The Tax Burden CGE Analysis for Slovakia and Slovenia

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Abstract

In the paper, the static computable general equilibrium model for Slovakia and Slovenia is used for a tax burden analysis. There was considered simultaneous 1% increase in taxes on primary factors, on firms' and government domestic and imported purchases, on import taxes, on output (or income) tax, on private domestic and imported consumption taxes and export subsidies. The direct tax burden as well as the allocative efficiency effects of a tax, the welfare effects and welfare decomposition of such change for both countries is analysed. The most sensitive sectors on tax rate changes is heavy manufacturing and processed food and the most distorting effect has the tax increase on private consumption tax. The government's tax increase should generate return at least 105.75% of its costs in Slovakia and 101.92% in Slovenia, otherwise the welfare will decline.

Keywords: tax burden, welfare analysis, CGE model

ORIGINAL SCIENTIFIC PAPER

RECEIVED: JULY 2019

REVISED: NOVEMBER 2019

ACCEPTED: DECEMBER 2019

DOI: 10.2478/ngoe-2019-0018

UDK: 336.221.26:336.226:311 (496.4+437.6)

JEL: C68

Citation: Mitkova, V., & Jánošová, M. (2019). The Tax Burden CGE Analysis for Slovakia and Slovenia. *Naše gospodarstvo/Our Economy, 65*(4), 35–46. DOI: 10.2478/ngoe-2019-0018

Preliminary

Tax reforms stand in an omnipresent concern of European economies looking for an optimal combination of tax rates ensuring stable economic growth, good business conditions and social fairness, see i.e. OECD *Tax policy reforms* (Organisation for Economic Co-operation and Development [OECD], 2019). Each tax rate change yield to direct, excess and marginal welfare burden; which are the matter of concern in this paper. The aim is to present an impact of a 1% increase of chosen taxes together with the welfare analysis for Slovakia. The further decomposition of allocative efficiency effect in several national industries, primary factors and tax types is shown. The methodology comes from the work of Ballard, Shoven and Whalley (1985) in which the computable general equilibrium (CGE) model was used to compare the economic effect of different tax rates raise altogether with national sales tax in the USA.

The CGE models are a preferable modelling tool for the tax questions exploration since they afford abundant equations structure and do not need long time series datasets. The examples of different influences of progressive federal

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Vol. 65 No. 4 2019

pp. 35–46

income tax to income tax or purchase tax on national level can be found in works of Fullerton, Shoven, and Whalley (1983), Ballard, Shoven and Whalley (1985), Altig et al. (2001) as well as Carbone and Smith (2008). The CGE models were used for various tax analysis for the Slovak economy, e.g. the macroeconomic effects of environmental taxes in working paper of Páleník and Miklošovič (2016), where the 1% of gross domestic product environmental tax was introduced with a parallel decrease of the tax burden by the same amount. The CGE analysis show that decreasing of labour tax has positive effect on GDP (up to 4%), on the households' income (up to 5%) and on number of employees (up to 6.5%). Remeta, Perret, Jareš and Brys (2015) evaluated the 2004 Slovak tax reform and conclude that the tax system still suffers from weaknesses leading to lower revenues and slower economic growth hence there is a need for additional tax reforms and tightening the tax administration. Horvath et al. (2019) present a novel way of linking microsimulation models with dynamic general equilibrium frameworks to evaluate not only the fiscal, but also the aggregate macroeconomic effects of actual and hypothetical tax reforms in Slovakia. They show that a move to a highly progressive tax structure leads to employment gains but at the same time is "associated with a drop in aggregate income and tax revenue". Urban, Čok and Verbič (2019) analysed the labour income taxation during 2011–2017 in Slovakia, Slovenia and Croatia using microsimulation models and assess the impact of tax-benefit systems on income distribution.

In the work of Ballard, Shoven and Whalley (1985), the dynamic elements were incorporated into the model; whilst the first models of Browning and Johnson (1984), Stuart (1984) used the static models depicting American economics where the human labour is adopted, and the human and physical supplies are fixed. The model based on the similar principles that focuses on the tax and economy analysis is well-designed by the authors Hanson and Bertelsen (1987) who worked out the influence of the tax reform from 1986 for the technological and investing decisions in agriculture. Very similar model was used by Boyd (1988) who concentrated on very detailed agronomy diversification.

