

For citation: Sobotovičová, S. & Blechová, B. (2017). Disparities of the Regions of the Czech Republic in Terms of Tax Revenues. *Ekonomika regiona [Economy of Region]*, 13(4), 1304-1313

doi 10.17059/2017-4-26

UDC: 332, 336.2

JEL: R11, H61, H71

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## DISPARITIES OF THE REGIONS OF THE CZECH REPUBLIC IN TERMS OF TAX REVENUES<sup>1</sup>

*The paper deals with the issue of disparities in the tax revenue and yield coefficients of individual regions of the Czech Republic in the period from 2005 to 2014. The subject-matter of the research are the income taxes and the value-added tax, which are important tax revenues of public budgets and the source of financing of the regional and municipal budgets. For a comparison of the regions, the spot method is used. According to the results, the ranking of the regions is compiled. The spot method is based on the model region, which reaches the maximum values of a selected indicator. Furthermore, we calculated the indexes of revenues, along with yield coefficients of the value added tax as well as the corporate and personal income tax for each region. Tax revenues are affected in particular by legislative changes, but also by geographic, demographic and socio-economic differences among the regions. The authors have verified an assumption that individual regions have the same position in terms of both investigated variables. This assumption was not confirmed. It was found that the order of the regions for the examined variables was different. On the contrary, regions with a high share of tax revenues have low values in terms of tax yield coefficients.*

**Keywords:** corporate income tax, municipalities, personal income tax, regions, spot method, tax imposed, tax revenues, tax yield, tax yield coefficient, value-added tax

### Introduction

The article is focused on the differences of tax revenues in individual regions of the Czech Republic. The issue is examined both in terms of income taxes and in terms of the value-added tax. Taxes are dominant revenues of public budgets in developed countries. Therefore, they fulfill the fiscal function. The objective of this function is to raise enough revenues to cover public spending. Taxes can be classified according to different criteria, one of which is a classification of taxes from the perspective of the yield transfer. According to this perspective, the taxes can be divided into taxes allocated only to the State budget, taxes shared with the regions and municipalities, assigned taxes. Our paper is focused on shared taxes in the context of tax revenues and tax yield coefficients.

The value-added tax and income taxes formed a significant share of the tax revenues of the State budget. At the same time, they are very important in terms of their redistribution to individual regions and municipalities. The revenue of these shared taxes is distributed among multiple constituents of the budget system under the act<sup>2</sup>.

Shares in revenues of shared taxes for individual municipalities are determined as a rule according to the proportion of the population of the municipality to the national population, or the criterion is combined with other criteria [1].

The value-added tax (VAT) is a prerequisite for membership of the European Union (previously the European Economic Community) [2]. VAT legislation in the Czech Republic was based on the practice of European Union countries. The intention was to ensure stable and sufficient income to the State budget while maintaining social equilibrium in society, as it is a tax, which affects consumption; moreover, it has ultimately impact on all social strata including the poorest [3]. The method of application of the value added tax is uniform for all entities in the Czech Republic. On the other hand, the tax revenues in each region are influenced by legislation and specific features of the region [4].

Income taxes are part of each contemporary tax system and represent substantial revenues of public budgets. For the purposes of the theory and practice, they are divided into personal income taxes (income taxes of individuals, in the Czech Republic it is the Natural person income tax) and

<sup>1</sup> © Sobotovičová S., Blechová B. Text. 2017.

<sup>2</sup> Act No. 243/2000 Coll., on budgetary allotment of the yields of some taxes to self-governing territorial units and to some state

funds.

profit taxes of companies (corporate taxes, in the Czech Republic the Legal entity income tax) [5].

The issue of taxation is a topic often discussed and is a part of many economic studies. Tax revenues are dependent on many factors. Among the principal, the following may be included such as the development of the economy, the number of taxpayers and financial figures and tax rules. A great number of authors, for example Stejskal [6] and Vitek [7] or Margan [8], Ludema [9] and Jones et al. [10] offer, in their publications and studies, a broad range of opinions and evidence of the impact of taxation on the employment market, the promotion of economic and social objectives.

