

Is the Flat Tax for Self-employed Persons in the Czech Republic Beneficial?

Michal Krajnak¹, Petr Kozel², Hana Minarikova³

¹VSB-Technical University of Ostrava, Faculty of Economics, Department of Accounting and Taxes
17. listopadu 15, 708 00 Ostrava, Czech Republic
E-mail. michal.krajnak@vsb.cz

²VSB-Technical University of Ostrava, Faculty of Economics, Department of Mathematical Methods in Economic
17. listopadu 15, 708 00 Ostrava, Czech Republic
E-mail. petr.kozel@vsb.cz

³VSB-Technical University of Ostrava, Faculty of Economics
17. listopadu 15, 708 00 Ostrava, Czech Republic
E-mail. hana.minarikova.st@vsb.cz

<https://doi.org/10.5755/j01.ee.37.3.35697>

The article aims to evaluate for what amount of tax base or tax liability of a self-employed person the flat tax regime is advantageous. This evaluation is carried out in the legislative conditions of the Czech Republic valid in 2023. While the world's literature often understands the flat tax as the existence of a single tax rate, the concept of a flat tax in the Czech Republic is different. It combines payments for social security contributions and personal income tax as one payment. Since the flat tax amount is fixed, the research question is formulated, considering the literature, in the form of what tax base the entry into the flat tax regime is advantageous. Literature often mentions that taxpayers with a high tax base can benefit from the flat tax regime. However, it is a research question whether this will also apply in the conditions of the Czech Republic, where this payment also includes the aforementioned social security contributions. The different conceptual approaches to the flat tax in the Czech Republic create the broad potential that will be developed in this study.

Keywords: *Flat Tax; Personal Income Tax; Social Security Contributions; Self-Employed Persons; Tax Base.*

Introduction

Taxes and levies for social security contributions have been a significant part of the state budget's income, not only in the Czech Republic. The state's fiscal policy tools are personal income tax and social security contributions. The tax burden of the self-employed persons is represented by the personal income tax. A relatively significant part of self-employed persons' levies is social security contributions. These payments include pension insurance, contribution to the state employment policy and public health insurance. More about social security contributions, e.g. Pavel & Vitek (2015).

Self-employed person pays income tax in at 15 % of the tax base. For a tax base higher than 48 times the average wage, a rate of 23 % is applied. The effective rate is different, as it is possible to use tax reliefs to reduce the tax liability, e.g. in the form of non-taxable parts of the tax base, tax reliefs or tax credit. It is necessary to mention that 15, respectively 23 % is not calculated from the amount of incomes but from the tax base, which is for the self-employed person the difference between incomes and expenses.

This tax base is also the base for calculating social security contributions. As it follows from the results of studies by Hajek (2003) or Torres (2022), social security contributions in most countries in the world make up more than a quarter of state budget revenues. While the tax burden of personal income tax in the Czech Republic is slightly below average compared to other countries, the quota expressing the burden of social security contributions is

above the average values of Organization for Economic Cooperation and Development (OECD) countries (Celikay, 2020 or Jedlicka, 2023). One of the ways to create a more favourable environment for self-employed persons and to reduce levy burden is to enter the flat tax regime (Suter & Poletti, 2021). A significant reform of the flat tax institute took place in the Czech Republic at the beginning of 2021. The flat tax combines payment for a total of three institutions – the tax office, the district social security administration and the health insurance company. Until the end of 2022, income from the business was limited to CZK 1,000,000 for entering the flat tax, from 2023 this amount increased to CZK 2,000,000. From 2023 the amount of the flat tax varies according to the relevant band. There is no single advance payment for everyone, as was the case until the end of 2021, but as income increases, the amount of the flat tax also increases. In 2023, the monthly flat-rate deposit for the first band is 6,280 CZK in total, for the second band 16,000 CZK and for the third band 26,000 CZK.

As follows from the above, the concept of a flat tax in the Czech Republic is different from the concept of a flat tax, which is used by many countries around the world. More about a flat tax in general, for example, Keen *et al.* (2008). This difference is based on the fact that social security contributions and income tax are combined into one comprehensive payment. Another difference is based on the fact that bands are fixed set, and the resulting amount of this flat tax is also fixed determined. This amount is the same for taxpayers at the lower or upper limit of the relevant band. These specifics i.e. method of calculating the amount or

combining payments, are a completely new structural element in the tax area. Such type of flat tax has not yet been implemented in any other country. This is the reason why the analysis is focused only on the conditions of the Czech Republic. Since this type of flat tax is not yet established elsewhere in the world, this analysis has the potential to close the existing research gap. Fernandez-Bastidas (2023) mentions that the evaluation and behaviour of entrepreneurs are crucial for evaluating the effect of tax reforms regarding personal income taxes. This fact also emphasizes the significance of the analysis carried out in this study.

Although only one personal income tax rate is not currently set in the legislation governing taxation, such a rate was possible in the past. Specifically, the nominal progressive tax rate was replaced by a linear rate in 2008 (Beblavy & Prouskova, 2010). This one rate was used to tax personal income until 2013 when a solidarity tax surcharge was implemented (Krajnak, 2022).

Legislative changes in this area have always aimed to stabilize revenues to the state budget, specifically to reduce public debt and strengthen the revenue side of the state budget. In addition to these fiscal goals, the state is also trying to optimize the business environment as much as possible and reduce administrative burdens. For this purpose, a flat tax was implemented in the Czech Republic in 2021. However, this tax can only be used by individuals with income from business activities. This flat tax cannot be applied to other types of income. This is also another difference from the flat tax concept known in many other countries around the world. At the time of the flat tax's implementation, it was estimated that this tax could decrease state budget revenues. However, this decrease is compensated by the annual increase in social security contributions and other changes in the tax mix, such as an increase in the tax burden in indirect taxes.

This study aims to determine at which amounts of the tax base for self-employed persons the entry into the flat tax regime is advantageous from the taxpayer's point of view. The structure of the text corresponds to the set goal. In the first part, an introduction to the flat tax issue is defined, the next part deals with an overview of studies evaluating the tax and levy burden on the self-employed. The application part of the text describes the methodology and method of data modelling for analysis. The following is the part evaluating from which amount of the tax base it is advantageous to enter the flat tax regime. The last part of the study summarizes the main conclusions, limitations and possibly other possible research directions in this area.

Literature

The topic of tax and levy burden on natural persons has been the subject of several foreign and domestic studies. According to tax theories (Givati, 2020), income tax, specifically its rate is an important tool of fiscal policy.

There are two groups of opinions on the existence income tax. The first group is based on the fact that the existence of such tax is necessary. This is mainly due to the fact that the state creates a framework for the functioning of the business environment (Heimberger, 2021 or Henrekson & Sanadaji, 2011) and thus has the right to a particular part of the profit, which is then used to finance the state's operations. The second group of opinions, on the other hand, e.g. according to

Baudot *et al.* (2020) does not support the existence of this tax, as the prospect of tax payment can be a demotivating factor in doing business.

In the taxation of individuals, for dependent activity, the tax base is the employee's income. For self-employed persons, the procedure is such that expenses are deducted from income. The tax liability is calculated by multiplying the tax base by the tax rate (Abbas *et al.*, 2023). This rate is progressive or linear also referred to as the so-called flat rate.

As many studies mention, e.g. Ganzen (2023), Balatsky & Ekimova (2021) or Lee (2021), in the past, it was traditional for almost all tax systems to set the income tax rate as a progressive rate. As the tax base increases, the taxpayer pays more and more and taxpayer's net income decreases. On the one side, this fact ensures a redistributive effect of income; on the second side, according to Hiraga & Hasuji (2023), it can lead to tax evasion and, thus, to a decrease in the economy's performance. To reduce tax liability, taxpayers can also use tax reliefs, which are legal ways of optimizing tax liability (Wolowiec, 2018).