The model principles are currently used for example in works of Cutler, Shields and Davis (2018) who use the CGE model for tax assessment exploration in Colorado. Their findings show that changes in benefits coming out of the incomes can influence agricultural activities as well as the income divisions. In case of marked labour sensibility to the change of income tax can lead to imbalances decreasing and production and employment increasing. Chernogorskiy, Kuporov and Shvctsov (2017) analyzed public charges that included financial charges as well as the marginal excessive tax burden used for charge funding. The computable general equilibrium model with one sole product, one type of labour was used; a producer, a household and a government were the economical subjects. They define the marginal excessive tax burden as a difference between income compensation and tax. Marginal charges of public funds for Peru were assessed via similar methodology by the authors Cordano and Balistreri (2003). The authors explore incomes from all main sources including production factors taxes, natural sources, consume and import taxes. Their main interest was focused on the effect of the taxes from mineral and energetic taxes in respect of their significance for public finances in the country. The results show to the possibility of tax system improvements and at the same time they assign financial outgoings of submitted charges that could be financed from these taxes. The study "On the Costs of Excise Taxes and Income Taxes in the UK" by Parry (2003) analytically approaches the excessive tax burden; alcohol, petrol and tobacco taxes in UK specifically, and deals with the externalities and interactions among particular taxes. Figari, Gandullia and Lezzi (2018) assumed marginal public funds outgoings as an overall indicator of the tax systems and system reforms effectivity. The extension of their model was the base of empirical micro data that represented Italian population.

Direct burden is tax revenue that is paid by taxed entities (households, firms, production factors, etc.), it brings no lost to society since it is recouped by the government. Excess burden (allocative inefficiency) presents a loss in economic efficiency when producers or consumers change their consumption to avoid paying the tax. The excess burden is so called deadweight loss to society.

Figure 1 is the well-known representation of the situation of tax levy in a two-dimensional space of price and quantity. The tax shifts the supply curve to the left causing the producer price fall from P_0 to P_1, while the consumer price rises to P_{1+t}. Output falls from Q_0 to Q_1. The consumer's surplus loss is represented by area $a+c$, the producer's surplus loss by area $b+d$. Area $a+b$ is the direct burden of the tax, that part of the loss that makes-up the government revenue; and the area $c+d$ is the excess burden - the deadweight loss in allocative efficiency loss that is not recouped elsewhere.

Figure 2 describes an increase in a tax which shifts the supply curve further left, causing another fall in output to Q_2, fall in the producer price to P_2, rise in the consumer price to P_{2+t}. The triangle $c+d+e+f$ represents the total allocative efficiency – the excess burden, the trapezoid $e+f$ describes the marginal welfare burden. Its volume depends on the size of the initial tax and the new change in quantity and may be calculated according to (1).

Figure 1. Direct and excess burdens of a tax

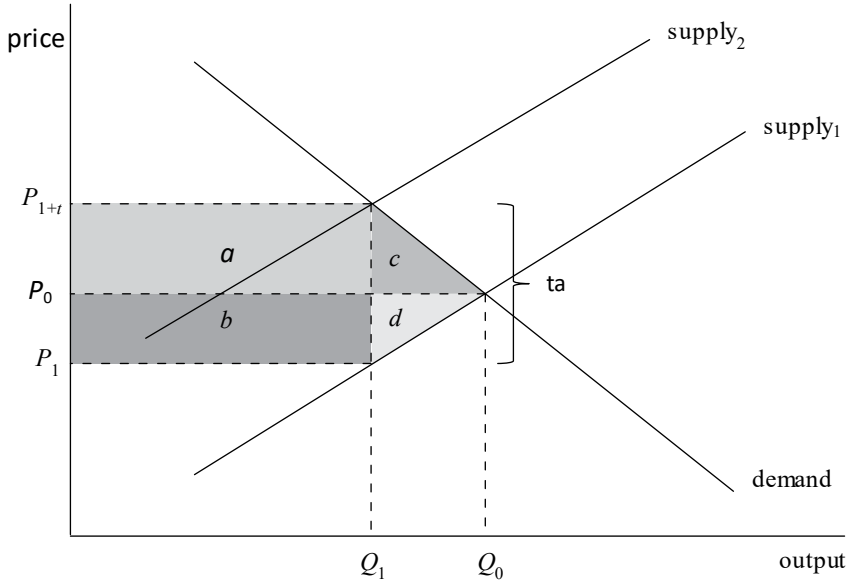
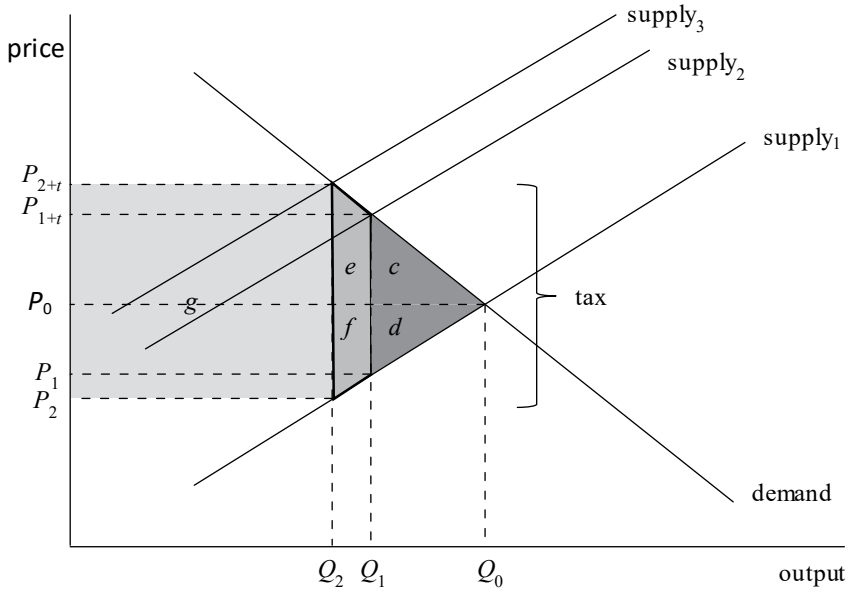