### Theoretical bases

Regions as higher territorial self-governing units in the Czech Republic came into existence January 1, 2000. Between each region, there are many geographic, demographic and socio-economic differences. For instance, when considering the surface area, the number of municipalities and population, then the Central Bohemian Region is the largest. The Karlovy Vary Region is a region with the fewest inhabitants, but also with the fewest municipalities. The situation is similar in the case of a comparison of the economic performance of regions, as the Central Bohemian Region shows the highest share of the creation of GDP in the Czech Republic (11.3 %) and the smallest then is in the Karlovy Vary Region (1.9 %). As regards the population density, so the greatest number of inhabitants/km<sup>2</sup> is in the Moravian-Silesian Region (224) and the smallest in the South Bohemian Region (63).

The regional imbalance in the State is influenced by many factors, which have been elaborated comprehensively by Klaassen and Vanhove [11] and Vanhove [12]. These authors break factors down into primary and secondary ones. Among the primary are ranked: the relatively low labour mobility, the relatively low capital mobility, geographical factors, the economic structure of the regions and other primary factors (institutional factors, political decisions in constitutional and territorial arrangements, psychological factors, etc.). Secondary factors include: external economy, demographic situation, cost and price rigidity and other factors (regional disparities in innovations and a gap in the industrial and social environment for the emergence of new firms). Tax revenues are affected by the above-mentioned factors, both primary (especially economic) and secondary (e.g., demographic) ones.

Authors traditionally deal with the question of the allocation of tax revenues among the regions

in the UK, for instance, Mackey [13], who assesses the tax revenues in the context of spending in individual regions. Authors Auteri and Constantini [14], who dealt with the analysis of the impact of public investments and transfers to individual regions in Italy, concluded that, unlike transfers, public investments have a positive effect on economic growth. Tax advantageous locations in terms of regions of southern Switzerland examined Stricker and Baruffini in their study [15]. Tax revenues as part of the quantitative indexes were analyzed by Andreeva et al. [16], while examining the impact of the institutional factor on the development of regional international economic relations.

In the Czech Republic Peková [17], for example, addresses the position of the municipalities and regions in relation to tax revenues as well as in the context of the budget determination of taxes. Macešková et al. [18] deal with the examination of the regional disparities in the context of the social-spatial differentiation, which can significantly affect the region's share of the tax yields. The level of regional competitiveness of the Czech Republic through Spot method created by Bennet in the case of 6 selected regional structural indicators investigated Melecký and Staníčková [19]. They found that there are still wide differences between the regions in the Czech Republic, especially between Praha and other regions. Bennet's method, which allows identification of interregional differences in performance through selected indicators, is repeatedly used by Zahradník et al. [20] in Programs for the Zlín Region.

Among individual territorial self-governing units, there are certain socio-economic differences. According to Wishlade and Yuill [21] these disparities of economic nature are related to differences in the quantity and quality of regional output. To express the disparities in this area, the authors use the traditional indicator of gross domestic product, which is accompanied by tax revenues (which are crucial in the context of this article), industrial activities, demographic trends, economic prospects and transport facilities.

The significance of the regions in terms of the income aspect of public budgets and their share in total tax revenues has not been yet sufficiently processed. Moreover, in spite of that, as stated by Blažek [22], the transfer system of aliquot parts of tax revenues is a motivational element, which affects municipalities and regions, in terms of creating favourable conditions for business, and subsequently obtaining a higher amount of the tax yield. Blechová and Sobotovičová [23] dealt with the issue of tax revenues in the context of the Moravian-

Silesian Region, with a focus on the value-added tax and the corporate person income tax.

### Methods and data

The aim of the article is to assess the status of individual regions in the Czech Republic in terms of their share of the revenues and yields of selected taxes. The assumption that individual regions have the same position in terms of both analyzed variables will be verified. For the comparison shared taxes were selected, income taxes and the value-added tax. The processed data is based on the statistics of the Czech Statistical Office<sup>1</sup> and Financial Administration<sup>2</sup>. The tax rates for all taxes are uniform for all regions in the Czech Republic and therefore they are not included in the examined indicators.

