



CZECH VAT GAP PROGRESS

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Abstract

The article aims to estimate the VAT Gap amount development from 2010 to 2016 in the Czech Republic. The methodology of the VAT Gap identification was based on the indirect top-down method for each year of the reporting period, using the authors' calculation of the weighted average VAT rate in the Czech Republic. The results of the years under review show a VAT gap of more than CZK 100,000 million per year. The breakdown of the VAT Gap into individual parts shows that it is mainly due to the intentional misrepresentation of data by business entities. The VAT Gap associated with this factor ranged from CZK 40,004 to CZK 52,765 million in the monitored years. Only 3.53%–7.03% of the VAT Gap of unlawful tax evasion is subject to prosecution for the tax evasion offense.

Keywords

Value Added Tax, Tax Fraud, VAT Gap, Tax Evasion, Czech Republic

I. Introduction

Tax policy and at the same time an effective tax system are among the key factors of each country's economic policy. An effective tax system according to Pavel and Vítek (2015) minimizes transaction costs of the tax system and can positively reduce tax evasion. According to Šíroky (2008), tax evasion is defined as minimizing or up to cancelling tax liability. Tax evasion is an illegal act against tax laws, but it can also be a reduction in the tax burden by all possible legal acts. The issue of tax policy strategy in the field of

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tax evasion and tax arrears is dealt in his contribution by Kouba (2016). In addition to factors such as the VAT rate, the effect of tax morality, legal effectiveness and the level of corruption in the society, the author analyses other factors that have an impact on the growth of tax evasion and the occurrence of tax arrears. According to the Ministry of Finance of the Czech Republic (2019), VAT arrears account for approximately 70% of all tax arrears and thus represent the most significant share registered.

In the context of seeking additional financial resources to finance public spending, individual governments are being led to raise existing taxes, introduce new taxes and increase the effectiveness of the fight against fiscal fraud. Orviská and Huňady (2014) see the crucial problem of this struggle in the work of the tax administration, whose functioning may have an impact on the efficiency of tax collection and the detection of tax fraud. In their contribution they compared the work of the tax administration in Slovakia with other EU countries, but also compared individual regions of Slovakia. According to Stavjaňová (2018), the complexity and diversity of tax systems in individual countries makes it impossible to develop a uniform methodology for detecting tax evasion. Dobrovic, Rajnoha and Suler (2021) identified the extent of tax evasion in the EU countries. Elexa, Ištók and Šlampiaková (2022) state that companies with ownership links to tax havens are clearly engaged in profit-shifting activities. As further stated by Stavjaňová (2018) with reference to Zídková (2012), Schneider and Enste (2000) and European Commission (2016), direct methods, indirect methods and combined methods can be used to estimate tax evasion. Direct methods are based on microeconomic data, such as questionnaire surveys and tax audits, while indirect methods use macroeconomic data provided by statistical authorities. By combining both methods, more accurate estimates can be made, and it is used by the UK and Sweden. The use of each method depends on the specifics of the given economy, the type of tax and the available source data (Stavjaňová, 2018).

After deducting social security contributions, the value added tax is the most important source of income for the Czech state budget. Some lawmakers may opt to increase VAT rates while searching for additional revenues. In such a scenario, VAT frauds might become even more attractive, and paradoxically, an increase in such frauds might theoretically occur. Therefore, assessing the extent and nature of the national VAT Gap is advisable before raising VAT rates.

This research aims to contribute to the discussion on the size, structure, and significance of the VAT Gap in the Czech Republic, providing an estimation based on the authors' own partial calculations and presenting the results in the context of additional vital parameters of the Czech VAT Gap.

