostly appearing in Latvia, which has a similar tax rate to Lithuania.

Correlation analysis showed that the tax incentive has a relatively low correlation (0.23) with GDP per capita. The correlation matrix indicates the strongest correlation (0.53) between profitability and fixed assets, a bit weaker (0.44) relationship with the number of employees and an almost similar correlation (0.43) between fixed assets and the number of employees. GDP per capita as a measure of productivity shows relatively low variability; therefore, a weak relationship with profitability can be expected.

Results of regression analysis

To assess the impact of base erosion and profit shifting on multinational corporations' subsidiaries' performance in the Baltic states four regression models using four different profitability measures, employing control variables and utilising fixed effects and time dummies were tested. The results of the regression analyses are presented in Table 3. All the specifications with different profitability measures show a negative relationship between the tax incentive and reported profits. The semi-elasticity is in range of 2.28–2.46. It shows that if the tax rate difference (Baltic subsidiary's country tax rate minus foreign parent country tax rate) decreases by 1% in absolute terms, reported profits in the Baltic countries increase by 2.3–2.4%.

The results show that among other control variables the one with the strongest impact on profitability is the number of employees (elasticity of 0.43–0.48), followed by tangible fixed assets with elasticity of 0.06 and other fixed assets (elasticity of 0.03), while intangible assets and GDP per capita are not statistically significant.

A robustness check revealed that the regression models in which invested capital (control variable) was measured by total fixed assets or total assets did not result in statistically significant calculations because three out of the four profitability models reported a non-statistically significant relationship between the tax incentive and reported profits measures. The invested capital represented by lower aggregation level variables: intangible assets, tangible fixed assets and other fixed assets produced viable results in all four profitability models and shall be used as proxy for invested capital measure.

Discussion

The previously conducted analysis allows us to conclude that tax rate differentials between the Baltic subsidiaries of multinational corporations and their parent countries have a significant impact on subsidiary financial performance. The results of the regression analysis revealed, that a 1% negative difference in the tax rate in absolute terms between a Baltic subsidiary and its parent company leads to 2.28% increase in EBT, 2.29% increase in EBIT, 2.46% increase in EAT and 1.6% increase in modified ROE. The literature analysis revealed that a majority of researchers use EBT or EBIT as profitability measures. For further discussion, the first (tax incentive impact on EBT) and the second (tax incentive impact on EBIT) results are rounded to 2.3% and used further in the analysis. The third and the fourth results are only used for robustness check purposes.

Such findings indicate that international groups with subsidiary companies located in Baltic countries may be involved in BEPS. Baltic companies may report profits higher when the home country tax rate is lower than the tax rate of the country where the parent company is situated.

In our research, the estimated negative impact (semi-elasticity -2.3%) is stronger than reported in previous empirical works. The closest results were received by Heckemeyer and Overesch (2013) and showed mean tax semi-elasticity of -1.78. Other studies report significantly smaller influence. For example, Lohse and Riedel (2013) using Amadeus 1999–2009 data found semi-elasticity of -0.4, Dishinger et al. (2014) using Amadeus 1995–2007 data found semi-elasticity of -0.5, De Simone (2016) using Amadeus 2003–

2012 data found semi-elasticity of -0.74. We suggest that profit shifting phenomena is two to four times stronger in the Baltic countries if compared to the other European countries as tax rates are comparatively lower (LT, LV — 15%, EE — 0%, if no profits distributions).

A few previous studies with even higher profit shifting evidence also exist. For example, Dishinger and Riedel (2011) using Amadeus 1995–2005 data found semi-elasticity of -3.2. However, they used average tax rate of all the entities in the group rather than statutory tax rates difference between subsidiary and parent countries used in our study. Also, using Amadeus 2005–2014 data Murciego and Laborda (2017) found semi-elasticity of -2.74, but they concentrated only on profit shifting from foreign parents to Spain, which is not directly comparable to all Baltic countries in aggregate.