For the comparison of the regions, a spot method is used. The spot method was created by the American mathematician M. K. Bennet. The method is based on the model region, which according to the selected indicator, reaches either the maximum or the minimum values. Since the tax revenues are compared, for which growth is desirable, we start from the maximum values that are measured at 1,000 points. Other indicators are rated according to a scale ranging from 0 to 1,000 points [24]. The number of points with the relevant indicators, where we follow the maxima, is based on the equation:

$$B_{ij} = \frac{x_{ij}}{x_{i\max}}, \quad (1)$$

where  $B_{ij}$  — the point value of the  $i$ -th indicator for the  $j$ -th region;  $x_{ij}$  — the  $i$ -th value of the indicator for the  $j$ -th region;  $x_{i\max}$  — the maximum value of the  $i$ -th indicator.

Then the index of the tax revenues is calculated by using the weighted arithmetic average of points that each of the regions for the indicators obtained by the formula:

$$PI_{TR} = \frac{1}{p} \sum_{i=1}^p \frac{x_{ij}}{x_{i\max}}, \quad (2)$$

where  $p$  — the number of indicators;  $x_{ij}$  — the  $i$ -th value of the indicator for the  $j$ -th region;  $x_{i\max}$  — the maximum value of the  $i$ -th indicator. In this way, by using the calculated index we can either specify the order of individual regions, or determine the differences achieved in individual years [25].

In the context of comparisons among different regions, the tax yield is also examined. The tax yield coefficient is calculated according to the formula:

$$Y = \frac{TR}{TI}, \quad (3)$$

where  $TR$  is the tax revenue,  $TI$  is the tax imposed.

### Results and Discussion

First, there is the comparison of the revenues of individual taxes by the means of the spot method. The comparison did not include revenues for the Specialized Tax Office, seated in Praha, upon which the local jurisdiction of selected statutory bodies by law devolved in 2012.

Legislative changes have a significant impact on the VAT revenues, some of which affect all regions alike; others have different impact in connection with the specifics of the area. For instance, we are dealing here with differences associated with the different economic activities of the prevailing part of the business entities in individual regions. The development of the tax revenues in the capital city of Praha is among others influenced by the economic activities of foreign entities managed by the Tax Office for the Capital of Praha. The newly established Institute of Group Registration negatively influenced the collection of taxes in particular, in the Ústí Region.

The development of the collection of taxes in individual regions has been influenced since 2012 by the establishing of the Specialized Tax Office (administers entities with a high turnover and other selected institutions (eg. banks) and thus the related removal of important tax entities and their tax yields. The already significant share of the capital in the total tax revenues increased from 54.4 % in 2011 to 66.7 % in 2012. Among the most important legislative changes, we can rank, in particular, changes in tax rates, or, for example, entitlement to the tax deduction for passenger cars.<sup>3</sup> The growing orientation of economic entities abroad (especially in the Member States of the EU) has a negative impact on the VAT revenues (exempted transaction with a full right of deduction). Another significant legislative change is the introduction of the reverse-charge and its gradual expansion to selected goods and construction work.

Based on the comparison of the VAT revenues, it is observable that the highest values are in Praha, the South Moravian Region, the Central Bohemian Region and also the Ústí Region. Praha

<sup>1</sup> Regionální statistiky. Retrieved from: [http://www.czso.cz/csu/czso/regiony\\_mesta\\_obce\\_souhrn](http://www.czso.cz/csu/czso/regiony_mesta_obce_souhrn). (date of access: 9.2.2017).

<sup>2</sup> Daně a pojistné. Retrieved from: <http://www.financnisprava.cz/cs/dane-a-pojistne/analyzy-a-statistiky/danova-statistika> (date of access: 9.2.2017).

<sup>3</sup> Act No. 235/2004 Coll., the Value Added Tax.

Table 1

## The VAT revenues (spot method)

Region	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Praha	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Central Bohemian	79	151	143	146	166	142	130	148	219	215
South Bohemian	37	39	39	56	72	61	54	65	54	56
Plzeň	30	41	28	23	37	33	31	57	70	50
Karlovy Vary	11	16	13	19	17	15	13	20	13	12
Ústí	98	128	117	145	134	134	149	185	53	48
Liberec	21	30	29	26	28	21	19	9	21	22
Hradec Králové	30	40	40	39	43	40	42	66	61	63
Pardubice	18	41	26	36	40	38	33	20	19	30
Vysočina	15	17	16	22	33	32	28	41	40	41
South Moravian	119	154	173	171	162	150	163	248	248	236
Olomouc	13	17	23	25	32	30	27	48	52	47
Moravian-Silesian	100	95	75	89	90	84	103	123	161	153
Zlín	34	40	40	46	53	49	45	61	68	63

Source: own processing according to Financial administration, 2016.