II. Literature Review

The value added tax is a key tax levy for EU funding, so cooperation between Member States in the exchange of information is needed. The reasons for the exchange of mutual information include, in particular, tax evasion, the nature of this tax, its correct assessment and collection, and its role in obtaining EU resources (Šíroký, 2013). According to van der Hel-van Dijk and Griffioen (2016), VAT frauds can not only lead to a loss of tax revenue for individual Member States, but also distort the level of their contribution to

the EU budget. Krzikallová and Tošenovský (2020) statistically analyse the extent of positive impact of selected legislative measures introduced in the fight against tax evasion. The EU VAT system faces many challenges related to the negative side effects of certain structural elements and the advancing globalization (Hybka, 2018). By Krzikallová and Střílková (2016), VAT rates have gradually become an important fiscal policy tool of EU member states. An important term in the tax structure of a particular state is the tax gap. VAT gap is defined by Moravec, Hinke and Kaňka (2018), referring to Majerová (2016), IPF (2012) and Reckon (2009) as a result of deliberate action with the aim to reduce tax liability or inadvertent behaviour that may result from inability or ignorance. The VAT Gap can be understood as unpaid tax, uncollected tax and tax recovered by the tax administration if it had perfect information on tax fraud (Moravec et al., 2018). In their paper, the authors quantified the estimate of the VAT Gap in the Czech Republic based on the calculation of the weighted average VAT rate, the structure of the VAT Gap using data on the non-observed economy, input-output tables and GDP adjustment methods. Nerudová and Dobranschi (2021) pursue an alternative method to measure the Value Added Tax gap in the European Union using the stochastic tax frontier model. Gajewski and Jonski (2022) propose an approach to estimate the VAT GAP which distinguishes the category of organized crime VAT fraud schemes and the shadow economy. According to Zídková (2014), Kohoutková and Zídková (2015), Zídková and Pavel (2016), the VAT Gap can be defined as the difference between the theoretical VAT liability and the actual VAT paid to the state budget.

The comparison of the estimate of the VAT Gap in the Czech Republic and the Slovak Republic was made by Košťáková and Zídková (2015), when the cause of the increase in the tax gap is mainly seen in the spread of carousel and chain fraud. The effect of the VAT rate on the amount of tax evasion has not been demonstrated. According to Šlahor and Barteková (2015), who deal with the scope of difference in the VAT Gap, the Slovak Republic is among the EU countries with the largest VAT Gap. The issue of the breadth of the tax gap in individual EU countries and the factors affecting it are also addressed by Bostan et al. (2017), Rabatinova (2016), Canikalp, Unlukaplan and Celik (2016) and Kundeliene, Stankevicius and Kabasinskas (2016). According to Kundeliene et al. (2016) the linkage of the VAT Gap with the state budget structure and basic macroeconomic indicators in EU countries was not proved.

VAT Gap estimates can be made using direct methods (microeconomic, bottom-up methods) or indirect methods (macroeconomic, top-down methods). Only Hanousek and Palda (2006) used microeconomic methods to estimate the shadow economy and to determine the reasons for tax avoidance in the Czech Republic. Indirect methods for estimating VAT Gap in the Czech Republic have been used by several authors and institutions. VAT Gap based on data from national accounts statistics and data on accrued VAT revenues are reported, for example, by Moravec et al. (2018), CASE (2018; 2016), Supreme Audit Office (2015), or Stavjaňová (2014).

III. Empirical Strategy and Data Description

Data and Methodology

The estimate of the VAT Gap for the Czech Republic is based on the method of identifying transactions subject to VAT for the period 2010 to 2016. The data were obtained from the Czech Statistical Office (2018b). These data are based on national accounts statistics and include data on final consumption of households, government and non-profit institutions, intermediate consumption of companies by industry and also gross fixed capital formation. Intermediate consumption of corporations, final consumption of households, government and non-profit institutions and gross fixed capital formation are stated in purchase prices, it means including VAT (Czech Statistical Office, 2018a). For the purposes of the research it is therefore necessary to clean up these transactions from VAT. The weighted average VAT rate for the entire Czech economy is used for this purpose. The weighted average VAT rate reflects the evolution of nominal VAT rates in the reference period (Table 1). The weighted average VAT rate is not publicly published information in the Czech Republic. However, the Ministry of Finance of the Czech Republic has this data and uses it for internal analytical needs. Information on the weighted average VAT rate (Table 1) was provided by the Department of Strategy and Analysis of tax policy (Ministry of Finance of the Czech Republic, 2019).

