TAX BURDEN ON COMPANIES IN SELECTED COUNTRIES

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Abstract: Taxes are one of the things all companies have to pay. However, taxation is a big issue for many people in today´s uncertain times. The paper aims to compare taxes in Central European countries (the Czech Republic, Slovakia, Poland, Hungary, Austria, and Germany) in the years 2016-2020 and to make predictions for next years. The data used were obtained from publicly available resources – Eurostat and OECD. The situation in the individual states is compared using time series analysis, i.e. by observing the data. Based on the observation, the results are obtained using Excel. The results show that Central European countries are doing better when compared to the other EU countries in terms of taxation (i.e. lower taxes). The results also show the existence of differences between the states of the former Eastern and Western blocs in terms of taxation. According to the estimates of the taxation for the next years, taxation in Central Europe will increase slightly or remain the same in the coming years. The paper also proposes further research including a larger number of countries.

Keywords: Covid-19; Central Europe Evropa; taxation; EU; tax policy

1 Introduction

Taxes are one of the essential parts of every country´s economy, and are thus the subject of many studies examining the impact of taxation on the economic growth and well-being as well as their negative impact on the economy (Peňáková, 2021). Every state chooses a tax policy that would enable it to finance its operations and that is considered the most appropriate or the most effective (Vasylieva et al., 2020)

In terms of the tax burden in the EU, the EU countries themselves determine the rates and decide what they use the collected taxes for (Kostiuk et al., 2021). However, the EU regulates the tax rates in individual countries so that it is possible to maintain the free flow of goods and capital between the EU countries (Kabourková and Rousek, 2010), and so that companies from some countries are not unduly favoured or discriminated against by companies from other EU countries. In the EU, there is a set of rules concerning indirect taxes, at the level of administrative cooperation, and partly in the field of direct taxation. Nevertheless, each country has the right to determine the rates (Feranecová et al., 2017).

The situation concerning the global Covid-19 pandemic have inspired many governments to search for additional financial sources in order to fix the holes in the budget caused by Covid-19 (Čábelková, 2021). Increasing taxes is thus one of the ways governments decided to choose despite of the fact that it will slow down the post-covid development and recovery (Čábelková, 2021). According to Dias et al. (2020), the current pandemic is one of the factors that may increase the tax burden on companies, along with other difficulties caused by the covid pandemic, such as lower sales, revenues. The pandemic has largely affected all EU countries and caused serious economic problems, including unemployment, which was considered temporary at the beginning but with the prolonged measures against Covid-19, it has become permanent (Ţibulcă, 2021). Companies will thus have to follow the debates on balancing the revenue side of the state budget and to determine the potential impact on their situation (Kmecová et al., 2020)

The objective of the paper is to analyse the tax burden on companies in the Czech Republic, V4 (Poland, Hungary, Slovakia), Germany, Austria and to determine how this burden has changed during the Covid-19 pandemic. To achieve this objective, the following research questions are formulated: (1) *What is the tax burden on companies in selected EU countries? (2). How has the Covid-19 pandemic changed the tax burden in selected EU countries? (3) What trend of tax burden can be expected in selected EU countries?*

2 Literature research

Typical feature of the world economy in the third millennium is deepening globalization (Peňáková, 2021). Developed economies face various challenges, one of them being unfavourable demographic situation (aging population), which puts pressure on public finance and increases the future expenditures (Peňáková, 2021). This puts pressure on increasing the revenues of the state apparatus or reducing the expenditures (Domanižová et al., 2020). Decreasing tax rates may reduce tax revenues, which may result in worse quality of the public services provided (Maličká, 2017). In developed economies, the corporate tax rates are thus subject of intensive discussions as a possible solution (Álvarez-Martínez et al, 2018). Kasych (2019) states that this would represent other potential expenses for large companies.

The last 15 years have been an extremely turbulent period in the EU countries. The EU have gone through four socio-economic crises, with the last one causing 7-16% downturn in the economy according to the estimates of the European Commission (Sidorova, 2021). According to Almeida et al. (2021) the income loss of households will be 9.3 %, if there are no political interventions from the governments. Cantó et al. (2021) mention up to 18.8% decrease in GDP, a decline that the UK economy experienced in the first half of 2020, which made UK one of the most affected economies by the pandemic in Europe. During the pandemic, most economies thus adopted previously unacceptable state regulation in order to help the affected sectors of economy and some citizens (Koroleva, 2021). The European Commission thus proposed the EU countries to adopt targeted measures, such as deferred tax payment, social benefits, tax rebates, financial support, etc. (Cordewener, 2020). Despite of this, economic recovery will require considerable costs and time. According to Ţibulcă (2021), individual countries needed two to three years to recover from the preceding financial crisis; as the Covid-19 pandemic continues in 2022, it can be expected that it will take even longer to handle the consequences of the current crisis.

Long-term sustainability of state budgetary expenses in the Covid-19 pandemic is closely connected with tax compliance (Čábelková, 2021). According to Nerudová and Solilová (2015), the European Commission was requested to carry out a study on company taxation with the aim to identify the differences in the effective level of corporate taxation. The EU tries to ensure that individual countries have tax systems that would not compete with each other and that would support the common market (Feranecová et al., 2017).

