The Effect of the Formula Apportionment of the Common Consolidated Corporate Tax Base on Tax Revenue in the Slovak Republic[1]

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Abstract

This paper evaluates the impact of the European Commission's Proposal for a Council directive on the Common Consolidated Corporate Tax Base (CCCTB) (COM(2011) 121/4). We analyze the impact of the apportionment formula to be applied to the CCCTB on the revenues of the Slovak state budget. The sample of our analysis is composed of eleven transnational corporations operating in the Slovak Republic and other EU member states. The results indicate a decrease in tax revenues under the proposed CCCTB system in comparison to the current national tax legislation. By contrast, according to the data available, the likelihood that Slovakia will benefit from the CCCTB system by collecting more taxes seems to be low.

Keywords: *Common Consolidated Corporate Tax Base (CCCTB), tax revenues analyses, fiscal integration*

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Introduction

After years of discussions and planning, the European Commission (2011) presented in March 2011 a formal proposal for the introduction of the EU's Common Consolidated Corporate Tax Base (CCCTB). If adopted, the new supra-national

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legislation designed by the Commission will allow transnational corporations to opt between being taxed separately by each of the EU tax jurisdictions towards which they acquired tax liabilities or filing a single consolidated tax return for the EU as a whole (Pirvu et al., 2011). The single consolidated tax base calculated for the company's operations within the Union would then be distributed to the member states following a formula. While the tax base would be established using supra-national rules, the level of taxation would still be governed by national legislation.

In this paper, we analyze the potential consequences of the Council Directive proposed on the revenue side of the Slovak state budget. Furthermore, we evaluate the budgetary impact of possible amendments to the apportionment formula included in the proposal. Finally, we investigate unilateral strategies that could allow the Slovak government to improve its future budgetary position under the new Europe-wide CCCTB regime. In section one, we provide a short overview of the literature on European tax harmonization. In section two, we briefly introduce the Commission's proposal for a Council Directive on the CCCTB. In section three, we discuss the methodology and data used for our analysis. In section four, we present the outcome of our analysis and discuss the results and consequences that may allow the Slovak government to mitigate the negative budgetary impact of the CCCTB-legislation on the Slovak Republic. Section four is followed by the conclusion.

1. Literature Review

The process of adopting the CCCTB-legislation started in 2001, when the Commission issued a communication urging Europe's politicians to provide for a common consolidated corporate tax base within the European Union (CEC, 2001), followed by a 2004 non-paper discussing various features of the proposal (CEC, 2004). The subsequent scientific discourse on EU tax harmonization was focused mostly on the impact of these policies on the economies of the member states and the EU as a whole.

An influential stream in the scholarly literature chose to approach the topic using computable general equilibrium (CGE) models, assessing the welfare enhancing effects of European tax harmonization both on the level of member states and the European Union (Brøchner et al., 2007; Bettendorf et al., 2010). Using the CORTAX model,[2] Bettendorf et al. (2010) show that, while different scenarios of EU tax harmonization have different consequences for the Union

[2] For details, see Bettendorf and Horst (2006).

and for each member state separately, there is no strong welfare enhancing effect on the aggregate level unless harmonization is extended to tax rates. The harmonization of tax bases without the harmonization of tax rates, would lead to a 0.01% increase in aggregate welfare.[3] The small increase occurs due to a convergence of marginal tax rates among EU countries under the CCCTB rules. The effect of the new CCCTB regulation on the Slovak Republic appears rather limited, with welfare increasing by approximately 0.2% and the corporate tax-to-GDP ratio declining by 0.1% (Bettendorf et al. 2010).

In their study, Brøchner et al., (2007) also report changes in the share of total tax revenue on GDP predicted by the CETAX model.[4] While the EU-25 is expected to see a 0.1% decrease in the share of tax revenue on GDP[5] after the introduction of the CCCTB, the same indicator remains unchanged in the case of the Slovak Republic.