Table 1: Nominal VAT rates and weighted average VAT rate in the Czech Republic in 2010–2016

Year	Nominal VAT rates			Weight average VAT rate (%) (Ministry of Finance)
	basic	reduced	second reduced	
2010	20	10	–	15.82
2011	20	10	–	16.11
2012	20	14	–	17.56
2013	21	15	–	18.83
2014	21	15	–	18.68
2015	21	15	10	18.56
2016	21	15	10	18.52

Source: European Commission (2019); Ministry of Finance of the Czech Republic (2019); own work

For the purposes of our research, the authors' calculation of the weighted average VAT rate in the Czech Republic was performed, which was determined as a weighted average of the rates assigned to individual types of individual consumption. Within the family accounts statistics, individual types of individual consumption are classified according to CZ-COICOP (classification of individual consumption by purpose). An appropriate VAT rate has been assigned to each type of third-degree individual consumption (XX.X.X). From these assigned rates and on the basis of weighted average was calculated the weighted average VAT rate for the second grade (XX.X). Using the same procedure, the weighted average VAT rate for the first stage (X.X) was then determined and subsequently to the

level of the entire consumption basket. The weighted average VAT rates for the whole time period 2010–2016 have been established using this procedure (Table 3).

Table 2: Weighted average VAT rate in the Czech Republic in 2010–2016 (%)

	2010	2011	2012	2013	2014	2015	2016
Ministry of the Czech rep.	15.82	16.11	17.56	18.83	18.68	18.56	18.52
Own calculation	16.25	16.13	17.74	18.67	18.64	18.58	18.52
Deviation	+0.43	+0.02	+0.18	−0.16	−0.04	+0.02	0.00

Source: Czech Statistical Office (2018b), Ministry of Finance of the Czech Republic (2019), own work

The determination of the VAT Gap in the Czech Republic is also based on data on accrual VAT revenue (Table 3) in the reference period. Accrual VAT revenue was obtained from input-output tables (Czech Statistical Office, 2018b). Accrual revenue was used in the calculation of the VAT Gap, which is determined as the difference between theoretical VAT and accrual VAT revenue.

Table 3: VAT revenue on an accrual basis (mil. CZK) in 2010–2016

Year	2010	2011	2012	2013	2014	2015	2016
	263,457	276,533	286,116	303,823	319,485	333,274	353,915

Source: Czech Statistical Office (2018b)

The theoretical VAT base consists of gross fixed capital formation (households, government and all exempt sectors), of final consumption of households, non-profit institutions and government (excluding the part of consumption that belongs to the exempt sectors) and intermediate consumption. Intermediate consumption shows the benefits that non-exempt sectors provide to the exempt sectors. These transactions are therefore subject to VAT, since the exempted sectors cannot claim the VAT paid on their inputs as a deduction. The theoretical VAT base is determined on the basis of data from the Czech Statistical Office (2018b):

$$\text{Theoretical VAT base} = GFCF + FC + IMC \quad (1)$$

where *GFCF* is gross fixed capital formation, *FC* is final consumption of households, government institutions and non-profit organizations, *IMC* is intermediate consumption. The VAT Total Tax Liability (*VTTL*) is calculated from the theoretical VAT base using the weighted average VAT rate in the economy:

$$VTTL = \text{theoretical VAT base} \times \text{weighted average VAT rate} \quad (2)$$

where the *VTTL* is VAT total tax liability, *theoretical VAT base* is determined by Equation (1), the *weighted average VAT rate* is the average VAT rate for the entire Czech economy as determined by the calculation of the authors (Table 3). The VAT total tax liability is thus determined for each year of the reference period.