Self-employed persons do not only deal with the tax burden, but according to Campos (2019), they also have to optimize the levy burden. According to the analysis by Goudswaard & Caminada (2015), in OECD countries, social security contributions make up approximately a quarter of tax revenues. From the point of view of the social security contributions burden on wages, part of these contributions is indeed transferred from the employee to the employer. This transfer is impossible since the self-employed person is a taxpayer and a payer simultaneously. Torres (2022) mentions that a high rate of social security contributions dampens entrepreneurial activity and economic growth. Cancelling social security contributions is not recommended. Iefymenko *et al.* (2021) point out that the possible cancellation of these payments would drastically reduce economic well-being.

Tepperova (2019) mentions that in the Czech Republic the levy burden related to social security contributions, both from the perspective of employees, employers, and also from the perspective of self-employed persons, is above average in comparison with other countries of the European Union. This is a difference compared to e.g. Cyprus, where the situation is the opposite (Mavrokonstantis & Seibold, 2022). In Russia, a special tax regime for taxation of self-employed persons was introduced in 2021. This regime aimed to support the development of business activities while reducing the tax and levy burden (Smirnova *et al.*, 2022). The above study shows, self-employed persons would prefer a direct reduction in the tax rate for personal income tax. Pantea (2022) found that in the context of European countries, self-employment is worthwhile due to the lower tax and levy burden in the countries of Eastern and Western Europe. On the contrary, the countries of Central Europe are characterized by a higher tax and especially levy burden.

This is confirmed by the results of Krajewska & Krajewski (2021). The analysis results lead to the finding that the tax burden of self-employed persons is above average when compared with other countries of the European Union. In comparison with the Czech Republic, Poland has a lower levy burden with social security contributions. Aspects of taxation of self-employed persons in Poland were also dealt with by Adamczyk (2021) with similar conclusions.

One of the ways to reduce the tax and levy burden on entrepreneurs is a flat tax. Can (2021) states that a lower tax burden on self-employed persons can be advantageous and stimulating. These aspects have been investigated in the United States and confirm that reducing the tax burden is a factor supporting business development. All levies paid by self-employed persons were considered as a tax burden. Bruce *et al.* (2020) mention that this pro-entrepreneurship effect may not always occur.

Another reason for implementing a flat tax is to simplify the tax system, (Socci *et al.*, 2022 or Swiech-Kujawska, 2022). The advantages and disadvantages of a flat tax were discussed by Hall & Rabushka (2013) or Tam (2004). The result of the study Tam (2004) shows that by flat tax state can obtain higher tax revenue.

The concept of a flat tax can be viewed from a global and national perspective - in this case, the Czech Republic. From an international perspective, this concept is based on one tax rate. The existence of a one-tax rate leads to the personal income tax system being referred to as a flat tax. Ventura (1999) examined the effects of a flat tax on the taxation in the USA. The existence of one tax rate had a positive impact on the labour market, which was reflected in an increase in labour market efficiency. Pantya *et al.* (2016) or Lykova (2019) also confirm these conclusions. These studies see the disadvantage of flat tax in the failure to fulfil the principles of horizontal and vertical justice. The finding that a flat tax led to increased tax revenue is also interesting.

Barrios *et al.* (2020) analysed aspects of flat taxation in Central and Eastern European countries, which are characterized by a relatively high degree of inequality in income distribution. Therefore, it is recommended that at least some degree of tax progressivity be implemented to reduce this inequality in the income distribution in society. Azacis & Gillman (2007) conducted a similar analysis for the Baltic countries. In this case, the study's conclusions also recommend reducing tax progressivity if the goal is to maximize tax revenue. However, being the tax completely flat is not recommended.

The COVID-19 pandemic has negatively impacted public budget revenues and, thus, the growth of debt. Baldino & Rizzo (2021) also considered the advantages of a flat tax in the Italian context. They do not recommend a flat tax, and in accordance with the principle of horizontal and vertical fairness, they suggest that taxes for the middle-income and high-income classes be progressive. If a flat tax were adopted in Italy, Castelluccio (2021) recommends a rate of 29 %. According to Sommacal (2023), the rate must be set at a level that ensures sufficient tax revenues for the state budget.

Also, in Slovakia, a so-called flat tax was implemented in 2004. This flat tax did not bring the expected effect of increased work motivation or economic performance. So, in 2013, this flat tax was replaced by a progressive tax (Nadirov *et al.*, 2021 or Horvath *et al.*, 2019). Alm & Malezieux (2021) examined the flat tax in the context of tax evasion. The results of their analysis show a higher tendency towards tax evasion if the tax is flat than if the tax is progressive. On the contrary, Filer *et al.* (2019) mention that a flat tax has almost no effect on the amount of undeclared income and the tax evasion. Contradictory conclusions were also found by Albarea *et al.* (2023).

The introduction of a flat tax in Hungary was inspiration for the study by Kreko *et al.* (2023). In addition, tax reliefs were significantly expanded. Taxpayers with above-average incomes benefited from this change, while taxpayers with below-average incomes got an increase in the tax burden. Taxpayers with highly above-average incomes who claimed tax relief for children benefited the most from a flat tax.

The former socialist countries of Europe were characterized by relatively high tax progressivity in the past. However, the idea of a flat tax also gradually emerged in these countries. Kovacs (2020) examined the flat tax in Romania, Lithuania, and Hungary. According to the analysis's conclusions, the flat tax did not significantly impact the change in the tax burden. If there was a decrease in the tax burden, this decrease was only very slight.

Multinomial and ordinary logit models were used to analyse the effects of a flat tax by Safarov & Abdurazzakova (2022). Based on the analysis, the positive effect of a flat tax is evident, especially in the case of taxation of income of self-employed persons. The reduction of administrative complexity is a factor that has a positive effect on increasing the motivation to start a business. This fact has a positive effect on the economy and increases the country's economic growth. These conclusions differ from the previously conducted study by Fossen (2009) in Germany. The study's findings, on the contrary, state that reducing the progressivity of the tax does not affect citizens being more motivated to start a self-employed activity.

In the context of personal income tax for self-employed persons, applying a certain percentage of expenses from income is often preferred over flat taxes, (Tepperova *et al.*, 2015). Progressive income tax is an essential instrument of a country's fiscal policy. If this type of tax is changed to a flat tax, it negatively impacts the effectiveness of the aforementioned fiscal policy. Tatu *et al.* (2023) conclusions confirm this. For decision about a flat tax, it is essential to consider social aspects or the country's total tax quota (Huang *et al.*, 2024).

However, only a flat tax regime for all taxes is unlikely. The reason, according to Dobranschi *et al.* (2017), is also the fact that states pay a certain percentage of the tax revenue to the budget of the European Union from some taxes. On the contrary, microeconomic studies, e.g. Torregrosa-Montaner (2015) state that the society would prefer a one-time taxation of flat taxes to pay several different taxes.

A review of research studies shows that the positive aspects of the existence of a flat tax are mainly the simplification of administration and the complexity of the tax system. Another advantage is usually a reduction in the tax burden, but according to many studies this is typical only for taxpayers belonging to the middle or high income group of the population. On the contrary, taxpayers with lower incomes and tax burdens may get an increase in the tax burden.

Studies investigating the entry into the flat tax regime in the form regulated in the Czech Republic's legislation have not yet been conducted. In this area, the existence of a research gap is evident. Another fact creating a gap in the literature is that the currently valid flat tax in the Czech Republic only applies to self-employed persons, and it

combines the tax payment with the payment of social security contributions.

The research question is whether entering the flat tax regime is beneficial for the taxpayer – a self-employed person, and when, on the contrary, entering the flat tax regime is not worthwhile.

Methodology and Data

Methodology

To achieve the article's goal is to use a standard methodology including methods of description, comparison, and synthesis. Furthermore, the text also applies the correlation analysis method, more about the methods mentioned by Geitner *et al.* (2019).

The concept of flat tax in the Czech Republic differs from that in other countries. In general, the calculation of the flat tax is determined according to (1),

$$FT = TR \cdot TB, \quad (1)$$

where FT is the flat tax, TR is linear tax rate and TB is tax base.