Another important stream in the literature uses empirical data to evaluate the distributional impact of the CCCTB and the apportionment formulae proposed. For instance, Fuest, Hemmelgarn and Ramb (2006) use data on foreign direct investment of German origin allocated in other EU-15 countries, but their study excludes new member states. The most important conclusion of their enquiry into the subject is that the cross-border offsetting of losses the CCCTB plans to introduce will potentially lead to a Europe-wide decrease in tax revenue. The effect will be most pronounced in the case of small countries attracting book profits (Fuest, Hemmelgarn, and Ramb, 2006). Devereux and Loretz (2008), expand the scope of their empirical analysis by including all EU-25 member states. Their findings suggest that the effect of the new EU legislation will largely depend on whether the use of the common tax base becomes compulsory for transnational corporations or remains optional. In the case of an optional CCCTB, Devereux and Loretz (2008) predict a 2.5% decline in tax revenues collected by EU member states. By contrast, the compulsory use of CCCTB would overall lead to a 2% increase in tax revenues. In Devereux and Loretz's (2008) study, Slovakia is identified as a winner of the tax-harmonization process with considerable increases in tax revenue raised under the new rules.

[3] Bettendorf et al. (2010, p. 550) measure welfare by computing a compensating variation that is "equal to the transfer that should be provided to households to maintain their utility at the pre-reform level" times – 1. Therefore, if additional transfers are needed to maintain the welfare of households on the pre-reform level, then the model indicates a decline in aggregate welfare caused by the reform.

[4] For details on the features of the CETAX model, see Sørensen (2001) and Brøchner et al. (2007).

[5] However, it should be emphasized that the change reported does not automatically mean a decrease in the absolute amount of taxes collected, but only in comparison to the EU-25 GDP.

There is considerable variation in the outcomes of studies on the impact of the CCCTB proposal on the economies of the EU members. This study therefore seeks to answer the question how the new Europe-wide system will influence the Slovak state budget. Our paper is inspired by Pirvu et al. (2011), who provide an empirical study of the impact of the CCCTB legislation on the Romanian state budget. They analyze the development of tax liabilities of nine major transnational corporations towards the Romanian state under the new supra-national legislation. Although the approach chosen by the authors leads to only a partial coverage of the private sector, as it analyzes a limited number of corporate entities, their results are not biased by the assumptions that economic models used by other authors have to rely on. Thus, one can assume that they are able to provide a more precise answer to the question of budgetary impacts of the CCCTB legislation in the case of a given member state. These models, however, are only as good as the data used. If the quality of the data is subject to concerns the results should be interpreted carefully.

Having reviewed the current literature on this topic, it is clear that more in-depth country-specific studies are needed to assess the impact of tax base harmonization and formula apportionment on the budgets of member states. Our study aims to fill this gap in the case of the Slovak Republic. At the same time, the analysis of the proposed EU legislation shows that the CCCTB proposal will not impede tax competition among member states. It will rather change the rules of the game. Therefore, the results presented in this paper will be useful for identifying the most appropriate policy mix the government of the Slovak Republic should consider pursuing in order to mitigate the possible negative consequences of EU tax harmonization on the budget of the Slovak Republic.

2. The Common Consolidated Corporate Tax Base Proposal

The main objective of the CCCTB is to establish common rules for determining the tax base of European companies and EU-located branches of third-country companies which are tax residents in the EU. Consolidation means that the taxable profit is calculated for the transnational group as a whole in one country on the basis of its incomes and revenues from each company branch. This system will be available both for multinational enterprises (MNE) and for small- and medium-size enterprises (SME).

For the time being, the system is proposed as optional, which means that a given company can decide whether or not it intends to implement the new CCCTB rules. It is important to note that the current proposal is not the only feasible option for implementing a Europe-wide tax base. In fact, the Commission itself

presented four different policy scenarios, one of which the optional CCCTB (European Commission, 2011).

T a b l e 1

CCCTB and CCTB Policy Options

Policy scenarios	**Applying to the new system**	
CCTB	Optional	Obligatory
CCCTB	Optional	Obligatory

Source: Authors' own interpretation of the principles presented in the Commission's proposal (European Commission, 2011).

The four proposals are as follows:

1. *An optional Common Corporate Tax Base* (optional CCTB): Companies would have the possibility to compute their tax base following a set of common rules across the EU instead of any of the 27 national corporate tax systems. This system would allow the transit of profits across borders using intra-group transactions, as EU-wide consolidation is not part of the proposal. The implementation of this scenario would lead to the creation of a 28th European corporate tax system, parallel to the existing 27 national systems. On the one hand, this system could decrease the costs of corporations by removing the burden of having to observe the rules of several different national corporate tax systems. On the other hand, it would create an additional need for financial and human resources at the national tax authorities. Also, a very close cooperation in tax matters between the member states would be required to keep the system fully operational.