The VAT Gap for the Czech Republic is expressed in absolute terms as the difference between the VAT total tax liability and the VAT revenue on an accrual basis in the given year of the reference period:

$$VAT\ Gap_{abs} = VTTL - VAT\ revenue_{accrual} \quad (3)$$

where $VAT\ Gap_{abs}$ is VAT Gap in absolute terms, $VTTL$ is VAT total tax liability, which is calculated according to Equation (2), $VAT\ revenue_{accrual}$ is VAT revenue on an accrual basis (see Table 2).

VAT Gap is also expressed in relative terms as a percentage of the theoretical VAT total tax liability:

$$VAT\ Gap_{rel} = VAT\ Gap_{abs} : VTTL \times 100 \quad (4)$$

where the $VAT\ Gap_{rel}$ is the VAT Gap in relative terms (in %), the $VAT\ Gap_{abs}$ is the VAT Gap in absolute value, which is calculated according to Equation (3) and the $VTTL$ is the VAT total tax liability, which is calculated according to Equation (2).

The decomposition of the VAT Gap into the individual components according to factors affecting its amount is based on data from the Czech Statistical Office and the Supreme Audit Office (2015). Data on the ratio of individual factors are used for the entire monitored period 2010–2016.

In the next part of the research, the share of illegal activity in VAT Gap in the Czech Republic is subsequently expressed, based on the assumption stated by the Director General of the Financial Administration of the Czech Republic (Vondrová and Kučera, 2015). The share of illegal activity in the VAT Gap is further compared with the results of the state authorities dealing with the fight against tax evasion, especially with the financial amount recorded in criminal prosecutions in the context of the tax evasion crime.

The determined VAT Gap for individual years of the reference period is compared with the results of other studies in which the method of input-output tables from the national accounts statistics was used to calculate the VAT Gap estimate in the Czech Republic.

IV. Results and Discussion

The estimate of the VAT Gap in the reference period was determined on the basis of the calculated weighted average VAT rate, the theoretical tax base, the theoretical VAT collection and the VAT revenue on an accrual basis.

Weighted average VAT rate in the reference period

The calculated weighted average VAT rate in the Czech Republic was compared with the average VAT rate reported by the Ministry of Finance of the Czech Republic (Table 2; 3). The deviation found is shown in Table 3.

The values of the weighted average VAT rate provided by the Ministry of Finance of the Czech Republic (2019) are almost identical to the author's calculations. For the purposes of this research, data on the weighted average VAT rate collected by the author's own calculations continue to be used.

Theoretical VAT base

The theoretical VAT base consists of gross fixed capital formation of government, households and exempt sectors, final consumption of households, government and non-profit institutions and intermediate consumption.

Gross fixed capital formation (GFCF) represents the value of investment activities in a given territory (in the Czech Republic). It includes the acquisition of new or used fixed assets (tangible and intangible) with the character of consumer durables and value above a specified limit. It also includes the acquisition and valuation of non-produced non-financial assets (e.g. arable land, mineral deposits). This includes both new investments and the cost of major repairs or improvements of capital goods. The GFCF includes:

- * GFCF of Exempt Sectors,
- * GFCF of the Government,
- * GFCF of households.

Individual parts of the GFCF were obtained from national accounts tables (Czech Statistical Office, 2018b).

Input-output tables (Czech Statistical Office, 2018b) are used to quantify the final consumption of households, government and non-profit institutions. To each product, classified according to CZ-CPA (Czech Statistical Office, 2019) classification, is assigned an appropriate VAT rate. In the case that within the framework of given production there were items falling under different VAT rates, the weighted average VAT rate was assigned to that production. Intermediate consumption refers to taxable transactions provided by non-exempt sectors to VAT-exempt sectors in a given year. The resulting values of the theoretical VAT base in the individual years of the reference period are shown in Table 4.