In the Czech Republic, the tax liability T of a natural person is calculated using a progressive tax rate generally determined (2),

$$T = 0.15 TB_1 + 0.23TB_2, \quad (2)$$

where TB_1 is the tax base up to 48 times the average wage, and TB_2 is the tax base exceeding 48 times the average wage. At the same time, for a self-employed person, half of the tax base is the assessment basis for calculating social security premiums at a rate of 29.2% and public health insurance at a rate of 13.5%. The general calculation procedure is shown in (3),

$$SSC = 0.50 \cdot 0.292 TB + 0.50 \cdot 0.135 TB, \quad (3)$$

where SSC is social security contribution, TB is tax base.

Self-employed persons have the option, if they meet the conditions set by tax law, to enter the flat-rate tax regime and thus combine payments for social security contributions and income tax into one payment. In the Czech Republic, this is referred to as a flat-rate tax.

To assess the convenience of entering the flat tax regime, it is necessary to compare the amount of the flat tax with the amount of tax calculated when the taxpayer files a tax return. From 2023, a total of three flat tax bands are set. The flat tax amount for the first band is calculated using (4).

$$FT_1 = 100 + 13.5 \% \cdot MIN_{HI} + 1.15 \cdot 29,2 \% MIN_{SS}, \quad (4)$$

where FT_1 is the flat tax in the first band, MIN_{HI} is the minimum assessment base for health insurance and MIN_{SS} is the minimum assessment base for social security premiums and state employment policy. After substituting into equation (4), the amount for the first band is CZK 6,208. The amount of the flat rate tax for the second and third bands is fixed. Specifically, CZK 16,000 for the second band, or CZK 26,000 for the third band.

The flat tax must be compared with the amount of tax if the self-employed person were to file a tax return. In general, the calculation is determined according to relation (5).

$$T = [(TB - NTP) \cdot TR] - TRC, \quad (5)$$

where T is the tax liability calculated in case the self-employed person files a tax return, TB is the tax base, NTP are non-taxable parts of the tax base and items deductible from the tax base, TR is the tax rate and TRC are reliefs, or tax credit for children.

Since the amount of the flat tax depends on which band (first to third band) the taxpayer falls into, it can be assumed that the advantage of entering the flat tax will be clearly advantageous for taxpayers whose tax base approaches the upper limit of the each band. The reason for formulaic this hypothesis is that the amount of tax liability and the amount of social security contributions do not change in a given interval. The ever-increasing base will result in higher social security contributions and income tax if the taxpayer decides not to use the flat-rate tax regime. However, this does not apply to the flat-rate tax unless the relevant band is exceeded. On the contrary, if the taxpayer's tax base is close to the lower limit of the given band, entering the flat-rate tax regime will not be advantageous for such a taxpayer.

Data

Input data for analysis was obtained on a request submitted to the General Financial Directorate. A particular limitation of this data is the need to respect the General Data Protection Regulation (GDPR). For this reason, the General Financial Directorate does not provide taxpayer data individually but in the form of cumulative totals.

Taxpayers are artificially modelled to eliminate this limitation in the study based on a random selection from real data. To verify the advantage of using the flat tax institute, it is necessary to compare with the tax liability that would correspond to a situation where the taxpayer does not use the flat tax but files a tax return. In this case taxpayers use tax reliefs or tax credit to reduce their tax liability.

Considering the fact that the Ministry of Finance does not have data from tax returns for the year 2022 available, data from the period 2017–2021, which means a time series of five years, will be used for the analysis verifying the feasibility of entering the flat tax regime. The same long time series was also chosen in the analyses of Wang *et al.* (2020) or Pichl & Kaizoji (2017).

It is also necessary to define other requirements that the taxpayer must fulfil to be included in the primary file. This is generally based on the requirements of the Income Tax Act for entry into the flat tax regime. The taxpayer's income is up to CZK 2,000,000, the taxpayer has no income from a dependent activity and, at the same time, no income from rent, capital assets or other income over CZK 15,000 per tax period. However, it remains a limitation because it does not consider whether the taxpayers are or are not value-added tax payers. More about value-added tax, e.g. Krzikalova & Tosenovsky (2020). The General Financial Directorate does not have a system to monitor whether a taxpayer filing a personal income tax return is a value-added taxpayer. Based on the stated requirements, Table 1 shows the number of taxpayers who met the above conditions in 2017–2021. For the entire analysed period, this is an average of 511,539 taxpayers.

Table 1

Number of Taxpayers

Year	2017	2018	2019	2020	2021
Number of taxpayers	508,624	511,114	518,057	535,100	483,901

Source: own processing according to data from the General Financial Directorate

For the purposes of further analysis, these taxpayers are divided into a total of 40 income intervals. The amount of CZK 50,000 determines the width of each interval. The distribution is based on the amount of the adjusted tax base, i.e. the tax base after deduction of non-taxable parts of the tax base and items deductible from the tax base. From the intersection of the values for the individual analysed years 2017–2021, average values were subsequently determined which capture the average representation of taxpayers in the income intervals. This is shown graphically in Figure 1.

The histogram shows that the highest share of taxpayers is in the interval from 0 to 50,000 CZK (approximately 23 %), a high 19% representation is also in the second (50,000–100,000 CZK) and the fourth interval (150,000–200,000 CZK). 17% representation is in the third interval from CZK 100,000 to CZK 150,000. With the increasing tax base, the fifth income interval shows a downward development trend.

For this study, the sample consists of a total of 5,000 taxpayers. According to Řezánková (2020) or Seddia & Hossain (2014), such a large set is wholly satisfactory. Following the histogram mentioned above, these taxpayers' numbers are then recalculated for further analysis. The entire principle of recalculation is based on the fact that the last taxpayer occurs in the interval from 1,250,000 to 1,300,000 CZK. Since there were also taxpayers above the 1,300,000 CZK interval, according to the histogram distribution, one taxpayer is included by random selection in the 1,550,000 CZK to 1,600,000 CZK intervals.

According to the currently valid legislation, the flat tax amount also depends on the type of economic activity. The taxpayer can thus be in a total of three flat tax regimes. Since it is not possible to determine the representation of the individual economic activities of the selected taxpayers, all three expenditure flat rates and three flat tax regimes will be examined for each taxpayer.

When calculating the tax liability, the taxpayer is entitled to a certain non-taxable minimum, which in the Czech Republic is expressed by tax reliefs or tax credit. The taxpayer's reliefs can be applied in full even if the taxpayer only ran a business for part of the year. In the case of other reliefs, you may also encounter the fact that they are partially applied only in months when the taxpayer has met the conditions for applying such relief. Data on what relief taxpayers who qualify for the flat tax regime use were provided by the General Financial Directorate. Subsequently, these cumulative data were converted to a statistical sample of 5,000 taxpayers. The results are presented in Table 2.

Table 2

Tax Reliefs

Type of relief	Full	Partial
Relief - taxpayer	5 000	0
Relief - second spouse	104	6
Relief - basic disability	56	5
Relief - extended disability	13	2
Relief - severely disabled	3	0
Relief - student	32	16
Relief - placement of a child	13	105

Source: own processing

As mentioned, the taxpayer relief is only applied in CZK 30,840. For other reliefs in case of partial application, the value is taken from 1/12 to 11/12. This does not apply to the relief for placement of a child. The legislation governing the principle of this relief stipulates that the amount is applied at the maximum value of the monthly minimum wage. In the case of partial application, an interval from CZK 1 to CZK 17,299 is used for further data generation.

A somewhat different principle must be chosen in the case of tax credit for children. This amount is graduated according to the number of children. According to the data of the General Financial Directorate, 19 % of taxpayers apply the deduction for children, which is 949 taxpayers in the sample (60 % for the first child, 32 % for the second child and 8 % for the third and subsequent children). Based on the above percentage values, 949 taxpayers apply the deduction for the first child, 302 for the second child and 73 for the third child. It should be noted that there may be a cumulating of the fact that the taxpayer applies, for example, the deduction to all three children at the same time although in practice there are cases when parents can divide the deductions on the children.

