OECONOMIA COPERNICANA

2017 Volume 8 Issue 4, December

p-ISSN 2083-1277, e-ISSN 2353-1827
www.oeconomia.pl

ORIGINAL PAPER

Citation: Legenzova, R., Levišauskaitė, K., & Kundelis, E. (2017). Estimating an impact of base erosion and profit shifting (BEPS) countermeasures — a case of business group. *Oeconomia Copernicana*, *8*(4), 621–642. doi: 10.24136/oc.v8i4.38

Contact to corresponding author: renata.legenzova@vdu.lt, Vytautas Magnus University, Faculty of Economics and Management, S. Daukanto 28, 44246 Kaunas, Lithuania
Received: 4 May 2017; Revised: 2 August 2017; Accepted: 7 September 2017

Renata Legenzova
Vytautas Magnus University, Lithuania

Kristina Levišauskaitė
Vytautas Magnus University, Lithuania

Egidijus Kundelis
Vytautas Magnus University, Lithuania

Estimating an impact of base erosion and profit shifting (BEPS) countermeasures — a case of business group

JEL Classification: *H26*

Keywords: *BEPS; BEPS countermeasures; business group; tax compliance costs*

Abstract
Research background: Base erosion and profit shifting (BEPS) is a reduction of corporate income tax base and related corporate income tax payments via taking advantage of tax loopholes. OECD prepared 15 BEPS actions, which set countermeasures to fight tax avoidance in a coordinated way and shall be implement by countries on a voluntary basis. Literature review revealed that on a macro-level and company-level the extent of BEPS is large and statistically significant while studies addressing micro-level (transaction-level) impact and BEPS countermeasures' related issues are limited.
Purpose of the article: to identify methods and metrics available for evaluation of BEPS countermeasures' impact on a micro-level and to assess BEPS countermeasures' impact on a business group.
Methods: the paper employs comparative analysis of scientific and professional literature to identify approaches and methods available for evaluation of BEPS countermeasures' impact

on a micro-level; and a case analysis method to assess an expected impact of BEPS countermeasures on a specific business group.
Findings & Value added: An approach used to estimate BEPS countermeasures impact on the micro-level differs from the one applied in macro-level analysis. To conduct the case analysis, OECD's proposed macro-level fiscal impact assessment approach has been adapted for a micro-level analysis. It includes the analysis of the transactions subject to BEPS countermeasures and develops an action plan to manage related risks. The conducted case analysis differs from previous research as it employs transaction-level data and estimates fiscal effect of BEPS countermeasures on a micro-level. Analysis of the activities of the specific business group revealed that 5 from 15 countermeasures are relevant and directly applicable to this business group. They would not have an immediate significant direct fiscal effect, but risks related to BEPS countermeasures exist and action plans to manage negative effects of BEPS countermeasures have to be implemented.

Introduction

Base erosion and profit shifting (BEPS) is a reduction of corporate income tax base and related corporate income tax payments via various legitimate tax planning opportunities available. OECD found that BEPS involved MNEs manipulating the location of external and internal debt, reduced the effective tax rate on intangibles, affected the location of patent registrations and foreign direct investment, as well as created tax base and policy spillovers between countries. Due to BEPS measures, OECD estimated global corporate income tax (CIT) revenue losses between 4% and 10% of global CIT revenues, i.e. USD 100 to 240 billion annually (OECD, 2015). In response to BEPS OECD concentrated efforts of many countries and initiated BEPS project to fight against tax planning and mainly corporate income tax reduction at international level. In 2013–2015 OECD prepared 15 BEPS action points as a set of countermeasures for countries to implement on a voluntary basis.

The incentives for income shifting depend in the first place on the differences in corporate tax rates between countries and the system that residence countries use to avoid double taxation (Bartelsman & Beetsma, 2003, pp. 2225–2252). Multinational companies shift profits from high-tax countries to low-tax countries through a variety of techniques: by manipulating its transfer prices for international, intra-firm transactions, by affecting the international allocation of accounting profits through its financial structure, or re-assigning common expenses to high-tax countries, thereby reducing accounting profits in these countries (Huizinga & Laeven, 2008, pp. 1164–1182). The BEPS related issue of tax-motivated income shifting within multinational companies (MNS) has attracted increasing global attention of policy makers and researchers in recent years (OECD, 2015; Dharmapala, 2014, pp. 421–428; Bartelsman & Beetsma, 2003, pp. 2225–2252, Riedel, 2014).

Scientific publications and articles in professional literature covered a wide range of aspects of BEPS related issues. The final report of OECD/G20 Base Erosion and Profit Shifting project (OECD, 2015) presents so far, the most extensive and complex review of previous BEPS and its countermeasures related research. Dharmapala (2014, pp. 421–448), OECD (2015) and Riedel (2014) performed a review of the empirical literature on BEPS concluding that the extent of BEPS is large and statistically significant. According to Riedel (2014), 5–30% of income earned by the observed companies was subject to BEPS. The main part of empirical studies measured the effect of profit shifting due to tax rate differentials aiming to separate profit shifting from the real economic activity. They typically show that pre-tax profitability of affiliates is decreasing in a jurisdiction's tax rate or tax differential with economies hosting other firms in the same MNE group (Beer & Leoprick, 2015, pp. 426–451). Dharmapala (2014, pp. 421–448) indicated that more recent empirical literature, which uses newer sources of data, estimated the magnitude of BEPS as much smaller than that found in earlier studies (i.e. Hines & Rice, 1994, pp. 149–182).