Table 4: Rate of unemployment and inflation rate in the Czech Republic (mil. CZK)

Year	Gross fixed capital form	Final consumption	Intermediate consumption	Theoretical VAT base
2010	393,065	1,677,877	269,765	2,340,707
2011	350,060	1,714,469	270,252	2,334,781
2012	319,198	1,717,829	253,891	2,290,918
2013	299,467	1,726,444	250,752	2,276,664
2014	332,274	1,770,670	255,814	2,358,758
2015	394,316	1,844,361	264,984	2,503,661
2016	342,767	1,923,568	269,933	2,536,268

Source: Czech Statistical Office (2018b), own work

V. VAT Gap

The VAT Gap is reflected in both absolute and relative terms (Table 5). In absolute terms, the lowest value of the tax gap is calculated for 2010 (CZK 100,010 million). The highest VAT Gap was found in 2015, when the accrual income differed from the VAT total tax liability by CZK 131,913 million. In relative terms, the highest value at the beginning of

the reference period in 2010 is reported, namely 30.71% of the VAT total tax liability. The lowest value was recorded in 2016 (24.67%).

Table 5: Estimated VAT Gap for the Czech Republic in 2010–2016 (mil. CZK and %)

Year	Theoretical VAT base (mil. CZK)	Weighted average VAT rate (%)	VAT Total Tax Liability (VTLL) (mil. CZK)	VAT Revenue on an accrual basic (mil. CZK)	VAT Gap (mil. CZK)	VAT GAP (as a percent of VTLL)
2010	2,340,707	16.25	380,248	263,457	116,791	30.71
2011	2,334,781	16.13	376,543	276,533	100,010	26.56
2012	2,290,918	17.74	406,511	286,116	120,395	29.62
2013	2,276,664	18.67	425,008	303,823	121,185	28.51
2014	2,358,758	18.64	439,642	319,485	120,157	27.33
2015	2,503,661	18.58	465,187	333,274	131,913	28.36
2016	2,536,268	18.52	469,808	353,915	115,893	24.67

Source: Czech Statistical Office (2018b), own work

The VAT Gap can be decomposed into specific parts according to the proportion of factors that affect its amount. According to the Supreme Audit Office (2015) study, the following factors are involved in VAT Gap:

- * Entrepreneurs intentionally misrepresenting data (40%)
- * Illegal economy (4%)
- * Shadow Economy (3%)
- * Increase of outstanding VAT arrears (25%)
- * Other (28%)

Illegal and shadow economies are activities that are recorded in national accounts statistics in the so-called non-observed economy. When drawing up national accounts, the Czech Statistical Office also estimates the difference between reported and actual activity of economic entities (entrepreneurs deliberately misrepresenting data). The difference is also reflected in the so-called non-observed economy. Part of the long-term outstanding arrears arises from the assessment of tax liability in connection with the detection of tax fraud. The remaining portion of the VAT Gap (28%) is a combination of several factors. This includes, for example, undetected tax fraud or mistakes and errors in tax returns (Supreme Audit Office, 2015).

Share of VAT fraud in VAT Gap

According to Vondrová and Kučera (2015), tax fraud accounts for approximately 80% of the VAT Gap. On the basis of this data, a subpart of the VAT Gap covering VAT fraud is determined in the research. The resulting values are given in absolute amount and in relative terms from the amount of the theoretical tax liability (Table 6). The highest VAT Gap consisting of VAT fraud was detected in 2015, amounting to CZK 105,530 million. The share of VAT Gap caused by VAT fraud in the theoretical tax liability was the highest in 2010, amounting to 24.57% of VTLL.