2. *An obligatory Common Corporate Tax Base* (compulsory CCTB): Companies would have to determine their tax base using a set of common rules. There would be only one corporate tax system across the whole European Union, which would be compulsory in each member state. The main disadvantage of this approach would be the possibility of using intra-group transactions to move profits across borders. This approach requires higher European harmonization than the optional CCTB, therefore it seems to be very difficult to introduce it in practice in the near future.

3. *An optional Common Consolidated Corporate Tax Base* (optional CCCTB): A set of common rules for determining the consolidated tax base would be an alternative to the current 27 national corporate tax systems. The tax base of each group member using the CCCTB system would be aggregated to form a consolidated tax base for the group as a whole. Subsequently, the tax base would be allocated to member states according to a pre-established sharing mechanism. In this case a 28th corporate tax system would have to be administered by the tax authority of each member state. In contrast to the CCTB system, it would not be possible to use intra-group transactions to move profits across countries.

4. *An obligatory Common Consolidated Corporate Tax Base* (compulsory CCCTB): each company would be required to apply the CCCTB rules in each member state. This method narrows the space for tax avoidance using intra-group transactions. Moreover, the introduction of an obligatory CCCTB for transnational corporations would eliminate the uncertainty that goes hand-in-hand with allowing firms to opt between tax systems.

The introduction of a mandatory CCTB or CCCTB is unlikely in the foreseeable future as it would require considerably stronger cooperation between national tax authorities. The optional systems, although they would in practice mean the introduction of an additional tax system alongside the already existing ones, appear to be the only feasible option at this stage of European integration.

The rules for qualified subsidiaries are defined in article 54 of the proposed directive COM(2011) 121/4. Eligibility for consolidation is determined using a two-part test based on control and ownership. This test should be carried out to ensure a high level of economic integration between group members. Control should be more than 50% of voting rights and ownership should be more than 75% of equity or rights to profits. In addition, the aforementioned two thresholds should be met throughout the tax year. Otherwise, the company should leave the group immediately. Finally, according to Article 58 of the proposal, a company is considered member of a transnational group for the given taxation period if it complies with all these conditions for a duration of at least 9 months.

One of the main concerns is related to the formula for apportioning the consolidated tax base. This specifies the rules for distributing the consolidated tax base between the member states, where the company has its activities. The apportionment formula for the consolidated tax base includes three equally weighted factors: sales, assets and labour. According to the explanation of the Commission, sales should be taken into account in order to ensure a fair participation of the member states of destination, assets should consist of all fixed tangible assets, as well as intangible and financial assets, and the labour factor should be computed based on the payroll and the number of employees. In determining the apportioned share of a group member A, the formula shall take the following form, giving equal weights to the factors of sales, labour and assets (European Commission, 2011):

$$TaxBaseA =$$

$$= \left[\frac{1}{k}\left(\frac{Sales^{A}}{Sales^{Group}} \right) + \frac{1}{l}\left(\frac{1}{2}\frac{Payroll^{A}}{Payrol^{Group}} + \frac{1}{2}\frac{No\_empl^{A}}{No\_empl^{Group}} \right) + \frac{1}{m}\left(\frac{Assets^{A}}{Assets^{Group}} \right) \right] * CCCTB$$

$$\text{where } \frac{1}{k} + \frac{1}{l} + \frac{1}{m} = 1; \;\; k = l = m = 3.$$

The composition of the three factors is described in Table 2.

T a b l e 2

Composition of Factors in the Apportionment Formula

	Sales factor	Labour factor	Asset factor
Legislation	Art. 95 and 96, COM(2011) 121/4	Art. 90 and 91, COM(2011) 121/4	Art. 92, 93 and 94, COM(2011) 121/4
Components	- total net sales of group member	- based on total payroll and number of employees	- total value of fixed tangible assets - R&D, marketing, advertising costs for the last six years

Source: European Commission (2011).