Starting in the early 1990s, studies aiming at the identification of tax motivated profit shifting mostly concentrated on the U.S. data (Weichenrieder, 2009, pp. 281–297). Over the last decade the number of country-level studies has increased. Huizinga and Laeven (2008, pp. 1164–1182) estimated the corporate tax revenue losses (or gains) that European governments are currently experiencing on account of international profit shifting. Weichenrieder, (2009, pp. 281–297) measured MNE's profit shifting behaviour using data on German inbound and outbound FDI. Egger *et al*. (2010, pp. 99–108) uses firm-level data for Europe to identify income-shifting behaviour by comparing corporate tax payments of multinational and national enterprises. Analysis of South African data revealed that South African subsidiaries engage in profit shifting, and that profit-shifting responses to tax incentives across all channels are systematically higher compared to developed countries (Reynolds & Wier, 2016). Others analysed BEPS anti-avoidance package on a specific business function, i.e. treasury or finance (Janssens *et al*., 2015, pp. 343–351), or transfer pricing risk management (Verlinder, 2015). Owens (2014, pp. 15–26) overviewed BEPS impact on tax administrators; Dischinger and Riedel (2011) found that the lower a subsidiary's corporate tax rate of European MNE's relative to other affiliates of the multinational group, the higher its level of intangible asset investment.

Issues related to BEPS countermeasures are very common among policymakers (OECD, 2015, European Commission, 2015), however scientific research is still limited and fragmented. As presented in the paper by OECD (2015), a number of empirical studies analysed individual BEPS issues and the effects of existing BEPS countermeasures, basically concentrating on the scale of the specific BEPS channel and also taking into consideration the effects of current or proposed BEPS countermeasures. Some research analysed technical aspects of proposed BEPS countermeasures and their application in practice (Beer & Leoprick, 2015, pp. 426–451, Ito & Komoriya, 2015, pp. 81–106), but did not give sufficient attention to the assessment on separate businesses.

Over the last decade, the increasing availability of consolidated and separate firm-level data allowed researchers to move from aggregate country-level analysis to the micro-level analysis of the behaviour of individual multinational affiliates (Dharmapala, 2014, pp. 421–448). Increasing number of research use firm-level data compiled in Amadeus and similar databases to identify and explain corporate BEPS practices, their motives, influencing factors and macro or country-level influence. However, such research fails to explain the effect of BEPS and their countermeasures on separate businesses, their financial results and risk management practices, although some issues might be addressed in accounting-related literature (Hanlon & Heitzman, 2010, pp. 127–178; De Simone, 2016, pp. 145–165).

Therefore, the research questions addressed in this paper are: how to measure BEPS countermeasures' impact on business (i.e. on a micro-level), and what is BEPS countermeasures' impact on a specific business group? The purpose of the paper is to identify methods and metrics available for the evaluation of BEPS countermeasures' impact on a transaction-level and to assess the impact of BEPS countermeasures on a business group. This research differs from the others in that it employs transaction-level data to conduct a detailed analysis of possible BEPS countermeasures impact on operations and risk management of a specific business group.

The paper is structured as follows: the methodological section will present a framework on how to assess the impact of BEPS countermeasures on a micro level using data from a single company group. Then the case analysis of BEPS countermeasures' impact on Lithuanian business group will be presented. The case analysis will be conducted employing a 4-step approach. Firstly, the relevance of BEPS countermeasures (to a business group) will be evaluated. Secondly, relevant and available data for the analysis will be identified. Thirdly, evaluation of risk and estimation of BEPS countermeasures‘ impact will be conducted. Lastly, an action plan for Lithuanian Business Group on BEPS countermeasures will be proposed.

Research methodology

The present paper is aims the proposal of a framework on how to assess the impact of BEPS countermeasures on a micro-level using data from a single company group and test it in practice. In this paper we employ the most detailed available information and conduct our analysis using transaction-level data from local and cross border transactions of a company group operating in a single country. Such limited approach was chosen in order to avoid complexity related to multiple tax environments, also due to the data complexity and its limited availability.

To conduct the analysis, an exploratory case analysis method has been chosen as the research involves complex issues, including collection and interpretation of both quantitative and qualitative data, experts' evaluation, surveys of involved parties and proposals for managerial decisions. Case analysis is empirical in-depth exploration of contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clear and in which multiple sources of evidence are used (Yin, 2009, p. 14; Simons, 2009, p. 21). Case study research can also facilitate a holistic perspective on causality, because it treats the case as a specific whole (Rose *et. al*., 2015). Like other forms of social science research, case studies can be exploratory, descriptive, and/or explanatory in nature (Yin, 2009, p. 14). Explanatory case studies examine the data closely both at the surface and deep level in order to explain the phenomena in the data. Case analysis may be also be viewed as a research strategy which comprises qualitative, quantitative or both types of research methods and techniques to explore the research problem (Kohlbacher, 2006). For case analysis 5 components of research design are important: question(s) of a study, proposition (if any), the unit of analysis (the case), the data and its link to proposition, and the criteria for interpreting of the findings (Yin, 2009, p. 20). Such approach will serve as a methodological background to construct the case analysis of BEPS countermeasures impact on a business group and to present its results.

The study's questions addressed in this case analysis are: how to measure BEPS countermeasures' impact on business (i.e. in micro-level), and what is BEPS countermeasures' impact on a specific business group? As suggested by Yin (2009, pp. 27–32) the study's questions have to be supported by relevant theoretical background or approach. As a conceptual framework of our analysis we adapt the OECD (2015) proposed approach, which could be used to estimate the fiscal effects of BEPS countermeasures. This approach is familiar to most government policy analysts responsible for analysing the fiscal impact of proposed tax legislation and is a guide for performing macro-level analysis and estimating the fiscal effects. In this paper the OECD approach was adjusted and restructured/realigned to fit a transaction-level analysis.