One of the methods used to determine the maximum possible tax revenue can be the Laffer curve, which theoretically enables determining tax rate that would help achieve the maximum possible tax revenue (Frýd, 2021). Andrejovska and Helcmanovska (2021) used linear regression to calculate the impact of value added tax rate changes in the EU, more precisely, Shapiro-Wilk test, Breusch-Pagan test, Breusch-Gofrey test, and Farrar-Glauber test. In the research of the impacts of the pandemic, regression and correlation analysis or comparative and descriptive analysis can be used, as used by Đukić, Štaka and Drašković (2021) in similar research.

3 Data and Methods

The data source used is Eurostat, which provides statistical data on the EU member countries and enables statistical comparison of EU regions. The data are also used as basic information for the European Central Bank and other EU institutions operating in the economic area. Since this paper focused on the Central European countries, namely Germany, Austria, V4 (the Czech Republic, Slovakia, Hungary, Poland), the Eurostat data will need to be adjusted prior to the research (i.e. to select the aforementioned states only). For the purposes of the paper, the

OECD data will also be used. The data concerned are for the years 2016 - 2020.

To obtain the information on the current taxation, the Eurostat database will be used. In the database, the relevant data can be obtained by finding "Taxation in" + the year for which the data are required. For the purposes of the paper, the data from the years 2016-2019 will be used. The data are given in percentage of GDP. Moreover, the data on the decline in GDP from the year 2020 (in percentage) will be obtained from Eurostat. For data from 2020 (the year when the data are influenced by covid), the OECD data will be used. These data will enable answering the research question of how covid has affected the taxation.
Another method used is the analysis of time series, i.e. monitoring the data points recorded over a defined period of time. The method is used for describing data or predicting their future behaviour. Data are arranged by means of tables and graphs and based on examining and comparing the data, relevant results are obtained. To calculate the development of taxation in the selected countries, the following formula will be used: tax revenue for the coming year = (1 + tax elasticity * percent change from base year) * this year´s tax revenue.

4 Results

As seen in Table 1, most countries under review (the Czech Republic, Slovakia, Poland, Germany and Austria) increased the tax rate, with the highest tax rate recorded in Poland and Germany and the lowest one in Austria; however, the taxation in Austria is considered to be the highest one in the countries under review. Hungary is the only country that reduced the tax rate, with the reduction being quite significant within the monitored years (2.7 %). The taxation in the Czech Republic, Slovakia, Poland, and Hungary is below the EU average, which increased only slightly within the monitored period (by 0.3 %). It follows from the table that the countries under review (Central European countries) do not pursue strict approach to corporate taxation; however, this is not true for all monitored countries.

Table 1: Tax rate in percentage to GDP in the years 2016-2019

Country	2016	2017	2018	2019	Average 2016-2019
The Czech Republic	35.1	35.4	36	36.1	35.65
Slovakia	33.2	34.2	34.3	34.6	34.075
Poland	34.3	35	36	36	35.325
Hungary	39.2	38	37	36.5	37.675
Germany	40.5	40.8	41.3	41.7	41.075
Austria	42.4	42.5	42.9	43.1	42.725
EU (EU average)	39.9	40.1	40.3	40.2	40.125

Source: Author based on data from Eurostat

Table 2 shows that in 2020 (the "covid" year), the Czech Republic, Hungary, Germany and Austria reduced the tax rate. For all four states, it was the lowest tax rate in the monitored years. In Hungary, the taxation was further decreased. Due to the sharp reduction, Germany fell below the EU average. In the year 2020, Austria was the only country above the EU average. For companies, this is another indicator of the profitability of doing business in Central Europe: since the EU average was growing, the taxation in the Central European countries decreased. In Poland, taxation remained the same in the year 2020. Slovakia was the only country to increase its taxation, although slightly.

Table 2: Taxation in 2020 and difference in comparison with past years

Country	2020	2016-2019	Difference	Difference between 2019 and 2020
Czech Republic	34.4	35.65	-1.25	-1.7
Slovakia	34.8	34.075	0.725	0.2
Poland	36	35.325	0.675	0
Hungary	35.7	37.675	-1.975	-0.8
Germany	38.5	41.075	-2.575	-3.2
Austria	42.1	42.725	-0.625	-1
EU (EU average)	40.4	40.125	0.275	0.2

Source: Author based on Eurostat data

The remaining part of the results concerns the predicted taxation in the selected countries for the years 2021 and 2022. At the time of writing this paper, the year 2021 is already over but the figures for the year have not been published yet; the forecast thus concerns even the year 2021. The prediction was made on the basis of the formula described in the chapter "Data and Methods". As seen in Table 3, in the year 2021, the Czech Republic, Hungary, Germany and Austria should increase their taxation percentage as follows: by 1 % in the Czech Republic, 0.5 % in Austria; the largest increase is expected in Germany (by more than 2.1 %) and Hungary (more than 1.5 %). On the contrary, Slovakia and Poland are expected to decrease the tax rates. For both countries, the decrease should about 0.5 – 0.6 %. For the year 2022, the taxation should be similar. In the case of the Czech Republic, Germany, and Austria, it is less than 0.1 %; in Poland and Slovakia, it is about 0.2 %. In all countries mentioned, it is an increase in taxation to GDP. The predicted reduction for Hungary is 0.38 %.