Table 2

## The corporate income tax revenues (spot method)

Region	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Praha	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Central Bohemian	159	158	176	192	131	122	176	213	252	272
South Bohemian	62	49	56	64	39	39	55	106	99	102
Plzeň	72	74	65	68	59	63	70	93	118	133
Karlovy Vary	23	21	22	24	23	18	22	32	41	48
Ústí	87	79	109	101	75	76	101	161	111	112
Liberec	56	67	52	39	23	31	36	71	73	87
Hradec Králové	50	58	56	47	30	32	50	109	86	89
Pardubice	60	40	48	56	40	40	44	68	77	96
Vysočina	32	28	35	39	27	25	30	68	97	106
South Moravian	133	143	131	146	138	109	134	219	289	313
Olomouc	47	43	43	47	38	36	43	102	102	121
Moravian-Silesian	226	204	212	227	118	93	140	162	189	215
Zlín	72	65	60	76	56	60	77	109	144	144

Source: own processing according to Financial administration, 2016.

achieves the highest value for all tax revenues and is, therefore, a model region with a maximum amount of points (1,000). The significant decrease in revenues both in 2012 and 2013 in the Ústí Region is influenced also by just setting up the Specialized Tax Office. In contrast, the lowest collection is in the Karlovy Vary Region that is in terms of the number of municipalities the smallest region (Table 1).

The revenues of the corporate income tax (CIT) in individual years is affected by, inter alia, legislative changes, as there was a decrease in the statutory corporate income tax rate of 26 % in 2005, gradually to 19 % from 2009.<sup>1</sup> In 2007, the increasing performance of the Czech economy and the

resulting favourable economic results contributed to the favourable development of the collection of the corporate income tax. The highest revenues can be found in Praha and in the Central Bohemian Region, and the Moravian Silesian Region, however, in 2012 due to the establishment of the Specialized Tax Office, there was a removal of the revenues from these regions. In contrast, the lowest revenue is in the Karlovy Vary Region, but also in the Vysočina Region all over the reference period (Table 2).

When comparing the revenue of the natural person income tax (PIT), it is necessary to mention that the revenue of this tax is made up of the income tax from dependent activity employment, the personal income tax, which is submitted by means of income tax returns as well

<sup>1</sup> Act No. 586/1992 Coll., on Income Taxes.

The natural person income tax revenues (spot method)

Region	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Praha	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Central Bohemian	266	244	251	251	221	227	218	210	227	244
South Bohemian	133	115	114	113	103	104	101	109	120	125
Plzeň	137	127	126	140	138	116	114	128	135	138
Karlovy Vary	56	48	48	46	39	42	41	48	50	52
Ústí	168	154	154	152	141	154	143	147	157	152
Liberec	89	80	78	76	66	68	69	69	75	78
Hradec Králové	117	104	103	101	91	93	90	98	111	109
Pardubice	100	88	92	97	85	86	88	97	106	113
Vysočina	94	83	80	78	68	72	74	76	78	83
South Moravian	277	258	261	265	248	250	246	268	287	298
Olomouc	118	98	98	103	96	95	95	114	124	127
Moravian-Silesian	260	241	237	232	225	224	235	251	257	253
Zlín	114	100	99	98	82	85	88	100	107	113

Source: own processing according to Financial administration, 2016.

as taxes collected by deduction according to the special tax rate. The revenue of the natural person income tax from tax returns contributes to the overall revenues to a very small extent, thus reaching negative amounts in some regions from 2011. It is influenced by both the options of claiming expenses as a percentage of income for businesspersons, but in particular, tax bonuses, which can be considered a form of a negative tax. The revenues of 2014 fell also because of additional discounts applied to the taxpayer for the tax period in 2013 for old-age pensioners with taxable income. The highest revenue of the natural person income tax is in again in Praha and in the South Moravian, Moravia Silesian and the Central Bohemian regions. In contrast, the lowest revenue is in the Karlovy Vary Region (Table 3). Fig. 1 shows the comparison of the indexes of the tax revenues that were calculated based on the formula (2). The more the value of the index approaches 1,000 points, the higher is the collection of taxes in the given region. Praha, which has an index of maximum 10,000 for the entire reporting period, is not listed in the table. Based on the data it is evident that the South Moravian Region, the Central Bohemian Region and the Moravian-Silesian Region reached the highest index value in the reference period. The Ústí Region is still above the average value.