In our research, reliable regression results were received using lower level capital intensity measure (comprising intangible assets, tangible fixed assets and other fixed assets) rather than total assets or (total) fixed assets. Capital measures employed by other researchers are not homogenous. The majority of researchers (Hines & Rice, 1994; Huizinga & Laeven, 2008; Weichenrieder, 2009; Dischinger, 2010; Blouin *et al.*, 2011; Dischinger & Riedel, 2011; Lohse & Riedel, 2013; Dischinger *et al.*, 2014; Murciego & Laborda, 2017) used fixed assets, some of them (Markle, 2016; De Simone, 2016) employed tangible fixed assets, and others used tangible assets (Loretz & Morkkas, 2011). The BEPS related literature suggests that intangible assets may be used as a tool for BEPS. However, the results of our study (see Table 3) did not reveal a significant impact (elasticity of 0.01–0.02, but p-values of 0.11–0.72) of intangible fixed assets on any profitability measure. In contrast, it could suggest that the subsidiaries of multinational corporations in Baltic countries do not account for their own intangible assets but use the ones provided by parent companies (leading to transfer pricing issues). In this study, tangible fixed assets have an impact (elasticity of 0.06) on earnings before tax and interest (EBIT) profitability measure only, but does not influence EBT or EAT (elasticity of 0.04 but p-values of 0.15–0.18). The authors assume that tangible fixed assets may be financed via debt and it may be used to reduce EBT or EAT and erode the tax base. Other fixed assets are comprised of investments in financial assets like loans and shares. They contribute to financial profits and to EBT/PBT, but not to operating profits (i.e. EBIT). As presented in Table 3, other fixed assets have the strongest impact on EBT and EAT (elasticity of 0.03), but no impact on EBIT (elasticity of 0.00), which is consistent with the content of other fixed assets.

Conclusions

This paper addresses the issue of base erosion and profit shifting in multinational corporations and assesses the impact of BEPS on the performance of subsidiaries of foreign multinational corporations in the Baltic countries.

The research revealed that in the Baltic countries, tax differentials between multinational corporations' parent and subsidiary countries might have a significant impact on company financial performance. When the tax rate differences between Baltic subsidiaries and foreign parents decrease by 1%, reported profits increase by 2.3%. This is in line with the empirical literature. In light of our results, there is an argument for anti-tax avoidance measures introduced by the EC and to be adopted by the Baltic countries.

In this study, subsidiaries located in all three Baltic countries (Latvia, Lithuania and Estonia) and controlled by foreign parents were analysed in a single sample. Previous research proved that profit shifting is not homogenous. Samples of each Baltic country may be analysed separately, especially taking into consideration slightly different structures of controlling parent companies' countries. In addition, the sample could consist of a larger number of companies, including such with non-controlling ownership. Moreover, from the perspective of international competition for FDI, it would be interesting to compare data of the Baltic countries with other countries characterized by low tax rates and dominant parent companies from more developed, higher tax rate countries.

The main limitations of this research are related to the data sample. Due to the unequal distribution of the number of companies between the countries and unequal composition of higher tax rate parent companies (owning LT, LV, EE subsidiaries) in each country's sample, the results of the survey may be biased.

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Annex

Table 1. Empirical tax avoidance studies using individual company data

Researchers	Sample	Semi-elasticity*	Profitability variable	Tax variable	Economic activity variable	Fixed effects
Grubert and Murti (1991)	BEA, 1982 (US entities)	0.37	PAT/Sales ROE	STR, AvETR	x/Sales	-
Hines and Rice (1994)	BEA, 1982 (US entities)	6.3	LN PBT, LN EBIT	Av. STR	LN (Cost of employees), LN (Fixed assets) GDP pc	-
Huizinga and Laeven (2008)	Amadeus, 1999 (Europe entities)	1.43	LN PBT	STR, W. STR (w.f. sales) Subs to parent	LN (Cost of employees), LN (Fixed assets) GDP pc	Industry
Clausing (2009)	BEA, 1982-2004 (US entities)	3.39	PBT/Sales	STR ETR	x/Sales	-
Weichenrieder (2009)	Midi, 1996-2003 (German entities)	0.80	PAT/Assets	STR	LN (Cost of employees), LN (Fixed assets), GDP growth	Subsidiary, Year
Dischinger (2010)	Amadeus, 1995-2005, (Europe entities)	1.6	LN PBT	STR	LN (Cost of employees), LN (Fixed assets), GDP pc	Subsidiary, Year
Blouin <i>et al.</i> (2011)	BEA, 1982-2005, (US entities)	0.31	LN PBT	STR (foreign MTR and US STR)	LN (Cost of employees), LN (Fixed assets), GDP pc	Industry, Year
Dischinger and Riedel (2011)	Amadeus, 1995-2005, (Europe entities)	3.2	LN PBT	STR (STR less Unw. Av. STR of other group comp.)	LN (Cost of employees), LN (Fixed assets), GDP pc	Subsidiary, Year