Table 6: VAT Gap decomposition (mil. CZK)

Year	VAT Gap (author's calculation)	Entrepreneurs intentionally misrepresenting data (40%)	Illegal economy (4%)	Shadow economy (3%)	Increase in outstanding VAT arrears (25%)	Others (28%)
2010	116,791	46,716	4,672	3,504	29,198	32,701
2011	100,010	40,004	4,000	3,000	25,003	28,003
2012	120,395	48,158	4,816	3,612	30,099	33,711
2013	121,185	48,474	4,847	3,636	30,296	33,932
2014	120,157	48,063	4,806	3,605	30,039	33,644
2015	131,913	52,765	5,277	3,957	32,978	36,936
2016	115,893	46,357	4,636	3,477	28,973	32,450

Source: Supreme Audit Office (2015), own work

In connection with tax fraud, criminal prosecution is carried out for committing the offence of tax fraud. The amounts that have been subject to the tax fraud offense are only available for all taxes in total. In the individual years of the period under review, these sums amounted to CZK 4.8–10.6 billion per year. The amount of VAT fraud is based on an expert estimate that VAT accounts for 70% of the total prosecution. The authors base their data on the share of VAT arrears in total accumulated tax arrears. The share of VAT in tax arrears was 60–70% in individual years of the period under review (Ministry of Finance of the Czech Republic, 2017). The amounts of prosecuted VAT fraud and the share in VAT Gap due to tax fraud are shown in Table 7.

Table 7: VAT Gap caused by tax fraud (mil. CZK and %)

Year	VAT Gap caused by VAT fraud (mil. CZK)	VAT Gap caused by VAT fraud (as a percent of VTTL)	Prosecution for VAT fraud (mil. CZK)	Prosecution for VAT fraud (in % from VAT Gap caused by VAT fraud)
2010	93,433	24.57	4,453	4.77
2011	80,008	21.25	4,516	5.64
2012	93,316	23.69	6,557	6.81
2013	96,948	22.81	3,420	3.53
2014	96,126	21.86	4,924	5.12
2015	105,530	22.69	7,422	7.03
2016	92,714	19.73	5,150	5.55

Source: Vondrová and Kučera (2015), own work

Comparison with the results of other studies

Detailed studies of the VAT Gap using input-output tables was commissioned by the European Commission. These studies deal with the measurement of the VAT Gap for individual EU Member States and thus also provide data on the VAT Gap in the Czech Republic (CASE, 2016, 2018). The VAT Gap estimate in the Czech Republic can be found in studies of some institutions (e.g. Supreme Audit Office, 2015) and authors (e.g. Moravec et al. 2018; Kaňka, 2016; Stavjaňová, 2014). The VAT Gap estimates made in the Czech Republic show higher values than those reported in the CASE studies (Table 8).

Table 8: VAT Gap caused by tax fraud (mil. CZK and % of VTTL)

		2010	2011	2012	2013	2014	2015	2016
Author's calculation	mil. CZK	116,791	100,010	120,395	121,185	120,157	131,913	115,893
	% of VTTL	30.71	26.56	29.62	28.51	27.33	28.36	24.67
Moravec et al. (2018), method I-O tables, 1st procedure	mil. CZK	121,201	96,425	115,557	118,445	113,828		
	% of VTTL	31.51	25.85	28.77	28.05	26.27		
Moravec et al. (2018), method I-O tables, 2nd procedure	mil. CZK	122,974	98,178	116,610	119,491	114,937		
	% of VTTL	31.82	26.20	28.96	28.23	26.46		
CASE (2018)	mil. CZK			74,650	71,580	60,032	64,540	55,430
	% of VTTL			20.40	19.30	16.81	16.92	14.19
CASE (2016)	mil. CZK	74,354	58,453	73,745	71,730	61,487		
	% of VTTL	22.01	17.45	20.49	19.10	16.14		
Supreme Audit Office (2015)	mil. CZK	102,849	91,978	100,634	104,936			
	% of VTTL	28.1	25.0	26.0	25.7			
Stavjaňová (2014), method 1 (input-output tables)	mil. CZK	107,000	107,000	127,000				
	% of VTTL	28.90	28.30	31.40				