The calculations of the consolidated tax base and its redistribution will be carried out annually. A positive consolidated tax base will be allocated immediately, and a negative consolidated tax base will be compensated for in the following tax periods (Pirvu et al., 2011). The tax base calculation and tax collection will be carried out only in one member state. Subsequently, tax revenue will be distributed to other member states where the group has activities. The Commission proposal also includes a so-called *Safe Guard* clause (Art. 87, COM(2011) 121/4). As an exception to the apportionment rule, if the principal taxpayer or a competent authority considers that the outcome of the apportionment to a group member does not fairly represent the extent of the business activity of that group member, the principal taxpayer or the authority concerned may request the use of an alternative approach. If each stakeholder agrees with the alternative method, then it shall be used.

3. Data and Methodology

The set of firms in this analysis includes eleven major international corporations with branches located in Slovakia. These firms fulfil the preconditions for applying the CCCTB system. Eight companies have a prevalently industrial nature (Volkswagen Slovakia; Slovnaft; Slovenské elektrárne; PCA Slovakia; Mondi SCP; Whirpool Slovakia; OMV Slovakia; Siemens Slovakia). The remaining three are more service oriented (Slovak Telekom; Orange Slovakia; Slovenská sporiteľňa).[6]

The data used for this analysis were gathered mainly from the final reports of the aforementioned companies. Unfortunately, national legislation on final reports and statements is not harmonized across the European Single Market. This

[6] There might be a non-negligible difference between the impact of the apportionment formula on the volume of taxes paid by service-oriented corporations and manufacturing-oriented companies. Industrial production is usually more capital intensive than the provision of services, which is one of the three main factors from the apportionment formula.

made data collection challenging, and in some cases impossible.[7] Therefore, for some of the companies, we used estimates to transform the available data into a form suitable for the analysis. The main adjustment included the determination of the European consolidated tax base. It was needed due to the fact that the corporate consolidated tax bases were usually published for the companies as a whole, which can be problematic in the case of corporations with activities both inside and outside the EU. In order to avoid possible biases in the results, we used the share of European sales on global sales to weigh the total global consolidated tax base to find a proxy for the European part of the global corporate tax base. Our analysis uses tax payments published by the corporations in their final reports and statements. Thus, original tax payments are compared with the estimated tax payments according to the proposed CCCTB apportionment formula.

The data used during the analysis are sales, number of employees, payroll and assets for each corporation separately in Slovakia and on the EU-level for the time period from 2009 to 2010. The payroll was approximated as the product of the number of employees and their average income[8] in accordance with the approach used by Pirvu et al. (2011). The payroll for Slovakia was determined as the product of the average income in Slovakia and the number of employees for Slovakia and the total European payroll was determined as a multiple of the total number of employees and the average salary in the EU.[9]

First, due to the limited quality of data for the two time periods, a simple calculation of Slovak tax revenue was made based on company-data and using the CCCTB apportionment formula. Subsequently, we used a Monte Carlo simulation study to determine the expected values of taxes payable under the proposed CCCTB system for various stochastically determined levels of sales, payroll, assets and tax bases. We made ten thousand simulations[10] using uniform distribution for sales, number of employees, payroll, assets and tax base in EU on the basis of data from 2009 – 2010 and calculated taxes payable for each company separately. The uniform continuous distribution U(a, b) has two parameters:

[7] The primary case selection included twenty companies. Due to the unavailability of data, we reduced the number of cases to eleven companies.

[8] The reason of this approximation is the lack of available data on payroll published by the companies analyzed as companies are not obliged to publish payroll and average wage data in their final reports.

[9] This analysis may be further developed by more precise national wage statistics matching the business activities of the companies in EU member states. Our analysis excludes this because the average wage data and the information about the location of branches of the international companies is not fully available for the cases selected.

[10] We also conducted a simulation study relying on forty thousand simulations. As the larger simulation study led to very similar results, we decided to present the output from the simulation study based on ten thousand runs.

a minimum value – *a* and a maximum value – *b* and is used when the data are limited or there is no information available. The probability of occurring of any value between the minimum and maximum is equal. We define the smallest of the observed data from the years 2009 and 2010 as a minimum and the largest as a maximum value for the uniform distribution in our simulation study. This approach was applied for sales, payroll, number of employees and consolidated corporate tax base.

4. Results and Discussion

The results show significant changes in the potential corporate tax liabilities towards the Slovak Republic. First, we determine the potential tax liabilities on the basis of the tax bases published by the companies from the sample. Subsequently, using the apportionment formula and the consolidated tax base for Europe, the CCCTB tax revenue is calculated (details on the share of the sales, assets and labour factors in 2009 and 2010 are presented in appendix A).