Due to the fact that the source data provided by the General Financial Directorate are only cumulative and cannot be further specified in terms of the characteristics of the probability distribution (e.g. it is not possible to determine the variance, etc.), the assumption was made when generating the model data that the individual eventualities described above (tax reliefs, etc.) are equally represented in the samples. The generation of the variable – adjusted tax base is done using the MS Excel application, specifically the RANDBETWEEN function. Generating relief amounts or tax credits is a little bit complicated. This is due to the fact that some reliefs cannot be used together. As a result of this fact, restrictive conditions ensuring real assignment and only permissible interaction of reliefs were defined in detail. Linear programming was implemented by considering a set of these limiting conditions. One bivalent decision variable $x_{ij} \in \{0,1\}$ was assigned to each relief j , where $j = 1, \dots, n$ and to each taxpayer i , where $i = 1, \dots, m$. It's valid, that:

$$x_{ij} = \begin{cases} 0, & \text{"relief" } j \text{ "was not" "taxpayer" } i \text{ "allocated" } \\ 1, & \text{"relief" } j \text{ "was" "taxpayer" } i \text{ "allocated"}. \end{cases} \quad (6)$$

For clarity, the situation will be illustrated by assigning a relief for a spouse. Concerning the applicable legislation, the relief for a spouse can be applied in four mutually exclusive cases:

- relief for a spouse in "full amount",
- relief for a spouse in "partial amount",
- relief for a spouse with a disability in the "full amount",
- relief for a spouse with a disability in the "partial amount".

Assuming that these reliefs will be marked with the indices $j = 1, 2, 3, 4$ one after the other, the individual limiting conditions can be formally written down in the formulation shown below.

Condition I.

The total number of taxpayers who claim the "full amount" spouse relief is 104.

$$\sum_{i=1}^n x_{i1} = 104 \quad (7)$$

Condition II.

The total number of taxpayers who claim the "partial amount" spouse relief is 6.

$$\sum_{i=1}^n x_{i2} = 6 \quad (8)$$

Condition III.

The total number of taxpayers who apply the "full amount" disabled spouse relief is 0.

$$\sum_{i=1}^n x_{i3} = 0 \quad (9)$$

Condition IV.

The total number of taxpayers claiming the "partial amount" disabled spouse relief is 0.

$$\sum_{i=1}^n x_{i4} = 0 \quad (10)$$

The condition ensures exclusion of the simultaneous assignment of multiple reliefs to same taxpayer:

$$\sum_{j=1}^4 x_{ij} \leq 1, \text{ for } i = 1, \dots, m \quad (11)$$

Similarly, with linear programming, any unwanted interaction was treated for all considered reliefs. Rules must also be set for the application of tax credit for children. Following the Income Tax Act, it must be fulfilled that if the tax credit is applied to the second child, it is applied to the first child simultaneously. The same applies in the case of the tax credit for the third child, which is only applied when the tax credit for the first and second child is also applied within the same joint household.

The generated reliefs are then randomly assigned to each taxpayer following the distribution specified in Table 2. If only a partial amount of the relief was applied, the value for the sample size is determined according to (12),

$$R = \frac{N}{12} \cdot Y, \quad (12)$$

where R is the recalculated relief amount, N is the number of months passing the condition for applying the tax relief, where $N \in \{1, 11\}$ and Y is the relief amount according to the Income Tax Act in the value of the entire tax period.

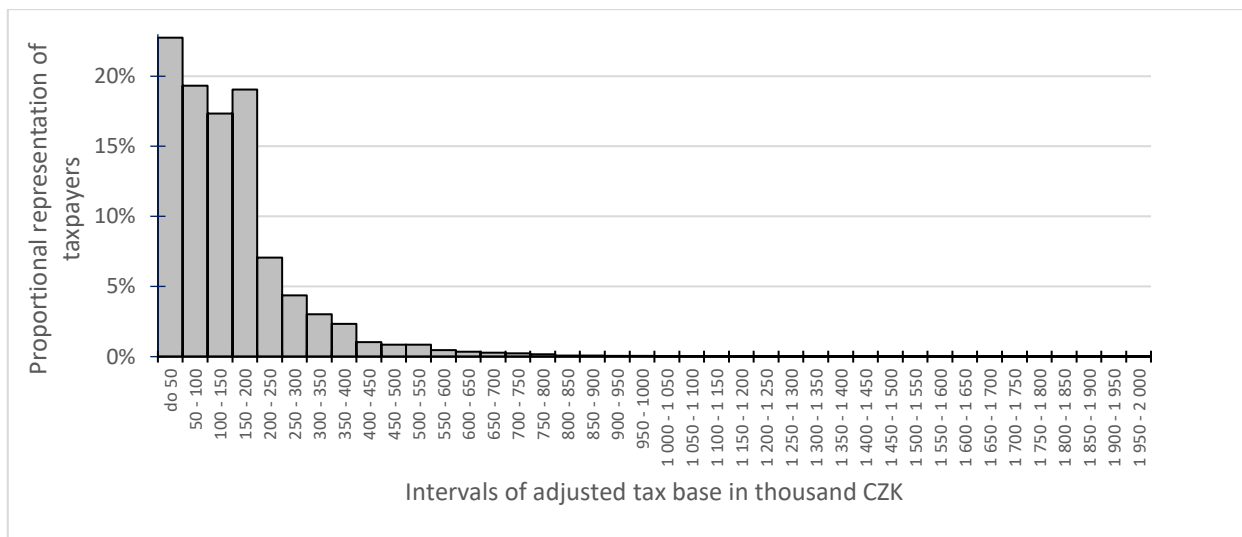


Figure 1. Histogram of Taxpayer Representation in Intervals

Source: own processing

Results and Discussion

To compare the advantages and disadvantages of flat tax, it is not enough to calculate only the tax liability for the self-employed. This is because the flat tax also includes payments for social security contributions. With this fact is this analysis calculated. Considering the distribution of

taxpayers according to the individual income groups presented in the histogram, it follows that most taxpayers have the minimum assessment base for social security contributions. The calculation adjustment was made using MS Excel using the WHEN and ROUNDUP functions.

In the first part of the calculations, all 5,000 taxpayers were assigned a flat rate tax corresponding to the value for the first band for the year 2023, i.e. the amount of CZK 6,208. This means the amount of CZK 74,496 per year. At the moment when all taxpayers in the research sample would pay this amount, it would simply mean income to the state budget of CZK 372,480,000. If, on the other hand, the standard process of calculating personal income tax and social security contributions is applied, the total amount of state budget income is CZK 362,782,007.

Overall, based on the initial analysis, it can be concluded that entering the flat tax regime is not beneficial for all taxpayers, on the contrary, from the state's point of view, this fact would be very positive in the point of tax revenue view. The reason for this disadvantage from the point of view of taxpayers is mainly the existence of a tax credit, respectively tax bonus. The taxpayer receives this only if he is in the standard tax regime, not a flat tax. The above is thus the turning point for determining the advantage, or disadvantages of the flat tax regime. If (13) is valid, the tax credit has the same character as tax reliefs,

$$TL > TR + TC, \quad (13)$$

where TL is tax liability, TR is tax relief and TC is tax credit. Conversely, if equation (14) is valid, it is more advantageous for the taxpayer not to enter the flat tax regime.

$$TL < TR + TC, \quad (14)$$

The explanation of the general variables in the equation is the same as for equation (14).

Advantage of the Band According to Business Income

From a sample of 5,000 respondents, the flat tax regime in the first band was found to be favourable for 722 taxpayers, which was approximately 14% of the research sample. The evaluation of the advantages of the first band of the flat tax regime is carried out concerning the total tax base and the total tax. The usefulness of the flat tax bands can be comprehensively evaluated graphically using Figure 2.