To conduct a micro-level analysis (employing transaction-level data) of BEPS countermeasures impact on a business group we propose to use a 4-step process which incorporates methodological components recommended by OECD (2015) and involves a methodological phase (steps 1 and 2) and exploratory phase (steps 3 and 4) of the case analysis, as presented in Table 1.

The four-step methodological framework represents an approach for an assessment of BEPS countermeasures impact on a business on a micro level, which could be easily adopted for various business groups. In this paper it was tested on a specific Lithuanian business group (thereafter LT Business Group) and employed transaction-level financial data for 2014 financial year. Co-author of the paper working as Senior Tax Manager in PwC (with 13 years of experience in tax consulting) facilitated with the expert's opinion in all steps of the case analysis. Steps 3.1–3.2 also involved semi-structured interviews with top-level management of Lithuanian business group (questions and notes of the interviews can be presented upon request). The analysis was performed not taking into account the EU Anti-Tax Avoidance Directive, which was adopted in June 2016 and which implements certain BEPS actions in EU.

Case analysis of BEPS countermeasures impact on Lithuanian business group

Step 1 Evaluation of the relevance of BEPS countermeasures (to a business group)

1.1. Understanding business structure and nature of operations of a specific business group. In 2014, LT Business Group had 15 subsidiaries in Lithuania, 1400 employees, 37 million EUR of consolidated assets and generated 96 million EUR of external/consolidated revenues. The prevailing part of business operations of the group was performed in Lithuania, and only a small part of them — in Finland. The LT Business Group was a part of Estonian Business Group. In 2014, Estonian Business Group generated 410 million EUR of external/consolidated revenues. Estonian Business Group's companies had a number of material transactions with LT Business Group companies, which may be subject to BEPS countermeasures. The main activities of LT Business Group were assembly of metal constructions and processing of metal. In 2014, LT Business Group effective tax rate (16.62%) was slightly above the statutory tax rate (15%) resulting in a low tax rate differential (1.62%). Tax risk management and tax compliance in LT Business Group was centralized in a separate entity providing accounting, tax, and finance management services with 25% employee time dedicated to tax compliance, and only 5% — to corporate income tax compliance. External costs of LT Business Group in a form of the costs of professional tax advice were rather substantial (29% of internal compliance costs). Top managers of LT Business Group evaluated that BEPS countermeasures' impact on LT Business Group might be substantial and result in material increase in effective tax rate and/or higher tax compliance costs and reduced net profitability.

1.2 Overview of relevant business environments. Over the last decade the development of Lithuanian economy showed good prospects — 2–3% GDP growth. BEPS countermeasures can act as a good tool for the Lithuanian Tax Authorities to close the gap in tax revenues collection, but they can be used against honest taxpayers and be a cause for an increase in their tax compliance costs and tax burden. The statutory corporate income tax rate in Lithuania is 15%, which is one of the lowest in the European Union, and it is lower than the one in Estonia (20%). In Estonia companies do not pay corporate tax, if they do not pay dividends, so the tax rate in Estonia can be 0%. The level of Lithuania‘s independence in issuance of new legislation is very restricted due to applicable EU regulations. If BEPS countermeasures proposed by OECD are implemented at the EU level, they will certainly be transferred into the Lithuanian tax legislation. Considering the experience of implementation of EU regulations, it can be assumed that Lithuania will adopt the most stringent measures from the range of BEPS countermeasures proposed.

1.3. Identifying BEPS countermeasures relevant to a business group. Analysis of the LT Business Group data, evaluation of the expert and semi-structured interviews with the managers allowed concluding that 5 from 15 anti-BEPS Actions (countermeasures) proposed by OECD (2015) may be relevant and directly applicable to LT Business Group (see Table 2 for relevant countermeasures).

In Lithuania interest deductibility restrictions are thin capitalisation rules. Comparing proposed BEPS Action and local interest deductibility rules allows to conclude that they are different because the BEPS Action calculates interest deductibility threshold based on EBITDA in income statement, while local thin capitalization rule is based on debt to equity ratio in the balance sheet. High uncertainty exists, if both rules have to be applied simultaneously, or only one will be applicable. Most probably, only the anti-BEPS proposed measure will be applied. Comparing anti-BEPS measures proposed and local transfer pricing rules and practice, it can be concluded that local transfer pricing rules are adequate and sufficient. However, additional BEPS countermeasures on transfer pricing will allow the Lithuanian State Authorities to get more information on pricing between related affiliates and dig deeper into their economic substance. BEPS countermeasures may be used as a tool by the Lithuanian Statutory Authorities to make transfer pricing documentation mandatory not on “paper”, but also in practice. Furthermore, the Tax Authorities may change their approach to transfer pricing issues during tax audits in anticipation of anti-BEPS measures being introduced. This will increase the risk of transfer pricing adjustment and as well result in higher tax compliance burden for business. However, it would be challenging and/or judgemental to separate and estimate the effect of newly introduced BEPS countermeasures on transfer pricing and stricter application of currently existing rules on transfer pricing. Comparing anti BEPS measures proposed and local permanent establishment taxation rules and practice, it can be concluded that both are not applicable for LT Business Group in Lithuania as they are applied for foreign companies operating in Lithuania. However, BEPS countermeasures on a permanent establishment will apply to LT Business Group permanent operations in foreign countries like Finland. According to the proposed anti BEPS measures on a permanent establishment, most probably LT Business Group will have permanent establishment recognition and taxation risk in Finland.