Figure 2. Effects of a marginal increase of a tax



Methodology, Experiment Design and Data

$$\text{marginal welfare burden} = \frac{\text{total welfare cost}}{\text{change in government tax revenue}} \cdot 100 \quad (1)$$

The rectangle *g* represents the direct tax burden and may be calculated through GDP identity (2) from the sources side.

$$GDP = \text{net factors income} + tax + \text{depreciation} \quad (2)$$

The static multi-country computable general equilibrium model developed by Hertel and Tsigas (1997) in Global Trade Analysis Project was used in this research. The motivation for the CGE modes is clear, this class of models describes an economy as a whole (the macroeconomic view) and the interactions among its parts (based on microeconomic foundations); moreover, it does not require long time series data since it uses a one year "shot" data. The analysis consists of six basic steps as described in Burfisher (2016).

In this analysis the standard static computable general equilibrium model with perfect competition and constant returns to scale by the Global Trade Analysis Project (GTAP) was used. Figure 3 shows the process of use a computable equilibrium model for experiments such that used in this paper.

1) For first, define the sets, variables and equations.
   a) The data sets was aggregated as follows: three regions were considered, The Slovak Republic, Slovenia and the rest of the world; 57 production (and consumption) sectors were aggregated to eleven: Grains and crops (P1), Livestock and meat products (P2), Mining and extraction (P3), Processed food (P4), Textiles and clothing (P5), Light manufacturing (P6), Motor vehicles (P7), Heavy manufacturing (P8), Utilities and construction (P9), Transport and communication (P10) and Other services (P11). The primary factors were Land (F1), Unskilled labour (F2), Skilled labour (F3), Capital (F4) and Natural resources (F5); all factors were considered as mobile across sectors.
   b) and c) Variables and equations are defined by the Global Trade Analysis Project model structure and may be found in Hertel and Tsigas (1997). A standard approach to production function is used in the model: Nested production function allows substitution among production factors in the value-added nest, but for the intermediate nest uses fixed input-output ratios. Regional household treatment in the model is based on the fact that it disposes of a total income according to a Cobb-Douglas aggregate utility function consisting on private household expenditures, government expenditures and savings in region (see Figure 4). For the government, a Cobb-Douglas utility function is used assuming that the initial budget shares in its consumption basket remains fixed.

2) Values of elasticity parameters and variables come from the social accounting matrix based on the GTAP10 data base (Aguiar et al., 2019) for 2014 (all variables in millions of US dollars)[1].
   a) The elasticity parameters values may be found in Appendix A. The definitions follow Hertel and van der Mensbrugghe (2016).
      ESUBD Elasticity of substitution between domestic and imported goods in the Armington aggregation structure for all agents in all regions.
      ESUBM Elasticity of substitution among imports from different destinations in the Armington aggregation structure of all agents in all regions.
      ESUBVA Elasticity of substitution between primary factors in the production of a commodity.
      ESUBT Elasticity of substitution between composite intermediate inputs and value-added in the production of a commodity. For this model set 0 for all commodities.
      ESUBDR Armington CES for domestic/imported allocation at region level.
      ESUBMR Armington CES for regional allocation of imports at region level.
      SUBPAR The substitution parameter in the CDE minimum expenditure function.
      INCPAR The expansion parameter in the CDE minimum expenditure function.