In the context of tax revenues also tax yield coefficients are monitored, which express the proportion of the tax revenue in the tax imposed. The tax imposed expresses the assessed tax on tax returns and the tax revenue represents the tax actually paid, including accessions of a tax (e.g., interest and penalty). The tax yield coefficients were

calculated according to the formula 3. The values found based on the spot method for each tax are shown in the following tables.

When comparing data in Table 5, it is clear that the tax yield coefficient of the VAT does not show significant long-term variations among regions. Significantly, high tax yield coefficient can be observed in 2013 in the Zlín Region and, on the contrary, the lowest in 2012, in the Liberec Region. The maximum points are achieved in said years by different regions. Only the Olomouc Region has reached its maximum value in two years.

For the development of the tax yield coefficient of the corporate income tax, a similar trend in all monitored regions also applies (Table 6). The min-

Table 4

The rank of regions in accordance with the tax revenues

Region	VAT rank	CIT rank	PIT rank	Tax revenues index rank
Praha	1	1	1	1
Central Bohemian	3	2	4	3
South Bohemian	6	8	7	8
Plzeň	9	7	6	6
Karlovy Vary	14	14	14	14
Ústí	4	5	5	5
Liberec	13	12	13	13
Hradec Králové	8	10	9	9
Pardubice	11	11	11	11
Vysočina	12	13	12	12
South Moravian	2	4	2	2
Olomouc	10	9	8	10
Moravian-Silesian	5	3	3	4
Zlín	7	6	10	7

Source: own processing.

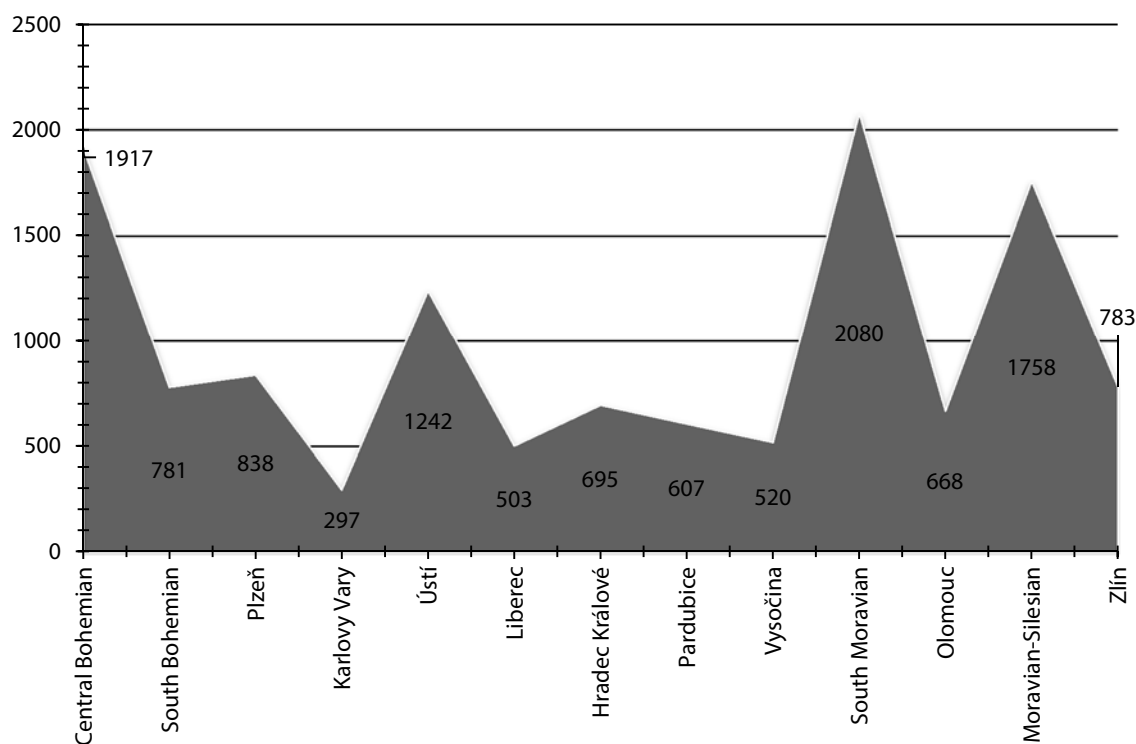


Fig. 1. The index of the tax revenues. Source: own processing according to Financial administration, 2016