Step 2. Identifying relevant and available data for analysis

Micro (firm) or group level analysis enables to avoid aggregation issues and considers specific factors of company or business group profitability and value creation activities. OECD (2015) report was used as a methodological background to define a set of data used in this case analysis. Previous empirical studies measured the effect of profit shifting due to tax rate differentials, separating profit shifting from the real economic activity. However, differences in the data, variables and methodology used yielded different results. Financial accounts were found as the mostly used data set for BEPS countermeasures impact assessment due to their availability and low costs. Estimation of BEPS impact may be highly judgemental, because certain business transactions may have both elements: real economic activity and profit shifting; methodologies of their separation are limited or under development. A wide variety of profit measures are utilised in BEPS and BEPS countermeasures’ analysis, but effective tax rate is the most popular parameter to measure them. Due to a considerable number of different types of effective tax rates used, the description and application of a specific effective tax rate should be verified/checked before its usage. Tax compliance costs are ignored in a macro-level analysis of BEPS, but may have a significant impact on a micro-level analysis. A major issue in the assessment of tax compliance costs is to extract and assess internal tax compliance costs. For any business group operating cross-border a creation and maintenance of documentation required for compliance with transfer pricing (TP) regulations will be a significant cost item. Efficiency costs or deadweight losses will be minimized because BEPS countermeasures will dramatically reduce BEPS related tax planning, implementation of artificial transactions and/or structures. But there will be extra costs related to winding up or restructuring those artificial transactions or structures.

A single LT Business Group located in Lithuania had been chosen as a scope of the analysis (see presentation of the group above) and activities of its affiliates on stand-alone basis, as well as the group itself on a consolidated basis were scrutinized. Due to data limitations, the scope of the case analysis excluded investigation at the level of an ultimate holding company located in Estonia, as well as the review of transactions between the Estonian and Lithuanian companies of Estonian Group and the companies of Lithuanian Group. The data set of LT Business Group covered the ownership structure of the group, the activities of each material affiliate and transactions or financial flows between the affiliates. The case analysis used financial accounts and tax returns of affiliates and consolidated financial accounts of LT Business Group for 2014 financial year. In certain cases general ledgers of the companies and relevant general ledger account specifications were analysed. To assess the scope of the impact, recurring and non-recurring effects of BEPS countermeasures have been assessed to understand their short term and long-term effects. Earnings before interest, tax, depreciation and amortisation (EBITDA), earnings before interest and tax (EBIT), earning or profit before tax (EBT or PBT), earnings or profit after tax (EAT or PAT) and return on equity (ROE) were used as measures of profitability. Statutory tax rate (STR) and the effective tax rate (ETR) (the ratio of book total tax expenses divided by profit before tax) proposed by OECD (2015) acted as effective tax rate and statutory tax rate differential of LT Business Group. Compliance costs changes in internal and external tax compliance due to BEPS countermeasures were evaluated with the help of interview with the CFO of LT Business Group. BEPS countermeasures related to tax compliance were further separated into recurring and non-recurring (one-off). Efficiency costs (extra savings or extra costs), if any, which did not fall under tax compliance costs analysis were examined separately. The changes needed in tax risk management system of the Group due to BEPS countermeasures were identified both by the conducted data analysis, assessment of the expert and by the interview with the CFO of LT Business Group.

Step 3 Evaluation of risk and estimation of BEPS countermeasures impact

3.1 Analysis of the business group's transactions subject to BEPS countermeasures. To conduct the analysis all transactions of LT Business group were divided into two parts: 1) cross-border transactions (between LT Business Group entities in Lithuania and Estonian Group entities in Estonia), and 2) local transactions (between LT Business Group companies in Lithuania and between LT Business Group companies and Estonian Business Group companies in Lithuania).

1) analysis of cross-border transactions. From the tax perspective, most of the cross-border transactions of LT Business Group were made with related companies in Estonia, which generally do not pay corporate income tax until the profits are distributed. They should be treated as riskier than local transactions because they are more likely be subject to profit shifting. Most of cross-border transactions with related companies in Estonia were performed at arm's length, with no material profits and tax base adjustments identified. The summary of assessment of cross-border transactions in LT Business Group as subject to BEPS countermeasures is provided in Table 3.

Data analysis revealed that the BEPS Actions on transfer pricing were applicable to LT Business Group. Tax risk mitigating scenario would require preparing transfer pricing documentation for all material cross-border transactions with the estimated cost of 54 thousand EUR of non-recurring (one-off) and 6 thousand EUR of recurring tax compliance costs. It was assumed that this represents a direct impact of BEPS countermeasures. However, it could also be argued that this mirrors stricter application of measures of current tax law. The BEPS Action on interest deductibility restrictions was assessed as being applicable, but not having any negative impact as fixed ratio to EBITDA (30%) was not breached. If LT Business Group financing policy changed and it was leveraged significantly, the BEPS countermeasure would have a significant negative impact on the effective tax rate via non-deductible interest. The BEPS Action on permanent establishments was proved to be applicable to LT Business Group. The Finnish Tax Authorities would not tolerate a scheme of working via Estonian project company and by this minimising the tax burden in Finland. The profits earned in Finland would have to be declared there, and paying the Finnish corporate income tax of 24.5% would be required, which would result in additional costs of 28 thousand EUR. Due to absence of data about Estonian companies of Estonian Business Group, which made supplies (of 5.3% of external revenues) to LT Business Group, it was not possible to identify and quantify profit-shifting behaviour in those transactions, as well as to estimate additional tax compliance and tax costs.