T a b l e 3

Tax Payable under the Current System and the Estimated Tax Payable under the Proposed CCCTB System

	Tax paid originally under the national system (in euros)		**Estimated tax payable under the CCCTB system (in euros)**	
	2009	2010	2009	2010
Volkswagen Slovakia, a. s., Bratislava	92 493 000	75 949 000	4 406 724	31 158 727
Slovnaft, a. s., Bratislava	1 803 000	4 340 000	22 102 635	17 029 717
Slovenské elektrárne, a. s., Bratislava	28 251 000	17 248 000	101 160 340	84 626 774
PCA Slovakia, s. r. o., Trnava	2 832 000	11 000	0	2 601 466
Slovak Telekom, a. s., Bratislava	9 928 000	25 006 000	4 977 628	7 771 487
Orange Slovensko, a. s., Bratislava	51 925 000	54 066 000	10 381 337	34 664 128
Mondi SCP, a. s., Ružomberok	4 831 000	15 132 000	674 946	5 418 622
OMV Slovensko, s. r. o., Bratislava	1 263 124	2 548 392	3 927 907	6 083 887
Siemens	762 358	258 244	3 530 967	4 059 283
Slovenská sporiteľňa	49 151 000	52 599 000	13 805 099	16 398 648
Whirpool	1 000	0	726 251	1 299 178
Sum	**243 240 482**	**247 157 636**	**165 695 842**	**211 113 927**

Source: Authors' own calculations, based on the data published by the companies from the sample.

The tax collected under the current system in 2009 was more than 243 million euros and 247 million euros in 2010. The expected tax collected under the proposed CCCTB system would be approximately 165 million euros in 2009 and 211 million euros in 2010. The expected revenue of the state budget from taxes payable by the companies from the sample under the CCCTB system is lower in 2009 by almost 32% (approx. 78 million euros) and, in 2010, by 14.6% (approx. 36 million euros).

T a b l e 4

The Comparison of the Tax Paid under the Current System with the Estimated Tax Payable under the CCCTB System

	Differences between tax paid under the current national system and the estimated tax payable under the proposed CCCTB system (in euros)	
	2009	2010
Volkswagen Slovakia, a. s., Bratislava	–88 086 276	–44 790 273
Slovnaft, a. s., Bratislava	20 299 635	12 689 717
Slovenské elektrárne, a. s., Bratislava	72 909 340	67 378 774
PCA Slovakia, s. r. o., Trnava	–2 832 000	2 590 466
Slovak Telekom, a. s., Bratislava	–4 950 372	–17 234 513
Orange Slovensko, a. s., Bratislava	–41 543 663	–19 401 872
Mondi SCP, a. s., Ružomberok	–4 156 054	–9 713 378
OMV Slovensko, s. r. o., Bratislava	2 664 783	3 535 495
Siemens	2 768 609	3 801 039
Slovenská sporiteľňa	–35 345 901	–36 200 352
Whirpool	725 251	1 299 178
Overall differences in absolute terms	**–77 544 640**	**–36 043 709**
Overall differences in percentages of tax paid under the national tax system	**–31.9%**	**–14.6%**

Source: Authors' own calculations, based on the data published by the companies from the sample.

The most remarkable differences can be seen in the cases of Volkswagen Slovakia, a. s., Orange Slovensko, a. s., Slovenská sporiteľňa and Slovenské elektrárne, a. s. Regarding the first three companies, the results are rather negative from the point of view of state-budget revenues. However, Slovenské elektrárne a. s. shows an increase in tax payments. The tax calculation outcomes demonstrate rather high volatility under the proposed CCCTB system. This is caused by the fact that the data gathered also showed a high degree of volatility. For example, the corporate tax base of Volkswagen was 1261 million euros in 2009 and 8994 million euros in 2010, which reflects the impact of the global economic crisis on the automotive industry. This high year-on-year fluctuations concerning the revenues, costs, payroll, number of employees and assets on an international level can complicate the future tax revenue projections on national levels. It is important to keep in mind that the results of the study should not be considered as exact empirical findings, but rather as indicators of the expected development of tax revenue under the CCCTB system. Further calculations based on more precise data are recommended.