The first flat tax band, i.e. the band most often for self-employed persons with incomes up to CZK 1,000,000 per tax period, is not advantageous for self-employed persons with a total tax base of up to CZK 245,500. In the range of CZK 245,600 to CZK 448,000, it is not possible to determine the advantages or disadvantages of the flat tax. If the total tax base of self-employed persons is higher than CZK 448,100, a flat tax is advantageous. The reason for this finding is a tax credit for children, which becomes a tax bonus in full, as the relief for the taxpayer is equal to or higher than the tax before the relief and tax credit. At the same time, the low tax base value for self-employed persons means that social security contributions, i.e., public health insurance and social security premiums, are paid from the minimum assessment base. As can be seen from formula (41), under the flat tax regime in the first band, social security contributions are paid from 1.15 times the minimum assessment base, which means a higher amount of these contributions. On the contrary, with a tax base above CZK 448,100, according to the results of self-employed persons analysis, entering the flat tax regime is more advantageous. The reason is the lower tax liability, which will total CZK

1,200 for the entire tax period, and lower social security contributions. The possibility of reducing the levy burden on self-employed persons, which in the Czech Republic is above the average of OECD countries, is one of the reasons why the flat tax is advantageous for this group of self-employed. The conclusions thus coincide with the results of studies by Smirnova *et al.* (2022) or Torres (2022).

As the flat tax band increases, so does the amount of the tax base, in which entry into the flat tax regime is not advantageous for self-employed persons. In the case of the second band, as shown in Figure 2, entry into this regime is not worthwhile if the tax base is lower than CZK 611,300. In the range of 611,400 CZK to 677,400 CZK, it is not possible to determine the advantage clearly. The flat tax regime is profitable when the tax base is over CZK 677,500. Again, the reason for these conclusions is the consideration of social security contributions and self-employed persons tax liability.

Entering the third band is disadvantageous for taxpayers with a total tax base of up to CZK 904,400. Again, this conclusion arises from provisions on tax credits for children and the construction of assessment bases for social security contributions. Up to the amount of CZK 998,000, it is impossible to determine if it's more advantageous to enter a flat tax regime. This is because the taxpayer will not be entitled to a tax bonus with such high incomes, and at the same time, social security contributions would be calculated from a significantly higher amount than the minimum assessment base.

The above findings confirm the research hypothesis about the advantages of entering the flat tax regime. Entry into the flat tax regime is advantageous for taxpayers with higher incomes and thus a higher tax base. In the case of the first flat tax band, the threshold value is CZK 448,100, for the second band CZK 677,500, and for the third band CZK 998,100.

The results also confirm the conclusions of the study by Socci *et al.* (2022) that entering the flat tax regime simplifies the administrative burden for the taxpayer, as it is sufficient for the taxpayer to only evidence the amount of income from business activities. No necessary to evidence actual expenses. Within this section, it was found that when entering the flat tax regime, higher tax revenue would be collected. This confirms the conclusions of Azacis & Gillman (2007). Differences can be seen, for example, with the study's findings by Castelluccio (2021), because the flat tax rate is also set not as a %, but as a fixed amount in crowns. In a way, it resembles a unit tax type. However, since the entry of all taxpayers into the flat tax regime would lead to higher tax revenue, it can also be said to be in line with the conclusions of Sommacal (2023) regarding the determination of the tax amount to secure sufficient revenue for public budgets. There is partial agreement with the findings of the Kovács (2020) that the implementation of the flat tax did not affect the overall tax burden of taxpayers. This only applies if taxpayers' income is approximately half of the value of the specific flat tax threshold.

Flat Tax Band According to the Tax Liability

Analysis of entering to the flat tax is carried out concerning the tax base of taxpayers research sample and

the tax liability. For the sake of comprehensiveness, social security contributions payments are also considered, and the analysis is carried out for all three bands of flat tax, which is based on the current legislation in force for the year 2023. The results are graphically shown in Figure 3.

If taxpayers are entitled to a tax bonus of more than CZK 15,000, entering the flat tax regime is not advantageous for such taxpayers. If the tax liability is up to CZK 5,600, or a tax bonus of less than CZK 15,000 per tax period cannot clearly be considered beneficial or disadvantageous of the flat tax. On the other hand, if the tax liability is higher than the amount of CZK 5,600, entry into the regime of the first flat tax band is worthwhile.

If it is the second flat tax band, it is advantageous to use the flat tax if the tax liability is CZK 60,700 or more. Up to the amount of CZK 39,500, the second band is not worthwhile for the unequivocally mentioned sample of respondents, and in the intermediate values of CZK 39,500 to CZK 60,700, the advantage cannot be clearly determined.

For the third flat tax band taxpayers with tax liability from CZK 101,800 to CZK 104,300 cannot determine if a flat tax regime is better than a tax return. If the amount of the tax liability is over CZK 104,300, entering the flat tax regime in the third band is advantageous for the taxpayer. On the other hand, if the tax liability is lower than CZK 101,800, it is disadvantageous.

The flat tax is, as it follows from the results, an advantageous tool for optimizing the tax burden, but only for some self-employed persons. For self-employed persons with a lower tax base and thus a lower tax liability, possibly in the event of a tax bonus, entering the flat tax is not worthwhile. On the contrary, it is advantageous to enter this regime if the tax base is over CZK 448,000 or tax obligatory over CZK 6,000. The above applies if it were the first band. With the increasing flat tax band, the advantage of joining the flat tax regime becomes apparent only when the tax base or tax obligatory is higher. The taxpayer must also remember that the currently valid legislation allows entry

into the flat tax only for self-employed persons whose income for the tax period does not exceed CZK 2,000,000.

The results in this section also confirm the formulated hypotheses about the advantages of entering the flat tax regime with increasing tax liability. For taxpayers with low tax liability claiming a child allowance, entering the flat tax regime is not worthwhile due to the impossibility of obtaining a tax bonus.

The conclusions of this sub-part of the study can be stated as being consistent with the results of the study by Safarov & Abdurazzakova (2022), who also state that the implementation of a flat tax can positively affect the tax burden of self-employed persons. We can also partially agree with the study by Kreko *et al.* (2023), which states that taxpayers with above-average incomes get the most from the using of a flat tax. However, the difference arises regarding the conclusion about the applied tax reliefs. This is due to the concept of the Czech flat tax being different from the global concept, and therefore, a tax bonus cannot arise.

Flat Tax Amounts

Entering the flat tax regime is advantageous for taxpayers not only because of the minimization of tax and levy burden. Another positive effect can be reducing the administrative burden of business activity. As already mentioned in the text of the study, personal income tax and social security contributions are a significant part of the state budget income. In a comparison of tax and social security contributions, social security contributions are significantly higher than tax for most self-employed persons. How it is in the flat tax regime for the first to third bands is graphically depicted in Figure 4. Subsequently, the dependence between the values of income tax, social security premiums and public health insurance of bands of the flat tax is examined in the table using correlation analysis. The correlation matrix is presented in Table 3.

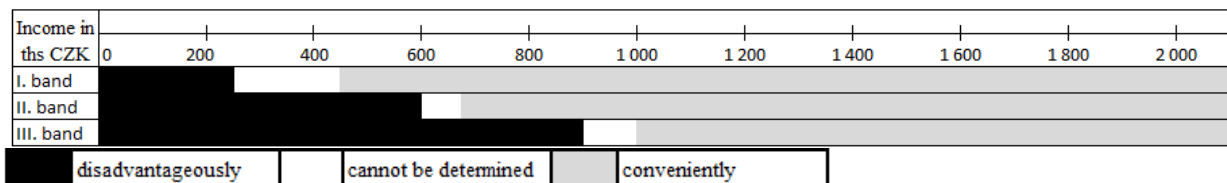


Figure 2. Advantages of Entering the Flat Tax Regime According to Income
Source: own processing

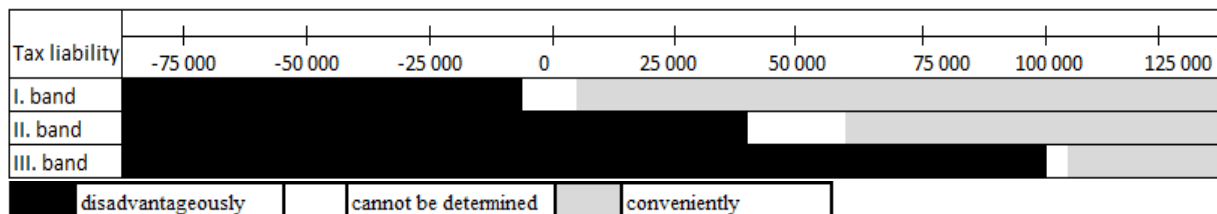


Figure 3. Advantages of Entering the Flat Tax Regime According to Tax Liability
Source: own processing