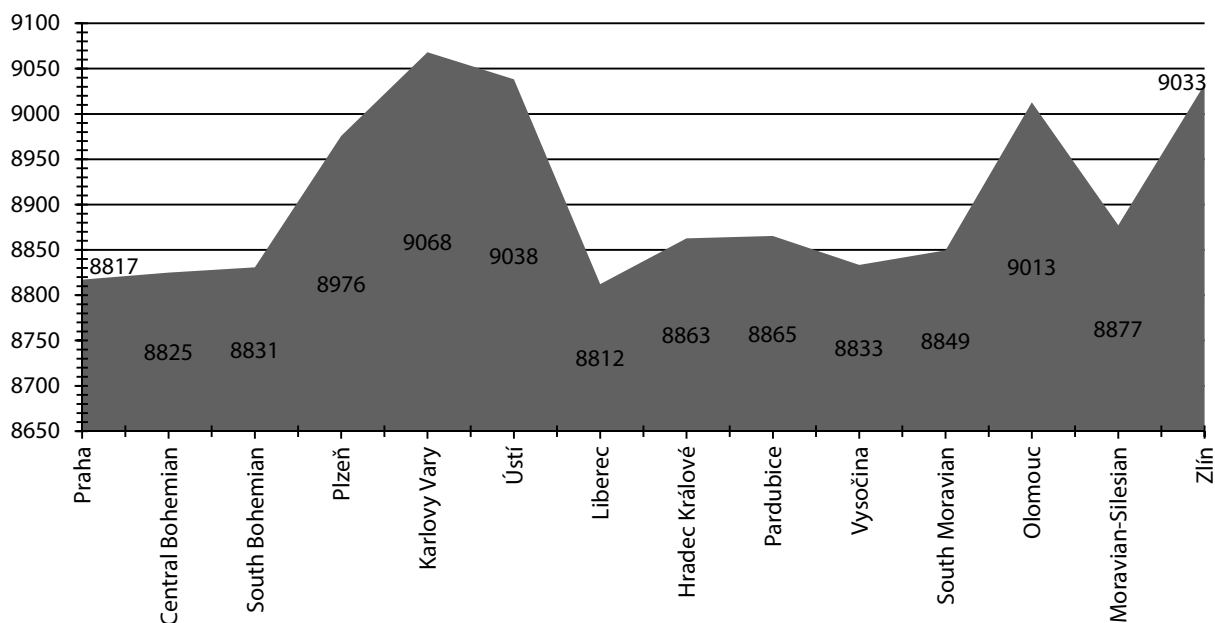


Fig. 2. The index of the tax yields. Source: own processing according to Financial administration, 2016

imum value of the coefficient was in the Karlovy Vary Region in 2007 and the maximum value in the same region in 2008. This is influenced by the arising of arrears in 2007, which were paid in the following year. Extremely high corporate tax yield (1.96) in 2008 in the Karlovy Vary Region affected the amount of points this year in all other regions.

Much smaller differences are apparent when comparing the yield coefficient of the natural person income tax (Table 7). This is determined in

particular by the fact that the higher collection is made up mostly by the personal income tax from dependent activity employment, which is paid by employers on behalf of employees. The biggest differences between regions are in 2013 in relation to the high coefficient (1.34) in the Karlovy Vary Region.