As a second step in our analysis, we applied simulation analysis to estimate the likely future tax liabilities of the companies analyzed under the CCCTB regime. The aim of the simulation study is to provide an estimate of potential tax revenues under various (positive or negative) conditions for the companies in the sample, taking into account the variability of the included factors and economic development. This kind of analysis could allow researchers to gain a deeper understanding of the impact of the CCCTB legislation on Slovak governmental

finances. Table 5 compares the mean value of the distribution of expected taxes payable under the two systems.

T a b l e 5

Comparison of the Tax Paid under the Current System with Tax Payable under the CCCTB System – Results from the Simulation Analysis*

	Expected tax payable under the CCCTB system – simulated on the basis of data from 2009 – 2010 (in euros)	**Absolute differences between tax paid in 2009 and the expected tax payable under the CCCTB system (in euros)**	**Absolute differences between tax paid in 2010 and the expected tax payable under the CCCTB system (in euros)**
Average	176 427 429.74	–66 813 052.26	–70 730 206.26
Minimum	124 315 168.40	2 062 357.95	–1 854 796.05
Lower quartile – 25%	164 170 478.86	–55 055 722.22	–58 972 876.22
Median	176 066 358.67	–67 174 123.33	–71 091 277.33
Upper quartile – 75%	188 184 759.78	–79 070 003.14	–82 987 157.14
Maximum	245 302 839.95	–118 925 313.60	–122 842 467.60

* The histograms of the results from the Monte Carlo simulations are presented in Appendix B.

Source: Authors' own calculations, based on the data published by the companies from the sample.

In accordance with the central limit theorem, the results of the Monte Carlo experiment tend towards the normal distribution (see Appendix B). The average expected tax payable under the CCCTB system is around 176 million euros. This is 27.5% lower than the tax revenue from the years 2009 and 28.6% lower than in the year 2010. The comparison of taxes payable under median conditions also indicates a 27.7%-decline of tax revenue in the year 2009 and a 28.8%-decline of tax revenues in comparison to the year 2010. The results indicate that the probability that tax revenues would be higher under the CCCTB system than under the current system is near zero.

Conclusion

In general, there are two possible mechanisms through which the new system can influence the tax revenues of a member state. First, the CCCTB sets new rules for the calculation of the tax base. Second, the CCCTB includes rules on how the tax base has to be distributed among members of the EU. Both of these measures are equally important and therefore require further analysis. This paper discussed only the impact of the apportionment formula from the CCCTB proposal on tax revenue in the Slovak Republic.

The results presented in this paper evaluated the tax revenues from eleven transnational companies with operations in the Slovak Republic. The results showed that the tax revenue under the current system is most likely higher than the potential tax revenue under the CCCTB system. The application of the apportionment formula in the case of the eleven corporations chosen for this study

would have likely led to a 31.9% (77.55 million euros) decrease in tax revenue for the Slovak Republic in 2009 and a 14.6% (36.01 million euros) drop in 2010. The main conclusion of the study was also corroborated by a simulation analysis. The estimate of the potential impact of the CCCTB legislation based on the simulation study showed that the most likely impact is a decrease in tax revenues. The simulation analysis also showed that the probability of a favourable tax revenue outcome for the budget of the Slovak Republic is rather low. As for the labour factor, it is important to note that the Slovak Republic has very low salaries in comparison with the EU-15. Low labour costs decrease the share of member states on the CCCTB. This decrease could be moderated by the income convergence of new member states to the EU-15. Another important finding is that the main indicators (revenues, costs, payroll, number of employees and assets) for the corporations across Europe are rather volatile. Thus, under the CCCTB system, the estimation of future tax revenues will represent a challenging task for national authorities.

Finally, we would like to draw the reader's attention to the limitations of our study. The analysis is focused only on the impact of the apportionment formula under the Commission's CCCTB proposal. We do not analyze the impact of the new tax base that constitutes part of the CCCTB proposal. Due to data availability problems and short time series, we had to rely in our analysis on data approximations. It is also important to keep in mind that the 2009 – 2010 period was significantly affected by the global economic crisis. The companies could change their behaviour in reaction to the global economic situation. Nevertheless, our analysis based on data from eleven major transnational corporations present in Slovakia indicates that the budgetary implications of the CCCTB system for the Slovak Republic will likely be negative.