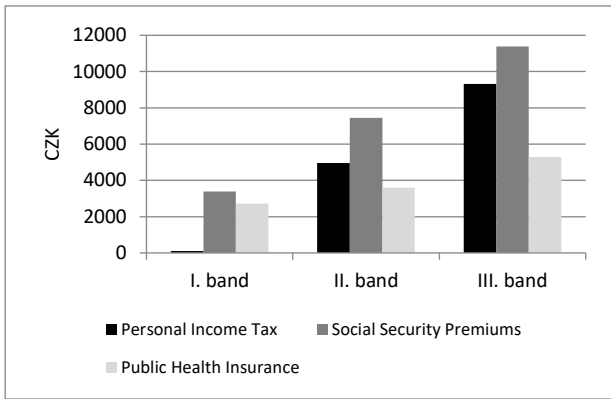


Figure 4. Flat Tax and its Components
Source: own processing

Table 3

Correlation Matrix

	Personal Income Tax	Social Security Premiums	Public Health Insurance
Personal Income Tax	1		
Social Security Premiums	0.999732	1	
Public Health Insurance	0.976666	0.981378	1

Source: own processing

The most significant part of the flat tax in all three bands is social security premiums. This share amounts to more than 50% of the total payment in the first band, while it decreases to 45% in the third band. Instead of the first band, the income tax payment is approximately one-third of the flat tax. The remaining part is made up of health insurance. This fact does not apply in the first band, where social security contribution make up more than 98% of the flat tax amount.

From the point of view of the share of personal income tax from self-employment person in the total tax revenue, this share is very low. It constitutes approximately 1.5% of tax revenue (Ministry of Finance, 2023a). In contrast, social security premiums have about 30% of state budget revenues (Ministry of Finance, 2023b). This also corresponds to the principle of setting the income tax amount and social security contributions for the flat tax. At the same time, the aforementioned coincides with and confirms the results of a previously conducted study by Goudswaard & Caminada (2015). As the tax base increases and thus the flat tax band increases, the share of income tax increases. The correlation analysis confirms a high degree of direct dependence between the developments of the components of the flat tax for all three bands, which have been newly set in the Czech Republic since 2023.

Although social security contributions generate a significant part of the flat tax and entry into this regime thus ensures a reduction in these payments, this may not be advantageous in the long term. Salonen *et al.* (2020) mention, with low payments, high benefits cannot be expected when obtaining, for example, pension insurance, etc.

Considering that a large part of the flat tax in the Czech Republic is not income tax but social security contribution, the conclusions of Tepperová *et al.* (2015) are confirmed in the case of the flat tax regime. There is also agreement with the conclusions of Smirnova *et al.*, 2022 that the flat tax is a tool for reducing the tax and contribution burden of self-employed persons. There are also identical conclusions with Krajewska & Krajewski (2021) that a significant part of the mandatory tax-type payments for self-employed persons is not tax but social security contributions.

Conclusions

The article evaluated the advantages of entering the flat tax regime for self-employed persons in the Czech Republic. From the point of view of legal regulation, it was based on the legislation valid on January 1, 2023. The aim was to determine from what amount of the tax base, or tax obligations, entry into this regime is advantageous for self-employed persons.

The analysis results show that entering the flat tax regime is not advantageous for taxpayers entitled to a tax bonus. From 2023, a total of three flat tax bands are set. With the higher band of this tax, this payment amount increases. The value of the tax base for the advantages of entering the first band is determined by the amount of CZK 448,100, for the second band, CZK 677,500, and for the third band, CZK 998,000. The reason for the advantage is the fact that with an increasing tax base, it is less common for the taxpayer to be entitled to a tax bonus. Another reason is the flat tax structure, which includes income tax and social security contributions. As the tax base increases, this payment for social security contributions is not calculated from the minimum assessment base. This is the second factor proving the advantage of entering the flat tax regime. The results presented represent specific values, based on which the research is undoubtedly significant for society. The taxpayer only needs to calculate the tax base and can directly determine whether the flat tax regime is advantageous or not. The results of this study have a significant impact on both the academic and practical levels.

Even though the concept of a flat tax in the Czech Republic is different from the concept of a flat tax in other countries, the conclusions of the analysis in some parts are consistent with the findings of studies in other countries that also deal with a flat tax. The use of the results thus finds potential in the literature and academic field, e.g. for a possible comparison of results. This potential is exceptionally high if other countries decide to implement the same flat tax concept as is currently the case in the Czech Republic.

The existence of a flat tax in the Czech Republic can be evaluated as a positive fact from the point of view of self-employed persons. The flat tax institute has been operating in the Czech Republic for a long time, but a substantial legislative change in its structure occurred on January 1, 2021 and January 1, 2023. According to the original government estimates, more than half a million taxpayers can benefit from the flat tax regime. However, the actual usage is significantly lower, as it is only approximately one-seventh of the stated number.

One of the arguments supporting the flat tax regime is the reduction of the administrative burden on self-employed persons, but also, in particular, the reduction of the levy burden on self-employed persons, which is above average compared with other states. The study conclusions Bencsnik & Chuluun (2021) also express that the levy burden should be reduced. The reason for the reduction is the higher requirements of business compared with dependent activity and the higher level of risk. These negatives should be minimized in a certain way, e.g., from the point of view of tax or social security contributions. These specificities must be considered not only from the taxpayer's perspective but also from the policymakers' perspective. If the policymakers aim to reduce administrative burdens and simplify the tax system, a flat tax is a clear choice. On the other hand, policymakers should realize that the flat tax rate must be set correctly and in a way that ensures sufficient tax revenue. It is also necessary to consider that this tax can't be so high that taxpayers have a tendency to evade taxes.

A slight limitation of this study is the absence of data from tax returns from individual taxpayers, as the General

Financial Directorate provides this data only in aggregate for all taxpayers. Another limitation is the fact that it does not take into account whether taxpayers are value-added taxpayers.

In connection with the consolidation of public finances in the Czech Republic, the government of the Czech Republic plans to increase the levy and tax burden of both the self-employed persons and employees. This would lead to no increase in the national debt. Whether any changes will affect the convenience of the flat tax may be the subject of further studies in the future concerning what form of legal regulations will be valid in the Czech Republic in the following years.

Acknowledgment

This paper is output of the project SGS SP2026/064 Future Paths of Sustainable Transformation: Interactions between Economic, Social, and Environmental Aspects of Development.