3) The tax rates for Slovakia and Slovenia in selected industries and primary factors respect the GTAP set and may be found in Appendix B. All tax rates are reported as % ad valorem rate.
   rTF taxes on primary factors in industries (SR for Slovakia, SLO for Slovenia)
   rTO output (or income) subsidies in primary factors and industries in regions
   rTPD private domestic consumption taxes in industries in regions
   rTXS export subsidies in industries, by destination
   rTMS import taxes in industries, by source

4) The model was solved in the RunGTAP software and has reached the baseline equilibrium.

5) In the experiment, the following taxes were assumed to increase by 1% change rate in all production sectors and all primary factors:
   tf – tax on primary factors,
   tfd – taxes on firms' domestic purchases,
   tfm – tax on firms' imported purchases,
   tgd – government domestic purchases taxes,
   tgm – government imported purchases taxes,
   tms – import taxes,
   to – output (or income) tax,
   tpd – private domestic consumption taxes,
   tpm – private imported consumption taxes,
   txs – export subsidies.

6) The Gragg 2-4-6 steps extrapolation was used for re-solving the model. It belongs to the group of multi-step solution procedures, which automatically divides the exogenous shock into a specific number of equal components. This procedure reduces the linearization errors which arise from the default one-step or Johansen solution method.

[1] The latest available GTAP data.

Figure 3. Description of the CGE analysis, process inspired by Burfisher (2016)

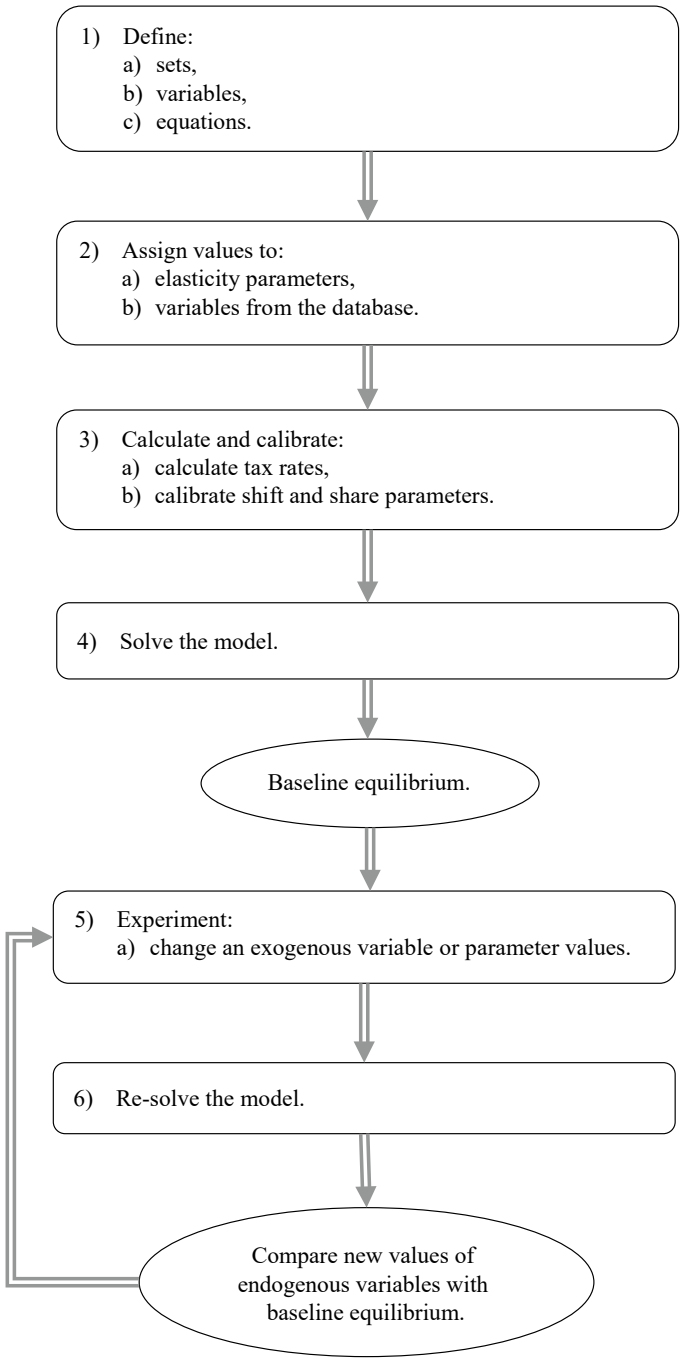
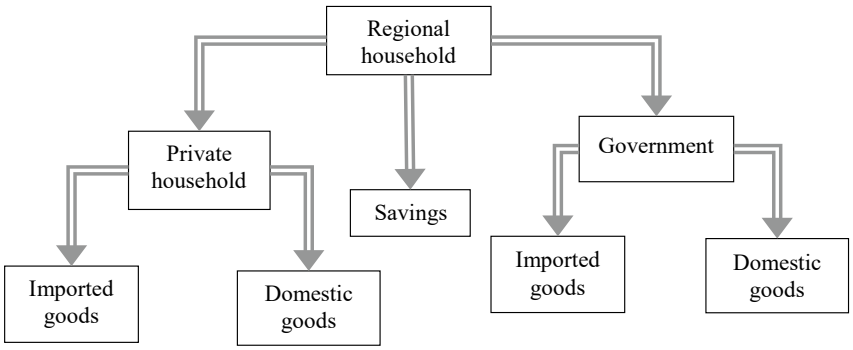