Source: own processing of data from authors listed in the table

The differences in results among individual estimates of the VAT Gap may be partly due to the use of other input data, as national accounts are constantly complemented and refined (Moravec et al., 2018). There is a significant difference in the weighted average VAT rate between the CASE studies (2018, 2016) and the other studies compared here. For 2014,

CASE (2016) reported a weighted average VAT rate of 12.8%, but the Supreme Audit Office (2015) reported 18.78%, Moravec et al. (2018) 18.66%, the author's calculation is 18.64%. Similar results are reported by others, e.g. Stavjaňová (2014) for the year 2012 reports 17.56%. For 2016, the authors calculated the weighted average VAT rate of 18.52%, the same figure is also reported by the Ministry of Finance of the Czech Republic (2019), but CASE (2018) reported 12.7%.

VI. Conclusion

Value added tax is an important factor in the financing of economic activities in all countries of the European Union and, according to quoted sources, VAT Gap significantly influences the volume of these sources of financing. The authors on the base of previous published studies and their methods compared these results with the results of their own research. Key values such as VAT revenue on an accrual basis, theoretical VAT base, VAT total tax liability, weighted average VAT rate, VAT Gap estimate for the Czech Republic were identified and calculated for the period 2010 to 2016.

Comparing the results of our research with the results of other studies shows that the highest number of results is concentrated in 2012. The authors quantified the VAT GAP for the Czech Republic at CZK 120 395 million in that year. Between 2013 and 2014, the estimate of the VAT Gap decreased, but in 2015 the estimates show a significant increase. This increase can be explained mainly by the introduction of an additional VAT rate (the second reduced rate of 10%), which caused further confusion in the system. The increase in VAT Gap in 2015 may be caused mainly by various errors and omissions of taxpayers. The planned introduction of VAT control reports as of 2016 as a tool against carousel fraud and the application of VAT deductions based on false invoices could lead to cautious VAT payers' behaviour and affect the VAT Gap reduction in the following year.

The VAT Gap decomposition was carried out on the basis of Supreme Audit Office (2015) data on the contribution of individual factors to the total sum. The highest share (40%) is related to business activity, when entrepreneurs intentionally misrepresent their economic activity results. This part of the VAT Gap in 2015 was CZK 52,765 million, the lowest amount was found in 2011 at CZK 40,004 million.

Furthermore, the share of VAT fraud in the VAT Gap was analyzed, and the highest measured value was in 2015 (CZK 131,913 million). The share of VAT fraud in the VAT Gap in the amount of 80% (Vondrová and Kučera, 2015) corresponds to data on the share of individual factors in the VAT Gap. The distribution of the VAT Gap shows that the share of the illegal and shadow economies, together with intentionally misrepresented data, is 47%. To this share is added the category other in the amount of 28%, which consists mainly of undetected tax evasion and fraud. Also, outstanding arrears are partly due to detected tax fraud.

The results published in studies by Moravec et al. (2018), Supreme Audit Office (2015) estimate the VAT Gap size to be over CZK 100,000 million, Stavjaňová (2014) even reports a value of CZK 127,000 million. In the official CASE (2016) and CASE (2018) studies, estimates range from CZK 58,453 to CZK 74,354 million. These significant differences may be due to a different structure of the source data. The VAT Gap differences are

also affected by the calculation of the weighted average VAT rate. For 2014, CASE (2016) reports 12.8%, but the Supreme Audit Office (2015) 18.78%, Moravec et al. (2018) 18.66%, the author's calculation is 18.64%. Similar differences are apparent in the following years of the period under review. The subject of further research by the authors is to estimate the gap trend changes in the period since 2016 after the second reduced VAT rate was introduced and other potentially strong instruments to combat VAT fraud have been implemented. For these reasons it will be interesting to follow the trend changes of VAT Gap development in the next period comparing the current findings as the valid data will be available.

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