References

- Abbas, Y., Tjen, C., & Wicaksono, P. (2023). The Indonesian Tax Education Program: an Institutional Theory Perspective. *Journal of the Australian Tax Teacher Association*, 18(1), 1–15.
- Adamczyk, A. (2021). Self-Employment: Influence of Tax Incentives and Income Underreporting. *Prague Economic Papers*, 30(2), 171–188. <https://doi.org/10.18267/j.pep.766>
- Albarea, A., Bernasconi, M., Marenzi, A., & Rizzi, D. (2023). Tax Evasion, Behavioral Microsimulation Models and Flat-Rate Tax Reforms: Analysis for Italy. *Public Finance Review*, 51(2), 262–310. <https://doi.org/10.1177/10911421221125598>
- Alm, J., & Malezieux, A. (2021). 40 Years of Tax Evasion Games: a Meta-analysis. *Experimental Economics*, 24, 699–750. <https://doi.org/10.1007/s10683-020-09679-3>
- Azadis, H., & Gillman, M. (2010). Flat tax reform: The Baltics 2000-2007. *Journal of Macroeconomics*, 32(2), 692–708. <https://doi.org/10.1016/j.jmacro.2009.05.001>
- Balatsky, E., & Ekimova, N. (2021). Progressive Income Tax as a Driver for the Development of High-tech Industries in Russia. *Journal of Tax Reform*, 7(3), 212–230. <https://doi.org/10.15826/jtr.2021.7.3.099>
- Baldino, M., & Rizzo, L. (2021). Flat Tax: European Experiences and Italian Proposals. *Hacienda Publica Espanola-Review of Public Economics*, 238, 137–162. <https://doi.org/10.7866/HPE-RPE.21.3.6>
- Barrios, S., Ivaštaite-Tomasiune, V., Maftai, A., Narazi, E., & Varga, J. (2020). Progressive Tax Reforms in Flat Tax Countries. *Eastern European Economics*, 58(2), 83–107. <https://doi.org/10.1080/00128775.2019.1671201>
- Baudot, L., Johnson, J., Roberts, A., & Roberts, R. (2020). Is Corporate Tax Aggressiveness a Reputation Threat? Corporate Accountability, Corporate Social Responsibility, and Corporate Tax behavior. *Journal of Business Ethics*, 163(2), 197–215. <https://doi.org/10.1007/s10551-019-04227-3>
- Beblavy, M., & Prouskova, E. (2010). Flat Tax and Labour Taxation - the Czech and Slovak Experience. *Ekonomicky casopis*, 58(8), 821–837.
- Bencsnik, P., & Chuluun, T. (2021). Comparative Well-being of the Self-Employed and Paid Employees in the USA. 56(1), 355–384. <https://doi.org/10.1007/s11187-019-00221-1>
- Bruce, D., Gurley-Calves, T., & Norwood, A. (2020). Taxes and Entrepreneurship: A Literature Review and Research Agenda. *Foundations and Trends in Entrepreneurship*, 16(5), 393–443. <https://doi.org/10.1561/03000000079>
- Campos, J. (2019). Self-employed Workers: Study of the Implications of the Concept of a Contracting Entity in the Payment of Social Security Contributions. *Red-revista Electronica De Direito*, 15(1), 68–86.
- Castelluccio, M. (2021). Flat Tax? Maybe Not a Bad Idea after All. *Research in Economics*, 75(1), 60–78. <https://doi.org/10.1016/j.rie.2020.11.002>
- Can, E. (2021). Income Taxation, Entrepreneurship, and Incorporation Status of Self-Employment. *International Tax and Public Finance*, 29(5), 1260–1293. <https://doi.org/10.1007/s10797-021-09702-0>

- Celikay, F. (2020). Dimensions of Tax Burden: a Review on OECD Countries. *Journal of Economics Finance And Administrative Science*, 25(49), 27–43. <https://doi.org/10.1108/JEFAS-12-2018-0138>
- Dobranschi, M., Nerudova, D., & Solilova, V. (2017). Future EU Funding: a Case of Lump-Sum Tax. *Inzinerine Ekonomika-Engineering Economics*, 28(4), 367–385. <https://doi.org/10.5755/j01.ee.28.4.16498>
- Filer, R., Hanousek, J., Lichard, T., & Torosyan, K. (2019). "Flattening" Tax Evasion?: Evidence from the Post-communist Natural Experiment. *Economics of Transition*, 27(1), 223–246. <https://doi.org/10.1111/ecot.12189>
- Fernandez-Bastidas, R., (2023). Entrepreneurship and Tax Evasion. *Economic Modelling*, 128, 106488. <https://doi.org/10.1016/j.econmod.2023.106488>
- Fossen, F. (2009). Would a Flat-Rate Tax Stimulate Entrepreneurship in Germany? A Behavioural Microsimulation Analysis Allowing for Risk. *Fiscal Studies*, 30(2), 179–218. <https://doi.org/10.1111/j.1475-5890.2009.00093.x>
- Genzen, B. (2023). Determinants of Top Personal Income Tax Rates in 19 OECD Countries, 1981-2018. *Journal of Public Policy*, 43(3), 401–426. <https://doi.org/10.1017/S0143814X23000028>
- Geitner, R., Fritsch, R., Popp, J., & Bocklitz, T. (2019). Corr2D: Implementation of Two-Dimensional Correlation Analysis in R. *Journal of Statistical Software*, 90(3). <https://doi.org/DOI10.18637/jss.v090.i03>
- Givati, Y. (2020). Theories of Tax Deductions: Income Measurement versus Efficiency. *Journal of Law Finance and Accounting*, 5(1), 107–136. <https://doi.org/10.1561/108.00000042>
- Goudswaard, K., & Caminada, K. (2015). Social Security Contributions: Economic and Public Finance Considerations. *Intenational Social Security Review*, 68(4), 25–45. <https://doi.org/10.1111/issr.12086>
- Hall, R. E., & Rabushka, A. (2013). *The Flat Tax*, Stanford Univerzity, Hoover.
- Hajek, L. (2003). Tax Burden in OECD Countries and in the Czech Republic. *Politická ekonomie*, 51(5), 714–725.
- Heimberger, P. (2021). Corporate Tax Competition: A Meta-analysis. *European Journal of Political Economy*, 69. <https://doi.org/10.1016/j.ejpoleco.2021.102002>
- Henrekson, M., & Sanadaji, T. (2011). Entrepreneurship and the Theory of Taxation. *Small Business Economics*, 37(2), 167–185. <https://doi.org/10.1007/s11187-009-9242-2>
- Hiraga, K., & Hasuji, K. (2023). Progressive Taxation and Robust Monetary Policy. *B E Journal of Macroeconomics*, 23(2), 845–884. <https://doi.org/10.1515/bejm-2021-0251>
- Horvath, M., Senaj, M., Siebertova, Z., Svarda, N., & Valachyova, N. (2019). The End of the Flat Tax Experiment in Slovakia: An Evaluation Using Behavioural Microsimulation in a Dynamic Macroeconomic Framework. *Economic Modelling*, 80, 171–184. <https://doi.org/10.1016/j.econmod.2018.11.005>
- Huang, S., Lien, J., Yang, S., & Zheng, J., (2024). Lump-sum Tax or Flat Income Tax? Welfare Implications of Taxation Policy in the Presence of Social Comparison. *International Review of Economics & Finance*, 92, 20–33. <https://doi.org/10.1016/j.iref.2024.02.007>
- Iefymenko, T., Sokolovska, A., & Rainova, L. (2021). Reforms of Social Security Contributions in Selected EU Member States and Ukraine: Peculiarities of Implementation and Consequences. *Science and Innovation*, 17(6), 24–40. <https://doi.org/10.15407/scine17.06.024>
- Jedlicka, V. (2023). Taxation as a Factor in Investment Attractiveness in the Visegrad countries. *Post-comunist Economies*, 35(4), 368–383. <https://doi.org/10.1080/14631377.2023.2169522>
- Keen, M., Kim, Y., & Varsano, R. (2008). The “Flat Tax(es)”: Principles and Experience. *International Tax Public Finance*, 15(6), 712–751. <https://doi.org/10.1007/s10797-007-9050-z>
- Kovacs, B. (2022). Flat-rate Personal Income Tax in Lithuania, Romania and Hungary: A Revolutionary Policy Idea without Revolutionary Outcomes. *Journal of European Social Policy*, 32(1), 60–74. <https://doi.org/10.1177/09589287211035707>
- Krajewska, A., & Krajewski, P. (2021). Taxation of the Self-employed in Poland and other EU Countries - a Comparative Analysis. *Comparative Economic Research – Central and Eastern Europe*, 24(2), 69–85. <https://doi.org/10.18778/1508-2008.24.12>
- Krajnak, M. (2022). Quo Vadis Tax and Levy Burden of Wages in the Czech Republic? Tax Reform in 2022. *Journal of Tax Reform*, 8(1), 25–39. <https://doi.org/10.15826/jtr.2022.8.1.106>
- Kreko, J., Eros, H., Greskovics, B., Hajnal, A., & Scharle, A. (2023). The Redistributive Effect of the Hungarian Flat Tax and Family Allowance System. *Acta Oeconomica*, 73(4), 481–503. <https://doi.org/10.1556/032.2023.00011>
- Krzikallova, K., & Tosenovsky, F. (2020). Is the Value Added Tax System Sustainable? The Case of the Czech and Slovak Republics. *Sustainability*, 12(12), 4925. <https://doi.org/10.3390/su12124925>
- Lee, I. (2021). Wage Discrimination and Tax Progressivity. *Singapore Economic Review*. <https://doi.org/10.1142/S0217590821500661>
- Lykova, L. (2019). President Trump's Tax Reform. *Mirovaya Ekonomika*, 63(6), 38–48. <https://doi.org/10.20542/0131-2227-2019-63-6-38-48>