Table 3: Predicted taxation for the years 2021 and 2022

Countries	2016	2017	2018	2019	2020	2021	2022
The Czech Republic	35.1	35.4	36	36.1	34.4	35.4	35.46
Slovakia	33.2	34.2	34.3	34.6	34.8	34.22	34.42
Poland	34.3	35	36	36	36	35.46	35.69
Hungary	39.2	38	37	36.5	35.7	37.28	36.90
Germany	40.5	40.8	41.3	41.7	38.5	40.56	40.57
Austria	42.4	42.5	42.9	43.1	42.1	42.6	42.64
EU (EU average)	39.9	40.1	40.3	40.2	40.4	40.18	40.24

Source: Author based on data from Eurostat and OECD

5 Discussion of Results

Discussion of results provides answers to the research questions formulated in the introductory chapter of the paper.

What is the tax burden on companies in selected EU countries?

Based on the Eurostat data, it was found that the taxation in the selected countries (Central Europe) is below the EU average. More precisely, before the outbreak of the Covid-19 pandemic, the average taxation was 36.65 % in the Czech Republic, 34.075 % in Slovakia, 35.325 % in Poland, 37.675 %in Hungary, 41.075 % in Germany, and the highest taxation was in Austria (42.725 %). These figures thus represent the answer to the research question. However, the research shows that except Hungry, the taxation at the end of 2019 showed an upward trend in the selected countries.

How has the Covid-19 pandemic changed the tax burden in selected EU countries?

As is well-known, the Covid-19 pandemic swept the world in the year 2020. As mentioned in the previous chapters, the pandemic has changed the world in many areas, one of them being economy. Countries responded differently to the pandemic; the changes in the taxation were also different to each state. The research shows that on average, the EU countries increased the taxation slightly. This applied also to Slovakia, which maintained the taxation at the same numbers as the EU average between 2019 and 2020. On the contrary, most of the countries under review reduced the taxation at the beginning of the pandemic. The reduction was about 1 % in Austria, 1.7 % in the Czech Republic, and 3.2 % in Germany. The reduction in Hungary achieved 0.8 %; however, unlike the other countries, Hungary decreased the tax rates before the pandemic. The last country to be mentioned is Poland, which did not change the taxation during the pandemic, keeping the same values as in the year 2019.

What trend of tax burden can be expected in selected EU countries?

This question is more difficult to answer than in the case of the two previous questions, where there were specific data available. This is not possible when making prediction for next years, since it is very difficult to estimate the exact numbers. However, it is possible to obtain approximate numbers using the predicted numbers from the past years (our research) and use them for the calculation. What trend of tax burden can thus be expected in the years 2021 and 2022? In the Czech Republic, it is 35.4 % and 35.46 %, 34.22 % and 34.42 % in Slovakia, 35.45 % and 35.69 % in Poland, 37.28 % and 36.9 % in Hungary, 40.56 % and 40.57 % in Germany, and 42.6 % and 42.64 % in Austria.

As these are estimated values, there is a possible error rate. The estimate does not consider potential changes in tax legislation or other possible factors. The results might also be slightly skewed due to the data from the year 2020, when some countries adopted drastic measures to stop the spread of the pandemic; however, these steps may have no effect or the states may decide not to use them in the next years. In general, the estimate is sensitive to sudden changes in taxation.

6 Conclusion

The objective of the paper was to analyse the tax burden in the Central European countries (the Czech Republic, Poland, Slovakia, Hungary, Austria, and Germany) and to find out how the taxation changed during the Covid-19 pandemic. This objective was achieved. In the chapter "Results", the data used showed the taxation in the selected countries in the last five years. The data were then compared; it was also found how the taxation changed in the year 2020 due to the pandemic. For the purposes of the paper, three research questions were formulated, which helped to achieve the objective of the paper. Based on the research results, it can be stated that in Central Europe, there is a tax gap between the countries of the Eastern and Western blocs. The taxation rate is lower in the post-communist countries. The exact cause of this phenomenon is not the subject of this research. The identified tax gap was partly narrowed due to the Covid-19 pandemic, more precisely, it was narrowed in Germany, but according to our predictions, this gap is expected to return to the previous numbers in the next years. The paper thus also presents the estimate for the next years, which is to predict the future trend of taxation in the selected countries. This estimate, despite the possible error rate caused by several factors that cannot be predicted in advance, provided answer to the formulated research question.

The contribution of this paper consists in determining the tax burden in the Central European countries, its mutual comparison between individual states, and its comparison with the average of the EU they belong to. Since 4 out of 6 states are permanently below the EU average, pulling its values down. The research limitation is e.g. the estimated taxation for the next years, when the calculated value can be significantly different in reality after a few years. This is given by the difficulty of predicting data for longer periods. Another limitation is the small sample size of selected countries. Therefore, further research should include more countries (the EU, OECD countries).

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