Figure 4. The regional household treatment



Source: Documentation to GTAP model

Results

The direct burden is the government income and may be derived from the Equation (2). The baseline equilibrium data gives

$$GDP_{SR,base} = 60{,}292 + 26{,}190 + 13{,}771 = 100{,}253 \quad (3)$$

$$GDP_{SLO,base} = 26{,}066 + 18{,}292 + 5{,}134 = 49{,}491 \quad (4)$$

hence the government revenue at original tax rates was 26,190 million USD in Slovakia and 18,292 million USD in Slovenia. The updated data with tax increase gives

$$GDP_{SR,updated} = 60{,}727 + 27{,}119 + 13{,}907 = 1010{,}754 \quad (5)$$

$$GDP_{SLO,updated} = 26{,}226 + 18{,}850 + 5{,}187 = 50{,}263 \quad (6)$$

The tax rate rise causes the government revenue increase in Slovakia to 27,119 million USD, which means 929 million USD direct burden increase of the marginal tax increase. For Slovenia, the government revenue rose by 558 million USD to 18,850 million USD.

The welfare analysis is made according to Huff and Hertel (2001) and McDougall (2001).

Table 1. Equivalent variation decomposition summary for Slovakia

Welfare effect	Slovakia	Slovenia
Allocative efficiency	**-25.70**	**-19.40**
Endowment	0.00	0.00
Technology	0.00	0.00
Population	0.00	0.00
Terms of trade in goods and services	-0.93	11.60
Terms of trade in investment and savings	-26.80	-2.90
Preferences	0.00	0.00
Total welfare cost	**-53.40**	**-10.70**

The allocative efficiency is -25.7 million USD in Slovakia and -19.4 million USD in Slovenia based on the Welfare effect decomposition summary in Table 1. The total welfare cost is hence 53.4 million USD in Slovakia and 10.7 million USD in Slovenia. The marginal welfare burden is, according to Equation (1),

$$\text{Marginal welfare burden}_{SR} = \frac{-53.4}{929} \cdot 100 = -5.75 \quad (7)$$

$$\text{Marginal welfare burden}_{SLO} = \frac{-10.7}{558} \cdot 100 = -1.92 \quad (8)$$

Table 2. Allocative Efficiency Effect

a) Commodity Summary

	Slovakia	Slovenia
Land	-0.007	-0.028
Unskilled labour	-0.042	-0.000
Skilled labour	-0.430	-0.106
Capital	-0.327	-0.120
Natural resources	0.000	-0.000
Grains and crops	-0.095	-0.036
Livestock and meat	-0.095	-0.536
Mining and extraction	-0.768	-0.225
Processed food	-6.120	-2.950
Textiles and clothing	-1.320	-0.796
Light manufacturing	-1.720	-1.200
Motor vehicles	-0.462	-1.560
Heavy manufacturing	-7.350	-7.210
Utilities and construction	-2.730	-1.650
Transport and communication	-0.897	-1.190
Other services	-2.490	-1.840
Total	**-25.700**	**-19.400**

b) Tax Type Summary

	Slovakia	Slovenia
Factor tax	-0.806	-0.255
Production tax	**0.849**	**0.224**
Input tax	-1.980	-3.620
Private consumption tax	-24.100	-15.60
Government tax	1.170	0.308
Export tax	-0.549	-0.127
Import tax	-0.354	-0.420
Total	**-25.700**	**-19.400**

The welfare change per additional dollar of tax revenue is 5.75 cents per dollar in Slovakia. The government's tax increase should generate return at least 105.75% of its costs, otherwise the welfare will decline. The marginal welfare burden in Slovenia is lower, 1.92 cents per dollar, meaning that the tax increase should make at least 101.92% of its costs.