Michal Krajnak, Petr Kozel, Hana Minarikova. *Is the Flat Tax for Self-employed Persons in the Czech Republic Beneficial?*

- Mavrokonstantis, P., & Seibold, A. (2022). Bunching and Adjustment Costs: Evidence from Cypriot Tax Reforms. *Journal of Public Economics*, 214. <https://doi.org/10.1016/j.jpubeco.2022.104727>
- Ministry of Finance (2023a). *Údaje z danových priznání*. Available from internet: <https://www.financnisprava.cz/cs/dane/analyzy-a-statistiky/udaje-z-danovych-priznani>
- Ministry of Finance (2023b). *Plnení statního rozpočtu ČR*. Available from internet: <https://www.mfcr.cz/cs/aktualne/tiskove-zpravy/2023/pokladni-plneni-sr-49823>
- Nadirov, O., Dehning, B., & Pavelkova, D. (2021). Taxes and the Incentive to Work under Flat and Progressive Tax Systems in Slovakia. *Economics & Sociology*, 14(2), 40–55. <https://doi.org/10.14254/2071-789X.2021/14-2/2>
- Pantea, S. (2022). Self-employment in the EU: Quality Work, Precarious Work or Both? *Small Business Economics*. 58(1), 403–418. <https://doi.org/10.1007/s11187-020-00423-y>
- Pantya, J., Kovacs, J., Kogler, C., & Kirchler, E. (2016). Work Performance and Tax Compliance in Flat and Progressive Tax Systems. *Journal of Economics Psychology*, 56, 262–273. <https://doi.org/10.1016/j.joep.2016.08.002>
- Pavel, J., & Vitek, L. (2015). Compliance Costs of the Czech Tax System. *Politická ekonomie*, 63(3), 317–330. <https://doi.org/10.18267/j.polek.1005>
- Pichl, L., & Kaizoji, T. (2017). Volatility Analysis of Bitcoin Price Time Series. *Quantitative Finance and Economics*, 1(4), 474–485. <https://doi.org/10.3934/QFE.2017.4.474>
- Rezankova, H. (2020). *Analýza dat z dotazníkových šetření*. Praha: Professional Publishing.
- Safarov, S., & Abdurazzakova, D. (2022). Flat Tax System and Heterogeneity of Self-employment. *Journal of Entrepreneurship In Emerging Economies*, 14(2), 274–291. <https://doi.org/10.1108/JEEE-06-2020-0175>
- Salonen, J., Koskinen, L., & Nummi, T. (2020). The Risk of Under-insurance in the Finnish Statutory Pension Scheme for Self-employed Workers: A Trajectory Analysis. *International Social Security Review*, 73(4), 25–48. <https://doi.org/10.1111/issr.12249>
- Seddia, F., & Hossain, S. (2014). Contrast of Bayesian and Classical Sample Size Determination. *Journal of Modern Applied Statistical Methods*, 13(2), 420–431. <https://doi.org/10.22237/jmasm/1414815720>
- Smirnova, E., Okhimenko, I., & Zakharova, A. (2022). Review of Best Practices in Self-Employment Taxation. *Public Organization Review*. <https://doi.org/10.1007/s11115-022-00604-1>
- Socci, C., D'Andrea, S., Deriu, S., Pretaroli, R., & Severini, F. (2022). Does the Personal Income Flat Tax fit with Economic Growth and Inequality in Italy? *Italian Economic Journal*, 8(3), 523–548. <https://doi.org/10.1007/s40797-021-00149-0>
- Sommacal, A. (2023). Should Italy Switch to a Flat Tax? An Assessment Based on a Heterogeneous Agents OLG Model. *European Journal of Political Economy*, 80. <https://doi.org/10.1016/j.ejpoleco.2023.102482>
- Suter, R., & Poletti, M. (2021). Lump-Sum Taxation – Update. *European Taxation*, 61(8), 369–372.
- Swiech-Kujawska, K. (2022). Taxation of the Clergy with a Flat-Rate Income Tax. *Kosciol I Pravo*, 11(1), 163–178. <https://doi.org/10.18290/kip22111-10>
- Tam, H. (2004). The Humean Critique of Lump Sum Taxation (or the Implausibility of Pure Lump Sum Taxes in Autocracy). *Public Choice*, 118(1-2), 61–76. <https://doi.org/10.1023/B:PUCH.0000013800.88314.34>
- Tatu, L., Stoian, A., Vintila, N., Lazar, P., & Miricisescu, E. (2023). The Hidden Effects of the Flat Tax Rate in Central and Eastern European Countries. *Economic Computation and Economic Cybernetics Studies and Research*, 57(3), 43–58. <https://doi.org/10.24818/18423264/57.3.23.03>
- Tepperová, J., Pavel, J., & Láčhová, L. (2015). Impact of Lump Sum Expense Rates on Public Revenue. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 63(3), 1023–1030. <https://doi.org/10.11118/actaun201563031023>
- Tepperová, J. (2019). Personal Income Tax and Social Security Coordination in Cross-Border Employment - a Case Study of the Czech Republic and Denmark. *European Journal of Social Security*. 21(1), 23–41. <https://doi.org/10.1177/1388262719833766>
- Torregrosa-Montaner, R. (2015). Lump-sum over Distortionary Taxation Dominance with Heterogeneous Individuals. *Economics Bulletin*, 35(3), 1443–1447.
- Torres, L. (2022). Social Security Contributions Distribution and Economic Activity. *International Tax and Public Finance*, 29(2), 378–407. <https://doi.org/10.1007/s10797-021-09668-z>
- Ventura, T. (1999). Flat Tax Reform: A Quantitative Exploration. *Journal of Economic Dynamic & Control*, 23(9-10), 1425–1458. [https://doi.org/10.1016/S0165-1889\(98\)00079-7](https://doi.org/10.1016/S0165-1889(98)00079-7)
- Wang, Y., Li, W., Zhang, N., & Liu, C. (2020). Portfolio Formation with Preselection Using Deep Learning from Long-term Financial Data. *Expert Systems with Application*, 143. <https://doi.org/10.1016/j.eswa.2019.113042>
- Wolowiec, T. (2018). Potential and Possible Ways of Harmonizing the Personal Income Taxation Process. *Comparative Economic Research-Central and Eastern Europe*, 21(3), 109–130. <https://doi.org/10.2478/cer-2018-0022>

Authors' Biographies

doc. Ing. Michal Krajňák, Ph.D., MBA, LL.M. is an associate professor at the VSB-Technical University of Ostrava, Faculty of Economics, Department of Accounting and Taxes. He is the guarantor of the study program in Accounting and Taxes at this university. In 2021, he successfully defended his habilitation thesis on taxation of individuals in the Czech Republic. In his research activities he specialized in tax and accounting topics.

Ing. Mgr. Petr Kozel, Ph.D., is the Head of the Department of Mathematical Methods in Economics at the Faculty of Economics, VSB-Technical University of Ostrava. His research focuses on operations research, mathematical programming, optimization on transport networks, vehicle routing problems, and applications of quantitative methods in logistics and municipal waste management. He is also actively involved in teaching mathematics, statistics, and quantitative methods in economics.

Ing. Hana Minaříková is a graduate of the master's degree specialization in accounting and taxation at VSB-Technical University Ostrava. In 2023, she successfully defended her thesis on the impact of a flat tax on the collection of personal income tax and social security contributions. She currently works in accounting and tax practice.

The article has been reviewed.
Received in November 2023; accepted in June 2026.



This article is an Open Access article distributed under the terms and conditions of the Creative Commons Attribution 4.0 (CC BY 4.0) License <http://creativecommons.org/licenses/by/4.0>