

# *Tax mix impact on the growing differences between the tax quota of the Czech Republic and Slovakia*

## *Vliv daňového mixu na rostoucí rozdíly mezi daňovou kvótou Česka a Slovenska*

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### **1 Introduction**

Two new states came into existence in 1993 - the Czech Republic and Slovakia. Simultaneously, a new tax system came into force and effect in the two states. The tax systems of the two states of the former Czechoslovakia were almost identical in the initial period, since the same laws, approved in 1992, were in force and effect in the two countries. However, amendments of all tax laws were being implemented as soon as in 1993. This development has resulted in the growing differences of the formerly identical tax systems. The situation then culminated in the public finances reforms in both countries at the beginning of the new century.

Even though both reforms proclaimed rather ambitious goals, namely in keeping public expenditures under control, in the simplification of taxes and their supply oriented characteristics, this radical reform was only successful in Slovakia. The Czech Republic is currently at a midpoint, in spite of the fact that the so-called equal tax has been introduced this year. The most pressing issue is the pension system reform. The sustainability of the public finances seems unthinkable without the reform, however, only its direction is still being searched.

In the article, we will first focus on the development of overall tax quotas, and then we will analyze the differences in the growth indices of tax quotas of the two countries in the period of 2000 – 2005, i.e. the period, during which the last tax reforms took places.

### **2 Tax quota development of the Czech Republic and the Slovak Republic**

Let us first state a brief characteristic of the tax revenues and their structure in the two compared countries from the perspective of the 27 member states of the EU. The tax quota of the Czech Republic amounted to 36.3 % in 2005, i.e. 1 % below the EU27 average. The

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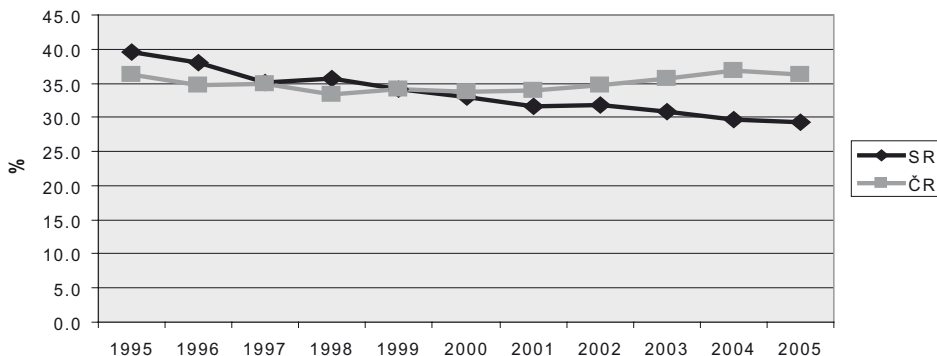
tax quota of Slovakia amounted to 29.3 % - the third lowest among all EU members after Romania and Lithuania.

The lowest tax burden of the GDP in the region of Central Europe is in Slovakia, followed by Poland and the Czech Republic; the tax quota is the highest in Austria and Germany. In comparison with the EU27 average, direct taxes do not play such an important role as indirect taxes / social security contributions in either of the two countries.

The tax structure shows the second highest share of social security contributions in the Czech Republic (after Germany), while indirect taxes form the highest revenue item in Slovakia, which are the fifth highest in the EU27 from the perspective of their share. The share of social security contributions has decreased substantially in Slovakia.

Together with Bulgaria, Romania, and Cyprus, the Czech Republic and Slovakia are countries, where the share of corporation income taxes is comparable with the personal income taxes; the corporation taxes in the whole EU27 are substantially lower than the personal income taxes, their share amounts to an average of 8.5 %. On the other hand, personal income taxes amount to 20 % of all taxes. This distorted structure in the Czech Republic and Slovakia is a reminiscence of the socialistic structure of contributions, in which the corporation income taxes were absolutely dominant. The economic and tax reform at the beginning of the 1990's did not fully exceed these boundaries, as the government had to consider the standard of living of the taxpayers and the goal was for employees not to pay substantially higher taxes than in the "old" system. Another factor causing the high corporation income taxes and low personal income taxes is still the unusually high leveling of wages in the Czech Republic and Slovakia.