Terms of trade in goods and services measures the import purchasing power of exports. The value -0.93 for Slovakia means that the terms of trade worsen as a consequence of tax increase. In contrary in Slovenia the positive value of 11.6 mean the terms of trade improves significantly. Investment-savings terms of trade reaches -26.8 for Slovakia and -2.9 for Slovenia, this change is in the price of savings in country relative to the price of its domestically produced capital investment goods. Neither endowment (changes in quantities of the factors of production), technology (changes in the productivity of factors and/or intermediate inputs), population nor preferences (a change in the distribution of regional household income to government, private consumer and investment spending, which may affect welfare) are affected by tax rates change, since the shock was modelled by static CGE model which has no tools to capture such long-term changes.

Table 3. Output tax effect

Output Tax Effect		
	Slovakia	**Slovenia**
Land	0.000	0.000
Unskilled labour	0.000	0.000
Skilled labour	0.000	0.000
Capital	0.000	0.000
Natural resources	0.000	0.000
Grains and crops	-0.018	-0.000
Livestock and meat	-0.002	-0.004
Mining and extraction	0.008	-0.014
Processed food	0.004	0.001
Textiles and clothing	-0.005	-0.013
Light manufacturing	0.031	-0.064
Motor vehicles	0.016	0.011
Heavy manufacturing	0.070	-0.098
Utilities and construction	-0.034	-0.115
Transport and communication	0.643	0.554
Other services	0.136	-0.033
Total	**0.849**	**0.224**

The excess burden may be decomposed via commodities (Table 2a) and via tax types (Table 2b). The most tax burden is allocated to the heavy manufactures sector and processed food sector in both countries. Concerning to the primary factors, the land, labour and capital owners welfare decline while the natural resources owners do not change their tax burden at all. The most distorting effect has the tax increase on private consumption tax, while the government tax has positive effect, as supposed. Let's have a closer look to the output tax effect in Table 3. The value of the production tax increase by 0.849 million of USD may be further decomposed to the effects in particular production sectors. Again, the most tax burden is levied on utilities and construction sector in both countries and the positive effects are unambiguously transferred to transport and communication sector in both countries.

Using the results for both countries, the sensitivity analysis on the elasticities for the total welfare cost was conducted. Each elasticity parameter varied by 100% and symmetric triangular distribution was used. Table 4 shows that the negative sign of the equivalent variation result is robust on the 95% confidence level with respect to each elasticity parameter tested. A closer look to the elasticity of substitution between domestic and imported goods in the Armington aggregation structure for Slovenia on the 99% confidence level allows positive result.

Conclusions

Our aim in the paper was to quantify the direct tax burden, which is represented by the government revenue resulting from a 1% increase in taxes on primary factors, on domestic

Table 4. The sensitivity analysis on elasticities for total welfare costs, 95% confidence interval

SR	mean	sd	lower bound	upper bound	SLO	mean	sd	lower bound	upper bound
ESUBVA	-53.43	0.21	-54.37	-52.49		-10.71	0.10	-11.16	-10.26
ESUBD	-54.60	5.07	-77.26	-31.94		-11.30	2.04	-20.42	-2.18
ESUBT	-53.40	0.00	-53.40	-53.40		-10.71	0.00	-10.71	-10.71
ETRAE	-53.40	0.00	-53.40	-53.40		-10.71	0.00	-10.71	-10.71
INCPAR	-52.87	0.69	-55.95	-49.79		-10.43	0.34	-11.95	-8.91
SUBPAR	-53.41	0.58	-56.00	-50.82		-10.71	0.26	-11.87	-9.55