Based on assessment of cross-border transactions in LT Business Group, certain overall conclusions regarding influence of BEPS countermeasures on Lithuanian business (in general) can be made. From the tax perspective, cross-border transactions between related parties are riskier than local transactions, because they are more likely to be subject to profit shifting. In anti-BEPS world, all material cross-border transactions between related parties will be business driven and be substantiated by transfer pricing documentation. Preparation and maintenance of their benchmarking studies will result in extra costs for business. Permanent business activities in foreign countries without any taxable presence in those countries will not be accepted or tolerated by the tax authorities of those countries. Lithuanian companies will have to consider other options to do business abroad, like simply registering a permanent establishment and paying local taxes, making partnership with local companies, establishing a local branch or company or an acquisition of a local company. Aggressive leverage of local operations and high interest expenses reducing local tax base will not be tolerated. To reduce interest, expenses in income statement and tax return part of the loans will have to be capitalized into equity. Local business groups should take lobbying steps via professional associations to achieve interest limitation rule to be set up as the fixed ratio at maximum limit of 30% EBITDA. Such a rule should be applied only at the consolidated group level, but not to the each subsidiary on a stand-alone basis.

2) Analysis of local transactions. Tax risk for local intragroup transactions is lower than for cross-border transactions. If LT Tax Authorities increased taxable income, it would result in additional deductions in other LT subsidiaries, and via current year tax loss transfer would be offset against each other. Based on the data analysis of LT Business Group, majority of the local transactions with related companies were performed at arm’s length and no material profits and tax base adjustments were identified. Summary of the assessment of local transactions in LT Business Group as subject to BEPS countermeasures is provided in Table 4.

Data analysis revealed that the BEPS Action on transfer pricing is applicable to LT Business Group. Under our assessment, the direct impact of BEPS countermeasures would materialize through the need to prepare transfer pricing documentation for all material local transactions which resulted in 36 thousand EUR of non-recurring (one-off) and 4 thousand EUR of recurring tax compliance costs. The BEPS Action on interest deductibility restrictions is applicable to the subsidiaries of LT Business Group on a stand-alone basis, and has a negative impact: in a short term, it would cause an increase in tax base by 450 thousand EUR and an increase in tax costs by 68 thousand EUR, while in a long term (after utilisation of accumulated tax losses) — increase in tax base by 1 256 thousand EUR and increase in tax costs by 188 thousand EUR. Upon utilization of accumulated tax losses LT Business Group will have to make a trade-off decision: either change the financing structure of poorly performing operating subsidiaries by capitalization of intragroup loans and subsequent reduction of interest expenses up to allowed EBITDA limit (10–30%) or accept double taxation of interest (at the level of holding company providing loans and earning interest income and at the level of subsidiaries recognizing non-deductible interest expense). The impact or adjustments related to current tax law measures were not included in the above-mentioned summaries and analysis.

Based on assessment of local transactions in LT Business Group, overall conclusions regarding influence of BEPS countermeasures on Lithuanian business (in general) can be drawn. From BEPS countermeasures perspective transactions between the group companies in Lithuania and their pricing methods may be not so relevant because tax losses incurred in current taxable period can be transferred between the group companies in Lithuania for the same taxable period. Any group pays Lithuanian corporate income tax on consolidated taxable result of Lithuanian operations. However, it is very likely that the Lithuanian Tax Authorities following BEPS countermeasures will not take current year tax loss consolidation as a sufficient argument. They may focus on transactions between related parties lacking business substance, as well as transactions between local loss making and profit-making group companies. Furthermore, the Tax Authorities may tighten transfer pricing regulations and enforce preparation of mandatory transfer pricing documentation, which will result in extra costs for business. Local business groups should take lobbying steps that interest limitation rule should set up the fixed ratio at maximum limit of 30% EBITDA and the rule is to be applied only at the consolidated group level, but not to each subsidiary on a stand-alone basis.

3.2 Measuring the magnitude of BEPS countermeasures' impact. Table 5 shows that the impact of BEPS countermeasures (including non-recurring and recurring ones) on EBITDA, EBIT, and EBT of LT Business Group was estimated to be 120 thousand EUR or 1–2 % negative. The impact on corporate income tax was estimated to be 58 thousand EUR or 7% negative. If no major changes occur in the business activities of LT Business Group, most probably only recurring tax compliance costs of 25 thousand EUR and only recurring tax costs 72 thousand EUR will have a periodical negative impact. Such amounts are rather immaterial for LT Business Group; therefore, it was concluded that BEPS countermeasures would not have any significant effect. If the financing structure of operating subsidiaries does not change and there are no historic tax losses, the effect will be significantly higher — recurring tax compliance costs of 25 thousand EUR and recurring tax costs 260 thousand EUR. Considering LT Business Group tax attributes the most probable behavioural moves may include aggressive utilisation of tax losses accumulated (24.8% of external revenue) in one of the subsidiaries of LT Business Group and manipulation of pricing via Estonian Business Group entities in Estonia (because Estonian companies do not pay corporate income tax on profits until they are distributed).

Step 4. Developing an action plan for LT Business Group on BEPS countermeasures

Based on BEPS countermeasures' impact assessment on LT Business Group, an action plan was developed with the aim to prepare in advance and amortize the negative effects of BEPS countermeasures as summarized in Table 6. The plan is divided into general actions and specific actions. The general actions are aimed at updating tax policy and tax risk management in LT Business Group and monitoring BEPS countermeasures' development in the EU and Lithuanian tax legislation.

The specific actions are addressing the BEPS countermeasures, which were identified as the ones making the biggest impact on LT Business Group. The actions on transfer pricing will facilitate the classification of intragroup transactions based on their risk level and materiality and prepare appropriate supporting documentation. Anti-BEPS interest deductibility restrictions require a separate analysis with support of tax advisors on how to restructure finance in operating subsidiaries. The subsidiaries of LT Business Group operating in Finland have to develop and consider other alternatives for their current operating model to comply with the Finnish permanent establishment taxation rules strengthen by the BEPS countermeasure.