Fig. 2 shows the comparison of the indexes of the tax yields that were calculated based on the formula (2). The more the value of the index ap-

Table 5

## The VAT yields (spot method)

Region	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Praha	994	888	846	915	930	922	901	890	639	876
Central Bohemian	940	802	852	940	982	1,000	886	1,000	622	810
South Bohemian	997	904	853	905	938	973	944	924	654	707
Plzeň	954	878	871	1,000	971	893	923	936	732	828
Karlovy Vary	1,000	903	902	887	938	888	967	934	789	896
Ústí	908	883	853	908	928	963	941	979	732	758
Liberec	986	900	845	873	1,000	952	922	691	663	835
Hradec Králové	956	903	865	903	943	929	932	959	634	892
Pardubice	728	900	924	926	935	949	954	830	666	1,000
Vysočina	975	858	848	925	940	980	926	951	704	784
South Moravian	965	880	831	926	898	969	921	989	684	754
Olomouc	939	1,000	1,000	938	887	986	929	976	687	781
Moravian-Silesian	980	884	897	917	967	929	1,000	898	635	815
Zlín	984	926	853	917	922	936	860	942	1,000	837

Source: own processing according to Financial administration, 2016.

Table 6

## The CIT yields (spot method)

Region	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Praha	911	608	912	514	893	792	944	877	872	1,000
Central Bohemian	910	606	899	514	909	804	992	887	830	879
South Bohemian	933	641	905	516	886	775	1,000	944	899	785
Plzeň	968	609	953	506	882	894	885	1,000	951	820
Karlovy Vary	898	659	557	1,000	940	762	987	836	1,000	924
Ústí	683	1,000	902	513	893	1,000	959	892	992	977
Liberec	1,000	614	890	528	878	831	920	891	984	867
Hradec Králové	889	630	928	500	939	798	985	873	955	852
Pardubice	885	613	930	507	1,000	836	930	859	967	875
Vysočina	893	609	889	513	899	803	938	955	934	855
South Moravian	888	620	915	494	935	821	987	907	978	842
Olomouc	893	630	1,000	493	907	797	995	955	874	835
Moravian-Silesian	973	571	915	507	913	815	961	941	875	838
Zlín	909	635	897	512	882	869	971	968	974	896

Source: own processing according to Financial administration, 2016.

Table 7

## The PIT yields (spot method)

Region	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Praha	964	987	964	965	932	980	943	940	788	863
Central Bohemian	959	960	959	966	943	983	930	950	784	978
South Bohemian	962	1,000	944	965	1,000	955	1,000	883	760	942
Plzeň	930	981	957	968	946	1,000	951	1,000	749	991
Karlovy Vary	939	975	976	924	998	955	998	925	1,000	847
Ústí	936	941	932	992	937	983	973	985	805	966
Liberec	1,000	995	1,000	947	905	994	940	940	740	904
Hradec Králové	935	947	975	957	926	938	955	935	793	962
Pardubice	925	966	960	978	944	978	939	954	735	1,000
Vysočina	939	960	942	960	952	969	944	934	766	952
South Moravian	938	969	950	958	935	999	952	935	765	947
Olomouc	994	984	999	1,000	976	972	939	962	772	938
Moravian-Silesian	949	977	970	965	948	984	955	956	779	915
Zlín	919	965	963	956	954	982	949	942	808	970

Source: own processing according to Financial administration, 2016.

Table 8  
The rank of the regions according to the yield coefficient

Region	VAT rank	CIT rank	PIT rank	Tax yields index rank
Praha	12	10	12	13
Central Bohemian	9	14	5	12
South Bohemian	13	13	6	11
Plzeň	4	4	3	5
Karlovy Vary	3	2	1	1
Ústí	8	1	4	2
Liberec	14	6	10	14
Hradec Králové	6	9	13	8
Pardubice	11	5	9	7
Vysočina	7	12	14	10
South Moravian	10	7	11	9
Olomouc	2	8	2	4
Moravian-Silesian	5	11	8	6
Zlín	1	3	7	3

Source: own processing.

Table 9  
Selected descriptive methods and variation

Region	VAT rank	CIT rank	PIT rank	Tax yields index rank
<i>Tax revenues</i>				
Minimum	150	274	468	297
Maximum	10,000	10,000	10,000	10,000
Range	9,850	9,726	9,532	9,703
Coefficient of Variation	190 %	159 %	123 %	153 %
<i>Tax yields</i>				
Minimum	8,668	8,229	9,319	8,812
Maximum	9,176	8,811	9,537	9,068
Range	508	582	218	256
Coefficient of Variation	2 %	2 %	1 %	1 %

Source: own processing.

proaches 10,000 points, the higher is the collection of taxes in the given region. Based on the data it is evident that the Karlovy Vary Region, the Ústí Region and the Zlín Region reached the highest index value in the reference period. In contrast, the lowest indexes are in the Liberec Region and in Praha.