and government purchases, on import taxes, on output tax, on private domestic and imported consumption taxes and export subsidies in Slovakia and Slovenia. Both countries have been a part of the European Union since 2004 as well as the monetary union, with Slovakia joining two years later in 2009. Within these groups and compared to other countries, Slovakia and Slovenia have similar positions in terms of GDP per capita. In 2008, both countries signed the economic crisis, which was assessed by high unemployment rates, while the increase in unemployment between December 2008 and November 2009 in Slovakia was 4.3 p.p. and in Slovenia 2.6 p.p. In terms of tax burden, both countries have undergone major tax reforms, but if we express the tax burden as a percentage of the countries' GDP as reported in Urban et al. (2019). Slovakia and Slovenia are close to the EU-28 average, but in terms of total tax burden, this burden in Slovakia is significantly lower than in Slovenia. To achieve our goal, we used a computable general equilibrium model with detailed industries and production factors to bring the opportunity to explore the effects of different taxation settings. We conducted the analysis in six consecutive steps for both countries. Our interest was to investigate the increase in tax rates, which, according to our findings, had an impact on both government revenues, direct tax burden of approximately 929 million USD for Slovakia and 558 million USD in Slovenia for both countries. The OECD document (2018) provides a comprehensive assessment of tax policy in Slovenia and makes recommendations for tax reform, where the results of their analysis also show many similarities in individual indicators, but the authors mainly focused on the analysis of labour tax burden in Slovenia. Similarly, the impacts of the tax burden on labour and various variables as well as the economic structure in Croatia have been examined by Nadoveza et al. (2016) using the CGE model, where their overall results indicate that the government should assess the potential effects of any unemployment tax reform before policy change, as this seems to have a significant impact on the labour market as well as budget revenue and expenditure. Subsequently, we performed a welfare analysis with the effect of decomposition. Tax increase resulted in worsening of the terms of trade in goods and services by -26.8 in Slovakia and -2.9 in Slovenia, and at the same time the investment savings terms of trade worsening by only -0.93 in Slovakia but improves in Slovenia by 11.6. The allocative efficiency is -25.7 million USD in Slovakia and -19.4 million USD in Slovenia, this amount is not assigned to agents in economy and represents the deadweight loss. The marginal welfare burden is 5.75 cents per dollar for Slovakia, 1.92 cents per dollar for Slovenia, respectively, which has been quantified as a ratio of total welfare cost to change in government tax revenue. The tax burden is allocated in almost every sector; mostly in the heavy manufactures sector by value of -7.35 (resp. -7.21). For the purposes of our analysis, we considered it appropriate to choose a country comparable to Slovakia the achieved results are difficult to compare across other countries, due to differences in decomposition and differences in country tax settings. Tran and Wende (2017) in their study of quantify marginal excess burden, defined as the change in deadweight loss for an additional dollar of tax revenue, for different taxes. Their model was realised to Australian data and indicate that taxes are more distorting than personal income and consumption taxes. The marginal excess of income for the corporate income tax is 83 cents per dollar of tax revenue, compared to 34 cents and 24 cents for personal income and consumption taxes, respectively. Hansson and Stuart 1983) have calculated a wide range of marginal excess burden for Sweden. Their estimates are from 69 cents to 1.29 USD. The results presented in this research should encourage discussion of the tax burden setting. However, in the model we still see the possibilities for its extensions in different tax types handle. For future work, it might be useful to consider the implications of dynamic elements of the model.

Acknowledgements

The research was supported by grant scheme of the Slovak Ministry of Education, Science and Sport by grant VEGA No. 1/0795/18 “Complex Approaches to the Econometric Structure of the Computable General Equilibrium Model Parameters Estimation” and by grant scheme of the Slovak Research and Development Agency, project No. APVV-17-0551 “Balancing out the imbalances: redefining the view on macroeconomic imbalances under the European governance framework”.

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Appendix A

	SUBPAR		INCPAR		ESUBVAR		ESUBDR		ESUBMR	
	SR	SLO	SR	SLO	SR	SLO	SR	SLO	SR	SLO
1 GrainsCrops	0.972	0.996	0.004	0.003	0.261	0.262	2.38	2.51	4.40	4.69
2 MeatLstk	0.525	0.457	0.581	0.591	0.490	0.566	3.51	3.58	7.44	7.57
3 Extraction	0.372	0.328	1.110	1.050	0.200	0.200	7.08	6.08	16.50	20.40
4 ProcFood	0.587	0.518	0.461	0.466	1.120	1.120	2.07	2.13	4.23	4.44
5 TextWapp	0.531	0.463	0.566	0.576	1.260	1.260	3.72	3.72	7.44	7.44
6 LightMnfc	0.439	0.378	0.879	0.877	1.260	1.260	3.64	3.56	7.32	7.18
7 Auto	0.369	0.317	1.120	1.100	1.260	1.260	2.86	2.97	5.72	5.76
8 HeavyMnfc	0.377	0.327	1.080	1.050	1.260	1.260	3.64	3.45	7.71	6.87
9 Util_Cons	0.368	0.317	1.120	1.100	1.360	1.350	2.13	2.13	5.07	5.04
10 TransComm	0.362	0.302	1.170	1.190	1.570	1.600	1.90	1.90	3.80	3.80
11 OthServices	0.350	0.297	1.220	1.210	1.260	1.260	1.90	1.90	3.80	3.80

	ESUBVA	ESUBD	ESUBM
1 GrainsCrops	0.286	2.54	4.94
2 MeatLstk	0.503	3.11	7.41
3 Extraction	0.200	5.21	12.80
4 ProcFood	1.120	2.11	4.37
5 TextWapp	1.260	3.73	7.44
6 LightMnfc	1.260	3.54	7.27
7 Auto	1.260	3.15	6.35
8 HeavyMnfc	1.260	3.46	7.38
9 Util_Cons	1.360	2.16	4.64
10 TransComm	1.600	1.90	3.80
11 OthServices	1.260	1.90	3.80