Conclusions

In this paper we have suggested a methodological approach allowing for evaluation of BEPS countermeasures' impact on a micro level and the assessment of the impact of BEPS countermeasures on a business group. An approach of the estimation of BEPS countermeasures impact on a macro level has to be different to the one to be applied in micro, transaction-level analysis. The scale of BEPS and BEPS countermeasures and their economic impact remain difficult to measure due to data limitations, complexity and interdependency of global business operations, variety and complexity of BEPS measures, uncertainty of BEPS countermeasures to be introduced, their scope and timing. Micro level analysis has to take into account more specific factors of value creation activities in the business group and gives more accurate estimates of BEPS countermeasures' impact on a specific business group.

Our empirical analysis has tried to extend the literature on the impact of BEPS countermeasures in following ways: firstly, we have proposed and tested a methodological approach on how to assess BEPS countermeasures' impact on a micro-level. From the methodological point of view, this analysis was more comprehensive as it assessed the impact of all BEPS countermeasures in a single study. Secondly, in contrast to the preceding literature, which uses either macro or company-level data compiled in global databases, we have analysed not only the firm level data but also transactions level data. The type and scope of the data used was extensive and to a large extent publicly unavailable. Also, we have used both financial ratios analysis and expert's evaluations and interviews with top management to conduct quantitative and qualitative assessment of the addressed issue. A new parameter — tax compliance costs — has been included in the analysis as being of high importance on a micro-level. Also, recurring and non-recurring effects of BEPS countermeasures have been assessed to understand their short- and long-term effects. Finally, we have proposed actual plans of action to amortise negative effects of BEPS countermeasure in a business group.

The results of the analysis suggest that in the case of the analysed business group, 5 from 15 anti-BEPS Actions (countermeasures) proposed by OECD may be relevant and directly applicable. Case analysis of a specific business group situation has shown that the effect of BEPS countermeasures was not significant. The overall (non-recurring and recurring) annual impact of BEPS countermeasures on earnings after tax was 4% negative. However, tax compliance risk existed and managerial actions to control non-compliance costs were required. Based on the assessment of the impact of BEPS countermeasures on LT Business Group, the action plan was developed with the aim to prepare in advance and amortize negative effects of BEPS countermeasures.

Our research has some limitations, but also opens possibilities for the future studies. Our analysis has assessed the situation of one business group operating in a single country. The scope of our investigation is consistent with the chosen case analysis research method, but it permits to draw limited conclusions at a country level, and does not allow for making conclusions at the global level. The proposed 4-step methodological approach can be easily employed by other researches to estimate BEPS countermeasures' impact on a business group level. If the analysed business group operated mostly in one country/jurisdiction, the approach might be similar to the proposed in the paper, but researchers would face dilemma how to separate BEPS countermeasures impact from stricter application/enforcement of measures of current tax law. If the business group operated in several countries, the process of analysis would have to be extended to perform a country level analysis for each country the group operates in. The countries protecting their sovereignty by establishing own fiscal policy and protecting revenues from direct taxes may implement unilateral anti-avoidance measures or be slow/not eager to implemented multilateral measures proposed by OECD. Therefore, results of the countries‘ analysis might reveal double taxation (i.e. taxable in one country, non-deductible in another country) at a group level, which would require an additional separate investigation. Also, certain response measures implemented by business at a group level could be more cost-effective than the ones implemented separately for each country (i.e. preparation of transfer pricing documentation at a group level with subsequent localisation at a specific country level) and lead to synergies/economy of scale thus need to be controlled in the assessment.

References

Bartelsman, E. J., & Beetsma, R. M. (2003). Why pay more? Corporate tax avoidance through transfer pricing in OECD countries. *Journal of Public Economics*, *87*(9-10). doi: 10.1016/S0047-2727(02)00018-X.

Beer, S., & J. Loeprick (2015). Profit shifting: drivers of transfer (mis)pricing and the potential of countermeasures. *International Tax and Public Finance*, *22*(3). doi: 10.1007/s10797-014-9323-2.

De Simone, L. (2016). Does a common set of accounting standards affect tax-motivated income shifting for multinational firms? *Journal of Accounting and Economics*, *61*(1). doi: 10.1016/j.jacceco.2015.06.002.

Dharmapala, D. (2014). What do we know about base erosion and profit shifting? A review of the empirical literature. *Fiscal Studies*, *35*(4) doi: 10.1111/j.1475-5890.2014.12037.x.

Dischinger, M., & Riedel, N. (2011). Corporate taxes and the location of intangible assets within multinational firms. *Journal of Public Economics*, *95*. doi: 10.1016/j.jpubeco.2010.12.002.

Egger, P., Eggert, W., & Winner, H. (2010). Saving taxes through foreign plant ownership. *Journal of International Economics*, *81*(1). doi: 10.1016/j.jinteco.2009.12.004.

European Commission (2015). Commission staff working document. Corporate income taxation in the European Union. SWD/2015/121. Retrieved from http://ec.europa.eu/taxation_customs/resources/documents/taxation/company_tax/fairer_corporate_taxation/swd_2015_121.pdf (18.03.2017).

Hanlon, M., & Heitzman, S. (2010). A review of tax research. *Journal of Accounting and Economics*, *50*(2-3). doi: 10.1016/j.jacceco.2010.09.002.

Hines, J. R. Jr, & Rice, E. M. (1994). Fiscal paradise: foreign tax havens and American business. *Quarterly Journal of Economics*, *109*(1). doi: 10.2307/2118431.