**Chart 1:** Tax quota development of the Czech Republic and Slovakia in the period of 1995 – 2005



Source: *Taxation trends (2007)*

Chart 1 provides an overall view of the tax quotas (share of taxes in HDP) of the Czech Republic and Slovakia since 1995 (Graf 1). This chart confirms the above mentioned facts, i.e. that the quotas did not differ too much originally - the difference amounted to 3.4 %

in 1995 and the Slovak quota is in fact higher. However, the difference in 2005 already amounted to 7 %, however, the Czech quota is higher this time.

The share of taxes in GDP has been decreasing nearly all the time in Slovakia, while the Czech Republic has been affected by an absence of an effective tax reform – taxes correspond more or less to the development of an economic cycle (that is why an increase has been apparent after 2000), and there is no upward / downward tendency here.

### 3 Effect of the tax mix on the development of the tax quota differences

We will now analyze the period after the year of 2000, and the effect of individual taxes of the tax mix on the growing differences of the tax quotas<sup>2</sup>. The items shown in Table 1 correspond to the classification of Eurostat (Taxation trends, 2007).

Table 1 also shows the calculation of the figures (1) through (3). The tax quota (TQ) refers to the share of the total tax revenues (TTR) in the Gross Domestic Product (GDP)<sup>2</sup>:

$$TQ = \frac{TTR}{GDP} \quad (1)$$

The difference between the TQ of the Czech Republic and the TQ of the Slovak Republic (QD) is:

$$QD = TQ_{\check{C}R} - TQ_{SR} \quad (2)$$

The difference between the QD in 2005 ( $QD_{2005}$ ) and 2000 ( $QD_{2000}$ ) can be broken down to addends, each of which showing the contribution of one tax type to the total difference (the term in the parentheses for different i):

$$QD_{2005} - QD_{2000} = \sum_{i=1}^9 (QD_i^{2005} - QD_i^{2000}) \quad (3)$$

$QD_{i2005}$  or  $QD_{i2000}$  refers to the difference between the tax quota of the Czech Republic and Slovakia in 2005, or 2000, for the tax "i".

Contributions to the difference growth between the quotas of the Czech Republic and Slovakia will then be shown in a column chart (see Chart 2). In 2000, the tax quota of the Czech Republic amounted to 33.8 %, while the tax quota of Slovakia amounted to 32.9 %. Until 2005, the tax quota of the Czech Republic increased to 36.3 %, while the tax quota of Slovakia decreased to 29.3 % during the same period. The total difference between the two quotas thus increased from 0.9 % to 7 %.

<sup>2</sup> This section explaining the tax quota analysis has been taken over from Kubátová (2007)

Individual taxes contribute either positively or negatively to the total amount of a column, whereas the effect can always be broken down into two items - the tax revenues growth index itself and the weight, which corresponds to the share of the given tax type in an overall quota. High taxes thus have a higher potential to affect the total differences.

Out of the nine tax types being analyzed, seven contribute to the growing differences between the tax quota of the Czech Republic and Slovakia in the period of 2000 – 2005 in favor of a higher burden in the Czech Republic and decreasing burden in Slovakia, only two tax types result in a reduction of the difference.

The difference is affected the most by the social security contributions from employment; the corporation income taxes and personal income taxes have a high impact as well. Other taxes on products, other direct taxes (property), VAT, and the social security contributions of self-employed persons contribute less.

**Table 1:** Calculation concerning the structure of the growth of difference between the tax quotas of the Czech Republic and Slovakia in 2005 in comparison with 2000\*