Appendix B

rTF(SR)	Land	UnSkLab	SkLab	Capital	NatRes
1 GrainsCrops	-30.8	16.1	18.8	-44.10	0
2 MeatLstk	-29.0	25.3	25.6	-18.90	0
3 Extraction	0	64.4	64.4	0.43	0.43
4 ProcFood	0	64.4	64.4	0.43	0
5 TextWapp	0	64.4	64.4	0.43	0
6 LightMnfc	0	64.4	64.4	0.43	0
7 Auto	0	64.4	64.4	0.43	0
8 HeavyMnfc	0	64.4	64.4	0.43	0
9 Util_Cons	0	64.4	64.4	0.43	0
10 TransComm	0	64.4	64.4	0.43	0
11 OthServices	0	64.4	64.4	0.43	0

rTF(SLO)	Land	UnSkLab	SkLab	Capital	NatRes
1 GrainsCrops	-28.6	24.8	24.4	-35.40	0
2 MeatLstk	-20.3	52.4	36.8	-23.40	0
3 Extraction	0	52.8	52.8	0.77	0.77
4 ProcFood	0	52.8	52.8	0.77	0
5 TextWapp	0	52.8	52.8	0.77	0
6 LightMnfc	0	52.8	52.8	0.77	0
7 Auto	0	52.8	52.8	0.77	0
8 HeavyMnfc	0	52.8	52.8	0.77	0
9 Util_Cons	0	52.8	52.8	0.77	0
10 TransComm	0	52.8	52.8	0.77	0
11 OthServices	0	52.8	52.8	0.77	0

rTO	SR	SLO
1 Land	-3.970	-4.560
2 UnSkLab	-14.000	-18.300
3 SkLab	-14.000	-18.300
4 Capital	-3.970	-4.560
5 NatRes	-3.970	-4.560
6 GrainsCrops	0.457	0.005
7 MeatLstk	0.147	-0.178
8 Extraction	-0.646	2.220
9 ProcFood	1.090	0.057
10 TextWapp	0.080	0.819
11 LightMnfc	-0.155	0.851
12 Auto	-0.054	0.367
13 HeavyMnfc	-0.190	0.473
14 Util_Cons	-0.097	-0.639
15 TransComm	0.869	1.120
16 OthServices	-0.324	0.121

rTPD	SR	SLO
1 GrainsCrops	3.38	11.70
2 MeatLstk	13.40	15.50
3 Extraction	14.00	8.35
4 ProcFood	50.20	71.60
5 TextWapp	16.50	25.60
6 LightMnfc	16.60	24.40
7 Auto	7.51	26.50
8 HeavyMnfc	63.20	26.70
9 Util_Cons	17.30	40.50
10 TransComm	2.07	5.31
11 OthServices	3.78	5.94

	rTXS		rTMS	
	SR-ROW	**SLO-ROW**	**SR-ROW**	**SLO-ROW**
1 GrainsCrops	0.001	0.031	0.081	0.958
2 MeatLstk	-0.001	0.000	0.090	0.332
3 Extraction	-37.800	-44.400	0.001	0.020
4 ProcFood	0.008	0.014	0.186	0.470
5 TextWapp	-0.246	-0.397	1.210	1.720
6 LightMnfc	-0.208	-0.420	0.278	0.859
7 Auto	-0.038	-0.070	0.164	0.616
8 HeavyMnfc	-0.236	-0.601	0.260	0.417
9 Util_Cons	0	0	0	0
10 TransComm	0	0	0	0
11 OthServices	0	0	0	0

CGE-analiza davčnega bremena za Slovaško in Slovenijo

Izvleček

Za izračun davčnega bremena na Slovaškem in v Sloveniji v letu 2014 v članku uporabimo statični izračunljivi model splošnega ravnotežja (CGE-model) z enajstimi sektorji. Upoštevano je bilo simultano 1-odstotno povečanje v davkih na primarne faktorje, na podjetniške ter vladne domače in uvozne nakupe, v uvoznih davkih, davku na donos (ali dohodek), davku na domačo zasebno in uvozno porabo ter izvoznih subvencijah. Za obe državi so bili analizirani neposredno davčno breme kot tudi davčni učinki alokacijske učinkovitosti, učinki na blaginjo in prerazporeditve blaginje zaradi takšnih sprememb. Najbolj občutljiva sektorja na spremembe davčne stopnje sta težka proizvodnja in predelava hrane, najbolj izkrivljajoč učinek pa ima zvišanje davka na zasebno potrošnjo. Vladno povečanje davkov bi moralo ustvariti vračilo najmanj 105,75 % njegovih stroškov na Slovaškem in 102,92 % v Sloveniji, sicer bo blaginja upadla.

Ključne besede: davčno breme, analiza blaginje, CGE-model