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Appendix A

Table A.1

Share of the Sales, Assets and Labour Factors in 2009

	Sales	Assets	Labour – number of employees	Labour – payroll	Labour	Total
Volkswagen Slovakia, a. s., Bratislava	0.0130	0.0060	0.0142	0.0059	0.0067	0.0257
Slovnaft, a. s., Bratislava	0.1025	0.0581	0.1275	0.0527	0.0600	0.2206
Slovenské elektrárne, a. s., Bratislava	0.0463	0.0172	0.0482	0.0199	0.0227	0.0862
PCA Slovakia, s. r. o., Trnava	0.0152	0.0047	0.2078	0.0859	0.0979	0.1177
Slovak Telekom, a. s., Bratislava	0.0035	0.0067	0.0101	0.0042	0.0047	0.0149
Orange Slovensko, a. s., Bratislava	0.0070	0.0026	0.0044	0.0018	0.0021	0.0117
Mondi SCP, a. s., Ružomberok	0.0398	0.0509	0.0372	0.0154	0.0175	0.1082
OMV Slovensko, s. r. o., Bratislava	0.0125	0.0026	0.0017	0.0007	0.0008	0.0159
Siemens	0.0019	0.0012	0.0097	0.0040	0.0045	0.0077
Slovenská sporiteľňa	0.0211	0.0229	0.0543	0.0224	0.0256	0.0696
Whirpool	0.0420	0.0285	0.0448	0.0185	0.0211	0.0916

Source: Authors' own calculations, based on the data published by the companies from the sample.

Table A.2

Share of the Sales, Assets and Labour Factors in 2010

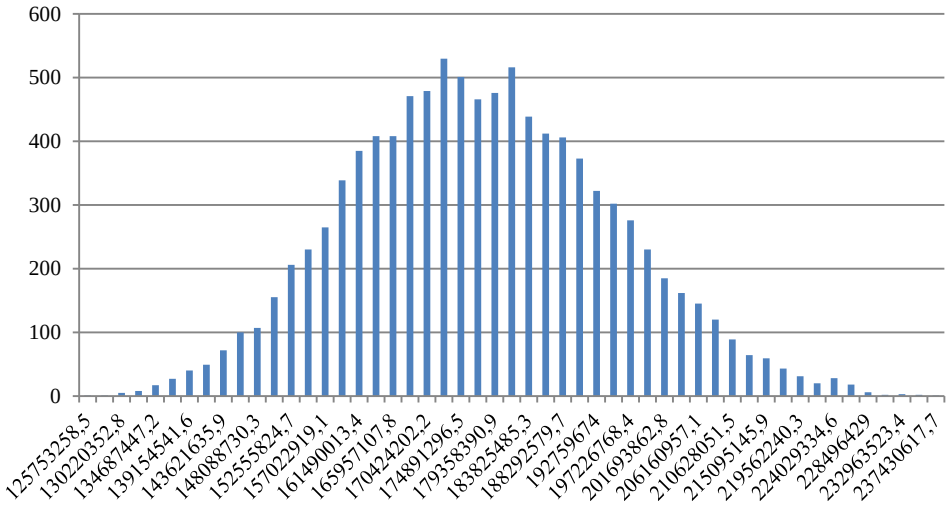
	Sales	Assets	Labour – number of employees	Labour – payroll	Labour – total	Total
Volkswagen Slovakia, a. s., Bratislava	0.0161	0.0050	0.0137	0.0060	0.0066	0.0276
Slovnaft, a. s., Bratislava	0.1019	0.0571	0.0768	0.0337	0.0368	0.1958
Slovenské elektrárne, a. s., Bratislava	0.0338	0.0258	0.0454	0.0199	0.0218	0.0814
PCA Slovakia, s. r. o., Trnava	0.0123	0.0071	0.0056	0.0025	0.0027	0.0221
Slovak Telekom, a. s., Bratislava	0.0068	0.0073	0.0139	0.0061	0.0067	0.0208
Orange Slovensko, a. s., Bratislava	0.0068	0.0242	0.0047	0.0021	0.0023	0.0332
Mondi SCP, a. s., Ružomberok	0.0395	0.0516	0.0393	0.0172	0.0188	0.1100
OMV Slovensko, s. r. o., Bratislava	0.0115	0.0024	0.0027	0.0012	0.0013	0.0152
Siemens	0.0003	0.0001	0.0121	0.0053	0.0058	0.0061
Slovenská sporiteľňa	0.0254	0.0232	0.0528	0.0231	0.0253	0.0739
Whirpool	0.0404	0.0309	0.0428	0.0188	0.0205	0.0919

Source: Authors' own calculations, based on the data published by the companies from the sample.