Table 1. Continued

Researchers	Sample	Semi-elasticity*	Profitability variable	Tax variable	Economic activity variable	Fixed effects
Lohse and Riedel (2013)	Amadeus, 1999-2009, (Europe entities)	0.4	LN EBIT	STR	LN (Cost of employees), LN (Fixed assets), GDP pc	Subsidiary, Industry
Dischinger <i>et al.</i> (2014)	Amadeus, 1995-2007, (Europe entities)	0.5	LN PBT	STR	LN (Cost of employees), LN (Fixed assets), GDP pc	Subsidiary, Industry, Year
Loretz and Mokkas (2011)	Amadeus, 2003-2011, (Europe entities)	0.06	PAT/Assets	STR	LN (Cost of employees), LN (Tangible assets), GDP pc	Subsidiary, Year
Markle (2016)	Orbis, 2004-2008, (Worwide entities)	0.94	LN PBT	W. a. STR (w.f. sales)	LN (Cost of employees), LN (Tangible fixed assets), GDP pc	Parent, Year
De Simone (2016)	Amadeus, 2003-2012, (Europe entities)	0.74	LN PBT	W. STR (w.f. sales)	LN (Cost of employees), LN (Tangible fixed assets), GDP pc	Country, Industry, Year
Murciego and Laborda (2017)	Amadeus, 2005-2014, (Spain entities)	2.7-3	LN PBT	STR	LN (Cost of employees), LN (fixed assets), GDP pc	Subsidiary

Note: * the impact of the tax incentive measure on reported profits is multiplied by (-1).

Source: compiled by authors based on OECD (2015) and Murciego and Laborda (2017).

Table 2. Baltic companies split by country of foreign global ultimate owner (GUO)

GUO Country	Estonia	Latvia	Lithuania	Grand Total	%
SE	175	130	49	354	10.34%
FI	224	63	28	315	9.21%
DE	70	145	61	276	8.07%
LT	44	189		233	6.81%
RU	33	165	11	209	6.11%
NO	76	73	45	194	5.67%
DK	50	86	56	192	5.61%
GB	78	84	25	187	5.46%
CY	37	114	21	172	5.03%
EE		105	52	157	4.59%
US	61	68	26	155	4.53%
NL	39	49	32	120	3.51%
CH	32	33	21	86	2.51%
FR	21	26	20	67	1.96%
LV	54		12	66	1.93%
BY	5	52	7	64	1.87%
LU	30	17	10	57	1.67%
PL	5	18	26	49	1.43%
AT	24	13	7	44	1.29%
UA	4	37		41	1.20%
Top 20	1062	1467	509	3038	88.78%
Others (31)	115	215	54	384	11.22%
Total	1177	1682	563	3422	100.00%

Source: compiled by authors using Amadeus database.

Table 3. Results of regression analysis

	(1)	(2)	(3)	(4)
	LN EBT	LN EBIT	LN EAT	LN Modified ROE
Const	3.85***	3.96***	3.07***	-1.81**
Tax diff	-2.28**	-2.29***	-2.46**	-1.60*
LN Intangible fixed assets	0.01 (0.41)	0.02 (0.11)	0.01 (0.26)	0.00 (0.72)
LN Tangible fixed assets	0.04 (0.15)	0.06***	0.04 (0.18)	-0.04 (0.18)
LN Other fixed assets	0.03**	0.00***	0.03*	-0.03**
LN Labour	0.48***	0.43***	0.46***	0.06 (0.40)
LN GDP pc	0.00 (0.95)	0.00 (0.84)	0.00 (0.43)	0.00 (0.36)
R2	0.82	0.84	0.81	0.67
Subsidiary FE	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes

Note: All the variables are in logarithms except for Tax diff. LN EBIT, LN EAT, LN Modified ROE act as alternative dependent variables for robustness check purposes; Tax diff is the difference between the Latvian, Lithuanian, Estonian tax rate and the tax rate of the foreign country where the parent company is situated. Fixed Effects and Year dummies are also included.

***, ** and * denoting statistical significance at the 1, 5 and 10 per cent levels, respectively.