Huizinga, H., & Laeven, L. (2008). International profit shifting within multinationals: a multi-country perspective. *Journal of Public Economics*, *92* (5-6). doi: 10.1016/j.jpubeco.2007.11.002.

Ito, J., & Komoriya, Y. (2015). The impact of transfer pricing regulations on the location decisions of MNEs. In T. Ishikava (Ed.). *Firms' location selections and regional policy in the global economy*. Springer Japan. doi: http://dx.doi.org/10.1007/978-4-431-55366-3.

Janssens, P., Ledure, D., Vandepitte, B. & Loos, J. (2015). The end of intra-group financing…or not just yet? *European Taxation*, *55*(8).

Kohlbacher, F. (2006). The use of qualitative content analysis in case study research. *Forum: Qualitative Social Research*, *7*(1).

Markle, K. S., &Shackelford, D. (2011). Cross-country comparisons of corporate income taxes. *NBER Working Paper*, *16839*.

OECD (2015). Measuring and monitoring BEPS. ACTION 11: 2015 final report. OECD/G20 base erosion and profit shifting project. Retrieved from http://www.oecd.org/tax/measuring-and-monitoring-beps-action-11-2015-final-report-9789264241343-en.htm (11.02.2017).

Owens, J. (2014). BEPS: what‘s in it for tax administrations? *Tax Tribune*, *31*.

Reynolds, H., & Wier, L. (2016). Estimating profit shifting in South Africa using firm-level tax returns. *WIDER Working Paper*, *2016/128*.

Riedel, N. (2014). Quantifying international tax avoidance: a review of the academic literature. European Tax Policy Forum. Retrieved from http://www.wiwi.ruhr-uni-bochum.de/fiwipo/mam/content/profitshift.pdf (15.2.2016).

Rose, S., Spinks, N., & Canhoto, A. I. (2015). *Management research: applying the principles*. Routledge.

Simons, H. (2009). *Case study research in practice*. London: SAGE.

Verlinder, I. (2015). OECD BEPS action 9: evaluating the devaluation of risk and capital. *BNA Insights. Tax Management*, *24*(9)
Weichenrieder, A. J. (2009). Profit shifting in the EU: evidence from Germany. *International Tax and Public Finance*, *16*(3). doi: 10.1007/s10797-008-9068-x.
Yin, R. K. (2009). *Case study research: design and methods*. SAGE Publications.

Annex

Table 1. 4-step methodological framework for case analysis of transaction-level assessment of BEPS countermeasures impact on a business group

Phases of the case analysis	Steps and their description
Preparation and data collection	Step 1 Evaluation of the relevance of BEPS countermeasures (to a business group): 1.1 Understanding business structure and nature of operations of a business group 1.2 Overview of relevant business environment (country 's tax regulation) 1.3 Identifying BEPS countermeasures relevance to a business group
	Step 2 Identifying relevant and available data for analysis
Data analysis and interpretation	Step 3 Evaluation of risk and estimation of BEPS countermeasures impact 3.1 Analysis of the business group's transactions subject to BEPS countermeasures 3.2 Measuring the magnitude of BEPS countermeasures impact
	Step 4 Developing an action plan for a business group on BEPS countermeasures

Table 2. OECD BEPS Actions (countermeasures) relevant to LT Business Group

	Action	Area of Focus	Potential issues
4	Limit base erosion via interest deductions and other financial payments	Coherence (Debt)	Deductibility of interest on related party loans
7	Prevent the artificial avoidance of permanent establishment status	Substance (PE)	Taxation of profits and related compliance in foreign countries
9	Assure that transfer pricing outcomes are in line with value creation: risks and capital	Substance (TP)	Transfer pricing adjustments Transfer pricing documentation
10	Assure that transfer pricing outcomes are in line with value creation: other high-risk transactions	Substance (TP)	Transfer pricing adjustments Transfer pricing documentation
13	Re-examine transfer pricing documentation	Transparency (Documentation)	Transfer pricing documentation

Table 3. Assessment of cross-border transactions in LT Business Group as subject to BEPS countermeasures

<table>
<tr><th></th><th>Transaction</th><th>Applicability of relevant BEPS countermeasure</th><th>Tax base, in thousand EUR</th><th>Tax compliance, in thousand EUR</th></tr>
<tr><td>1</td><td>Sale of goods and services (9.8% of external revenue)</td><td rowspan="3">BEPS Action 13 is applicable to LT Business Group. Transfer pricing documentation should be prepared for all material cross-border transactions.</td><td>None.</td><td>32 (one-off)</td></tr>
<tr><td>2</td><td>Purchase of materials, equipment and other services (5.5% of external revenue)</td><td>No data.</td><td>No data.</td></tr>
<tr><td>3</td><td>Purchase of management services (0.9% of external revenue)</td><td>None.</td><td>8.5(one-off)</td></tr>
<tr><td>4a</td><td>Loan (5.9% of consolidated assets), interest expenses (0.3% of external revenue)</td><td rowspan="3">Generally, BEPS Action 4 is applicable to LT Business Group. LT Holding Company on stand-alone basis, LT Business Group and Estonian Business Group on consolidated basis complies with the rule.</td><td>None.</td><td>5 (one-off)</td></tr>
<tr><td>5a</td><td>Guarantees (3.4% of external revenue)</td><td>None.</td><td>8.5(one-off)</td></tr>
<tr><td>4b</td><td>Loan (5.9% of consolidated assets), interest expenses (0.3% of external revenue)</td><td>None.</td><td>None.</td></tr>
<tr><td>5b</td><td>Guarantees (3.4% of external revenue)</td><td>Based on current tax law measures, additional guarantee fee income should be calculated and taxed with corporate income tax of 15% in LT Holding Company.</td><td>Not in scope.</td><td>N/A</td></tr>
<tr><td>6</td><td>Permanent business operations in Finland</td><td>BEPS Action 7 is applicable to LT Business Group. The Finnish Tax Authorities will ask to declare profits earned in Finland and pay Finnish corporate income tax of 24.5% (which is higher than in Lithuania where it is 15%).</td><td>Move of tax base of EUR 85th from LT to FI.</td><td>-
5 (one off)
15 (recurring)</td></tr>
<tr><td>7</td><td>Dividends paid to Estonian Holding Company</td><td>Not applicable as no dividend payments were made.</td><td>Not applicable.</td><td>Not applicable.</td></tr>
<tr><td>8</td><td>All material cross-border related party transactions</td><td>If no major changes occur, update of transfer pricing documentation for the next year usually costs about 10% of its preparation costs.</td><td>None.</td><td>6 (recurring)</td></tr>
</table>