Appendix B

Graph B.1

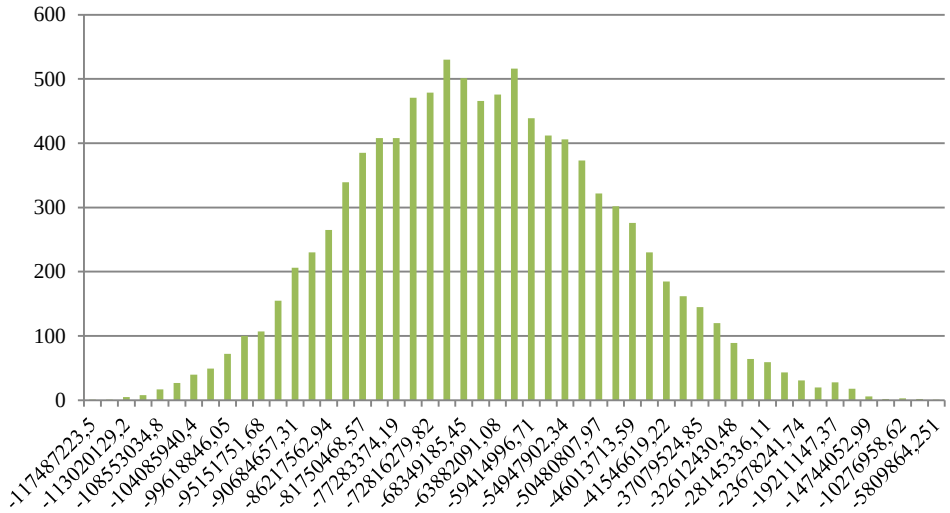
Distribution of the Expected Tax Payable under the CCCTB System – Results from the Simulation Study



Source: Authors' own calculation, based on the data published by the companies from the sample.

Graph B.2

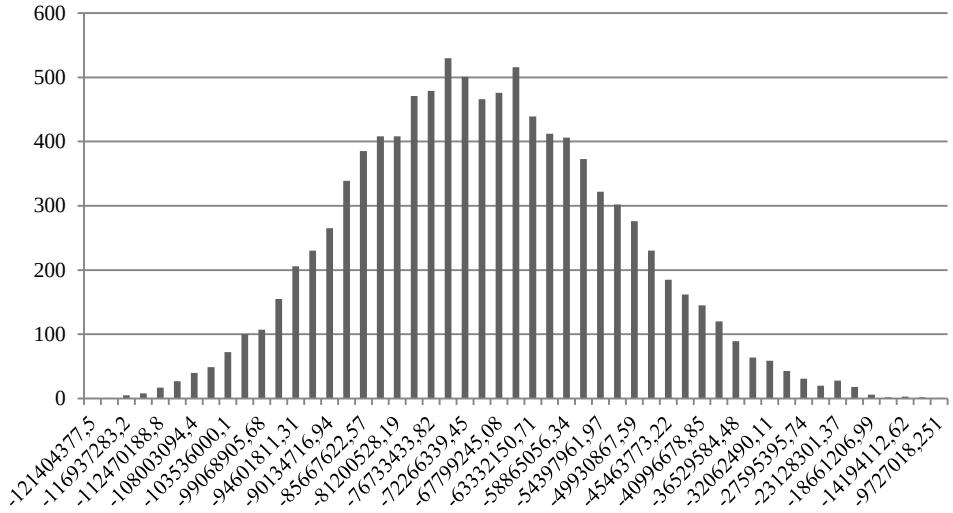
Distribution of the Absolute Differences between the Tax Paid in 2009 Originally and the Expected Tax Payable under the CCCTB System – Results from the Simulation Study



Source: Authors' own calculation, based on the data published by the companies from the sample.

G r a p h B.3

Distribution of the Absolute Differences between the Tax Paid in 2010 Originally and the Expected Tax Payable under the CCCTB System – Results from the Simulation Study



Source: Authors' own calculation, based on the data published by the companies from the sample.