	TQ <sub>CR05</sub>	TQ <sub>CR00</sub>	TQ <sub>SR05</sub>	TQ <sub>SR00</sub>	QD <sub>2005</sub>	QD <sub>2000</sub>	QD <sub>2005</sub> – QD <sub>2000</sub>
Tax quota	36.3	33.8	29.3	32.9	7.0	0.9	6.0
Indirect taxes	11.9	11.3	13.0	12.8	-1.1	-1.5	0.4
Value added tax	7.2	6.5	8.0	7.6	-0.8	-1.1	0.4
Excise duties	3.7	3.3	3.7	2.8	0.0	0.5	-0.5
Other taxes on Products (incl. import duties)	0.5	1.0	0.4	1.7	0.1	-0.7	0.8
Other indirect taxes	0.5	0.6	0.9	0.8	-0.5	-0.1	-0.3
Direct taxes	9.3	8.3	6.1	7.7	3.2	0.6	2.5
Personal income tax	4.6	4.6	2.8	3.6	1.9	1.0	0.9
Corporation income tax	4.5	3.5	2.8	2.8	1.7	0.7	1.0
Other direct taxes	0.2	0.3	0.5	1.3	-0.3	-1.0	0.7
Social security contributions: Employers and employees	15.1	14.2	10.8	13.6	4.0	0.6	3.4
Social security contributions: Self-employed	14.1	13.5	10.1	12.9	0.4	0.0	0.3

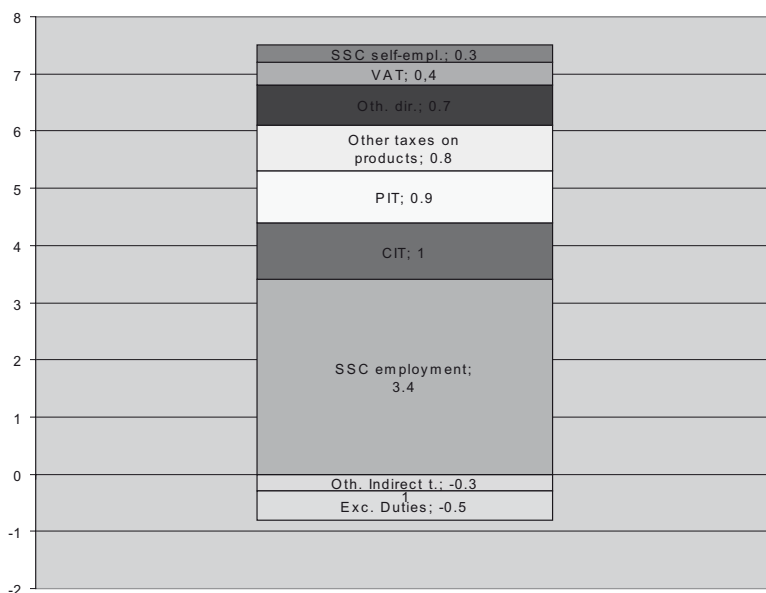
Explanatory notes: TQ – percentage share of the total tax revenue in GDP, QD – difference between the TQ of the Czech Republic and Slovakia

\*The overall change in the difference of tax quotas of the Czech Republic and Slovakia (QD<sub>2005</sub> – QD<sub>1995</sub>) is 0.6 % lower than the sum of the contributions of individual taxes to

it (columns of the chart). This discrepancy has been caused by a statistical methodology of including the so-called imputed social contributions, which governments should pay on behalf of their employees. When allowing for this amount to be included, the quota of the EU27 increases by 1 % on average, for Slovakia this difference amounts to 1.1% in 1995 and 0.5 % in 2005, however, no imputed social contributions have been registered (see Taxation trends, 2007, p. 404).

Source: *Taxation trends (2007); own calculations*

**Chart 2:** Share of individual taxes in the growth of difference between the tax quotas of the Czech Republic and Slovakia in the period of 2000–2005\*



\*The overall change in the difference of tax quotas of the Czech Republic and Slovakia (QD2005 – QD1995) is 0.6 % lower than the sum of the contributions of individual taxes to it (columns of the chart). This discrepancy has been caused by a statistical methodology of including the so-called imputed social contributions, which governments should pay on behalf of their employees. When allowing for this amount to be included, the quota of the EU27 increases by 1 % on average, for Slovakia this difference amounts to 1.1% in 1995 and 0.5 % in 2005, however, no imputed social contributions have been registered (see Taxation trends, 2007, p. 404).

Source: *Taxation trends (2007); own calculations*

Only two tax types reduce the gap due to the fact that their GDP share grows slower than in Slovakia. This concerns excise duties as well as other indirect taxes. These are also the taxes, the quota of which grew during the period of 2000 - 2005 in Slovakia. The VAT quota grew in this period as well, however, since its growth was higher in the Czech Republic, it also widens the gap between the quota of Slovakia and the Czech Republic, and its contribution can be found in the positive sector of the chart (Chart 2).