Table 8 shows the order of the regions according to the tax yield coefficients of value added tax, corporate income tax, personal income tax and index of the tax yields. It is obvious that the following regions are foremost, such as the Karlovy Vary Region, the Ústí Region and the Zlín Region. In contrast, at the bottom of the regions are the Liberec Region, Praha and the Central Bohemia Region. The order of the regions keeps changing, and sometimes significantly. For example, the

Central Bohemia Region in terms of CIT yield is at the last position and in terms of PIT is the 5th in rank.

Based on the results in Table 9 it can be stated that the values of the investigated variables differ significantly. When examining the tax revenues (all selected taxes as well as tax revenue index) the maximum points were reached in Praha while other regions achieved very low amounts compared to Praha. For these reasons, in all cases, the range is very high. The coefficient of variation is also high (from 123 % to 190 %) and it points to a disparate set with outliers (especially data for Praha). Therefore, the values of the coefficient of variation were verified also when Praha was excluded but even then all values were higher than 50 %.

When examining the tax yields, Praha did not have the top position and, on the contrary, is in the penultimate position. It was found out that the amounts of points have a small range which also corresponds to the low variation coefficients. It is a homogeneous set with very small variations.

The results obtained using selected methods have determined that the regions do not achieve the same results in the share of the tax revenues and the tax yield coefficients. Regions with a high proportion of tax revenues, by contrast, have low tax yield coefficients.

### Conclusion

The paper dealt with the diversity issue of the tax revenues and tax yield coefficients of the regions of the Czech Republic in the period from 2005 to 2014. The subject matter of the research were the income taxes and the value-added tax, which significantly contribute to the tax revenues of public budgets and are an important source of financing for the budgets of the regions and municipalities. For the comparison of the regions, the spot method was used. Subsequently, the indices of the tax revenues and tax yield coefficients were calculated for each region, along with the examined taxes (the value-added tax, the corporate income tax and the natural person income tax).

With regard to the tax revenue in individual regions, its amount in the monitored period is greatly affected by the development of legislation, both tax rates and other structural elements. However, in the context of taxes examined large differences were found among particular regions. Using the spot method, the order of regions was determined, which has shown only small deviations in the reference period. Based on the data, it is evident that Praha, the South Moravian Region and the Central Bohemian Region reached the



highest index values in the reference periods. In contrast, the Karlovy Vary Region, as well as the Liberec Region and the Vysočina Region were last.

The tax yield coefficient represents the ratio of tax revenues and imposed tax. In the period under review, similar trends were found in specific regions with significant differences related to individual years. The tax yield coefficient is influenced by factors on the side of taxpayers (number of taxpayers, tax morality, tax arrears) and also on the side of tax administration (number of tax controls, recovering debts) in the region. Large differences were detected between investigated taxes in the maximum and minimum values. The natural person income tax showed the smallest variability and on the other hand, the highest variability was in the case of the corporate income tax. Using the spot method results, the order was determined, which was significantly different in comparison with the rank according to the tax revenues index.

Based on selected descriptive statistics and Coefficient of Variation, it has not been proven that regions have comparable results in the share of tax revenues and tax yields of selected taxes and therefore, the assumption was not confirmed. Regions with a high proportion of tax revenues, by contrast, have low tax yields coefficients. For example, Karlovy Vary Region, which was the last in terms of tax revenues, was at the top when comparing tax yield coefficients. On the contrary, Praha was the first to explore the tax revenue and on 13th place in terms of the tax yield coefficient.

Differences in the size and structure of the regions in the Czech Republic gives the possibility for further comparisons along with the identification of factors affecting tax revenues in the regions. The very frequent legislative changes have an influence on the amount of the tax revenues and tax imposed as well as changes in macroeconomic indicators arising from the economic and political developments in the Czech Republic.

### Acknowledgements

*This paper has been supported by the Ministry of Education, Youth and Sports Czech Republic within the Institutional Support for Long-term Development of a Research Organization in 2017.*

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