Table 4. Assessment of local transactions in LT Business Group as subject to BEPS countermeasures

	Transactions	Applicability of relevant BEPS countermeasure	Tax base/tax costs, in thousand EUR	Tax compliance costs, in thousand EUR
1	Purchases of materials, equipment and other services (27% of external revenue)	BEPS Action 13 is applicable to LT Business Group. Transfer pricing documentation should be prepared for all material cross-border transactions.	No data.	No data.
2	Lease of real estate and equipment (8.6% of external revenue)		None.	17 (one-off)
3	Other services provided (3.3% of external revenue)		None.	9 (one-off)
4 a	Loans to subsidiaries (94.4% of consolidated assets), interest income (2.3% of external revenue)		None.	5 (one-off)
5	Management services to subsidiaries (0.5% of external revenue)		None.	5 (one-off)
4 b	Loans provided by LT Holding Company to its subsidiaries (94.4% of consolidated assets), interest income (2.3% of external revenue)	Due to potential transfer pricing adjustment in interest rates additional taxable income should be calculated in LT Holding Company. Due to thin capitalisation rules additional non-deductible expenses should be calculated in LT Business Group subsidiaries. The above-mentioned two risks are caused by current tax law measures – they are not in scope of BEPS countermeasures' impact assessment. Generally, BEPS Action 4 is applicable to LT Business Group. A fixed ratio which limits net interest expense to a fixed percentage of EBITDA of 30% does apply to some intra-group companies	Not in scope. 450 / 68	N/A None.
	All material cross-border related party transactions	If no major changes occur, update of transfer pricing documentation for the next year usually costs about 10% of its preparation costs.	None.	4 (recurring)

Table 5. Magnitude of BEPS countermeasures impact on LT Business Group (in thousand EUR unless stated otherwise)

RATIO	Non- recurring & recurring costs		Recurring costs		Recurring costs without tax losses	
	Diff.	%	Diff.	%	Diff.	%
EBITDA	(120)	(1%)	(25)	(0%)	(25)	(0%)
EBITDA	(0.12%)		(0.03%)		(0.03%)	
D&A	-		-		-	
EBIT	(120)	(2%)	(25)	(0%)	(25)	(0%)
EBIT	(0.12%)		(0.03%)		(0.03%)	
EBT/PBT	(120)	(2%)	(25)	(0%)	(25)	(0%)
EBT/PBT	(0.12%)		(0.03%)		(0.03%)	
Income tax	(58)	7%	(72)	9%	(260)	31%
EAT/PAT	(177)	(4%)	(97)	(2%)	(285)	(7%)
EAT/PAT	(0.18%)		(0.10%)		(0.30%)	
ROE	(0.70%)		(0.38%)		(1.13%)	
Effective tax rate	1.57%	9%	1.51%	9%	5.26%	32%
Effective tax rate differential	1.57%	97%	1.51%	93%	5.26%	324%

Table 6. Action plan for LT Business Group on BEPS countermeasures

	Actions	Outcome /Deliverable	Responsibility
General actions			
1	Update a tax policy and tax risk management processes of LT Business Group taking into account potential BEPS countermeasures.	Updated tax policy	CFO and Chief accountant of LT Business Group
2	Monitor BEPS countermeasures' developments in EU and Lithuanian tax legislation via participation in tax seminars, networking with other CFOs and external tax advisors.	Scope and date of BEPS countermeasures in LT tax legislation	Chief accountant of LT Business Group
Specific actions			
3	Develop solutions (for restructuring finance in subsidiaries) to be in compliance with anti-BEPS interest deductibility rule. Prepare implementation plan.	Plan for restructuring finance in subsidiaries	CFO with the support of tax advisors
4	Classify cross-border and local intra-group transactions into high, medium and low risk as well as into material (>2 million EUR), moderate (>1 million EUR) and immaterial (>0.5 million EUR).	Tax risk matrix	CFO of LT Business Group G
5	Prepare transfer pricing documentation for the most risky and material cross-border and local transactions.	Transfer pricing documentation	Tax advisors
6	Prepare (internally) defence files for medium risk material and moderate cross-border and local transactions (to be ready for scrutiny during tax audits by the Lithuanian Tax Authorities).	TP defence file	Chief accountant of LT Business Group

Table 6. Continued

7	Develop alternative models (i.e. rent of employees; direct hire of employees etc.) for working in Finland, their taxation and compliance costs. Incorporate those costs in pricing. Propose and agree on a new model with Finnish company	New model for work in Finland	CFO of LT Business Group with support of tax advisors