On the other hand, most taxes show a growing share in GDP in the Czech Republic in 2000 - 2005, with the exception of minor, de facto marginal, taxes – other taxes on products and other indirect and direct taxes.

We can see in the Chart 2 that a gradual decrease of the tax burden in Slovakia and its growing difference in comparison with the Czech Republic has not resulted from a drastic reduction of one or two taxes, but the tax reform targeted the system in its complexity and certain success has been achieved for almost all tax types. Not only does this approach correspond to the term "tax reform", the attribute of which is, among others, a substantial change of several tax laws (tax reform definition - e.g. Kubátová, 2006), but it also considers the findings of the tax optimization according to the tax theory. An accomplished tax optimization theory, the so-called "second best" theory, proclaims that several taxes are likely to bring more deformations, however, these deformations are likely to be lower in their sum than in case of one major tax. "Examples, where several smaller deformations could be more beneficial than one major deformation, illustrated a general rule that the elimination of one deformation (in case of an existence of several small ones) does not necessarily have to increase an overall effectiveness." (Stiglitz, 1997, p. 554). The reality of an effort in terms of the "second best" implies an achievement of a better situation than in case of the unrealistic "first best".

#### **4 Conclusion**

The paper deals with the effect of the tax reforms of the Czech Republic and Slovakia on the tax quota and its structure from the perspective of the comparison of the two countries.

In 1995, i.e. two years after the first tax reforms (or one reform - since it was common for both countries), the quotas vary, however, the difference amounts to just 3.4 % and the Slovak quota is in fact higher. However, the difference in 2005 already amounted to 7 %, and the Czech quota is higher this time.

In 2000 – 2005, the total difference between the quotas increased from 0.9 % to 7 %, and the Czech quota is higher during the whole period.

This growing difference between the tax burden of the Czech and the Slovak taxpayers has been caused by the difference in the tax rate of the seven out nine tax types, whereas only two types - i.e. excise duties and other indirect taxes - lower the difference in the quota of the two countries. The difference in the total taxation of the two countries is most contributed by the social security contributions from employment, followed by corporation income taxes and personal income taxes.

All these taxes are profitable, which is one of the reasons of their high impact on the total differences in the quotas and their development, however, another profitable tax - the value added tax - shows lower effects on the total trend of the growing differences between the Czech Republic and Slovakia, mainly due to the fact that it has been harmonized in the European Union and it cannot evolve too differently in these countries.

## Abstract

Two new states, the Czech Republic and Slovakia, came into existence upon the division of one country in 1993, and these states implemented a new tax system in the same year. The tax system was legalized in 1992 and that is why the taxes of the two states were originally almost identical. However, many amendments of tax laws took place as soon as in 1993 and gradually, in spite of the tax harmonization process of the EU, the gap between the tax systems of the Czech Republic and Slovakia has widened. The paper aims at analyzing the growing differences in tax revenues (or in the tax burden of the two economies) and at finding out which taxes contribute the most to the growing differences. The method of breaking down the difference between the quotas to items - individual taxes - according to the classification used by Eurostat has been selected.

## Keywords

tax quota, tax mix, taxes in Slovakia, taxes in the Czech Republic

## JEL Classification / JEL klasifikace

H20

## Souhrn

Po rozpadu společného státu v roce 1993 vznikly dva nové státy, Česko a Slovensko a tyto státy v témže roce zavedly novou daňovou soustavu. Soustava daní se uzákonila ještě během roku 1992, a proto původně měly oba státy téměř stejné daně. Ale již v roce 1993 docházelo k mnoha novelizacím všech daňových zákonů a postupně, přes sblížovací proces harmonizace daní v Evropské unii, se daně Česka a Slovenska stále více od sebe vzdalovaly. Článek si klade za cíl analyzovat rostoucí rozdíly ve výnosech daní (respektive v daňovém zatížení ekonomiky) a zjistit, které daně se na růstu rozdílů nejvíce podílejí. Je zvolena metoda rozkladu rozdílů mezi kvótami na členy – jednotlivé daně – podle klasifikace používané Eurostatem.

## Klíčová slova

daňová kvóta, daňový mix, daně na Slovensku, daně v České republice

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