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Extended Abstract of Bachelor Thesis

Unemployment in the Czech Republic

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The unemployment in the Czech Republic

Abstract

This bachelor thesis is focused on the problem of Unemployment in the Czech Republic and the consequences it brings. Theoretical part the relevant terms related to the unemployment will be introduced, along with identifying the types of unemployment and what is the unemployment rate. Furthermore, the causes and impacts of unemployment will be presented.

The practical part of the thesis is dedicated to the development of unemployment in 2012–2021 period. In this part the various statistical method will be implemented: basic statistical methods, correlation coefficient without the trend, average growth rate, linear regression, pie chart, chain base index and fixed base index. The work will end with a conclusion along with a proposal on how unemployment could be reduced.

Keywords: Czech Republic, GDP, labour market, unemployment rate, economic activity, inflation, average gross wage, causes of unemployment.

Nezaměstnanost v České republice

Abstrakt

Tato bakalářská práce je zaměřena na problematiku nezaměstnanosti v České republice a důsledky, které přináší. V teoretické části budou představeny relevantní pojmy související s nezaměstnaností. Jako je identifikace druhů nezaměstnanosti a co je míra nezaměstnanosti. Dále zde budou představeny příčiny a dopady nezaměstnanosti.

Praktická část práce se věnuje vývoji nezaměstnanosti v období 2012–2021. V této části budou uplatněny různé statistické metody: základní statistické metody, korelační koeficient bez trendu, průměrná míra růstu, lineární regrese, koláčový graf, řetězový index a bazický index. Práci zakončí závěr společně s návrhem, jak by bylo možné snížit nezaměstnanost.

Klíčová slova: Česká republika, HDP, trh práce, míra nezaměstnanosti, ekonomická aktivita, inflace, průměrná hrubá mzda, příčiny nezaměstnanost.

1 Objectives and Methodology

1.1 Objectives

The aim of the thesis is to describe the main relevant terms to topic of unemployment. The next aim is to analyse the indicators and development of unemployment in the Czech Republic for period from year 2012 up till 2021. The analysis of indicators will follow with its subsequent evaluation and design measures for their favourable development. The analysis' focus will consist of the following indicators:

- Overall unemployment
- Unemployment rate in individual regions
- Unemployment rate based on gender
- Unemployment by age groups

1.2 Methodology

The bachelor thesis is divided into two parts. Theoretical and practical part. The first theoretical part is dedicated to research from the specialized literature and electronic sources to introduce the topic of unemployment along with relevant terms such as: employment, types of unemployment, relationships that occur within the unemployment, identification of risk groups, characteristics of social and economic consequences within the and additional information sources related to this topic. Furthermore, the role of state employment policy is presented. Focus will be also on the unemployment rate itself along with its calculation and explanation of the result obtained from formula. The main causes of unemployment will be identified along with the minimal wage of the country. Finally, employment policy will be introduced.

The second analytical part of thesis is dedicated to own analysis of unemployment of the Czech Republic during 2012–2020. Overall unemployment rate will be observed along from the perspective of individual regions, age groups and gender. The values there obtained will be compared with the previous period following with the evaluation of in which region the unemployment rate was the highest and in which were the lowest and why.

2 Theoretical Part

Unemployment is a situation in labour market where people seek job opportunities consistently however, they cannot obtain one as there are not enough offers or because the job does not meet the requirements of the individual (Urban, 2004).

The population of Czech Republic is divided into economically active and economically inactive. Unemployment rate is the most used indicator in the national economy. Its calculation is dividing the amount of unemployed by economically active population. The result then multiplied by hundred to obtain its percentage value (Brčák, 2010).

Types of unemployment are frictional, structural, cyclical, seasonal and technological. Another division of unemployment is based on willingness to accept the offered job for specific wage. That would be voluntary and involuntary unemployment which was firstly brought by John Maynard Keynes in his book "The General Theory of Employment, Interest and Money" (1936). Who states it is related to the lack of aggregate demand (Fuchs & Tuleja, 2003).

Unemployment can be either short or long-term. Short-term unemployment lasts up to year, most commonly no more than six months. Long-term lasts over years (Brožová, 2003).

Minimum wage is one of the main causes of unemployment as is set by the government. In the Czech Republic the minimum wage was CZK 8 000 per month from year 2010 to 2012. In year 2021 the wage almost doubled and was equal to CZK 15 200 per month.[1]

Labour market is place where supply meets demand. Supply is representing vacancies and demand is described by demand for job. (Tvrdý, et al., 2007).

Employment policy is active and passive. It is a set of measures that create optimal conditions for a balanced labour market. It is essential for economic growth. (Halásková, 2008).

Pandemic disease COVID-19 is the main factor for Czechia for sudden increase in the unemployment. The first case in the country was reported on 1st of March 2020. Due its fast spread the government's restrictions caused some business to close down due lack of income, growing debt. The Minister of Finance issued a measure to provide a financial support with program 'Antivirus' for taxpayers whose business was affected or prohibited of its activities by the Government's Resolution were put into the effect as of 12th March.[2]
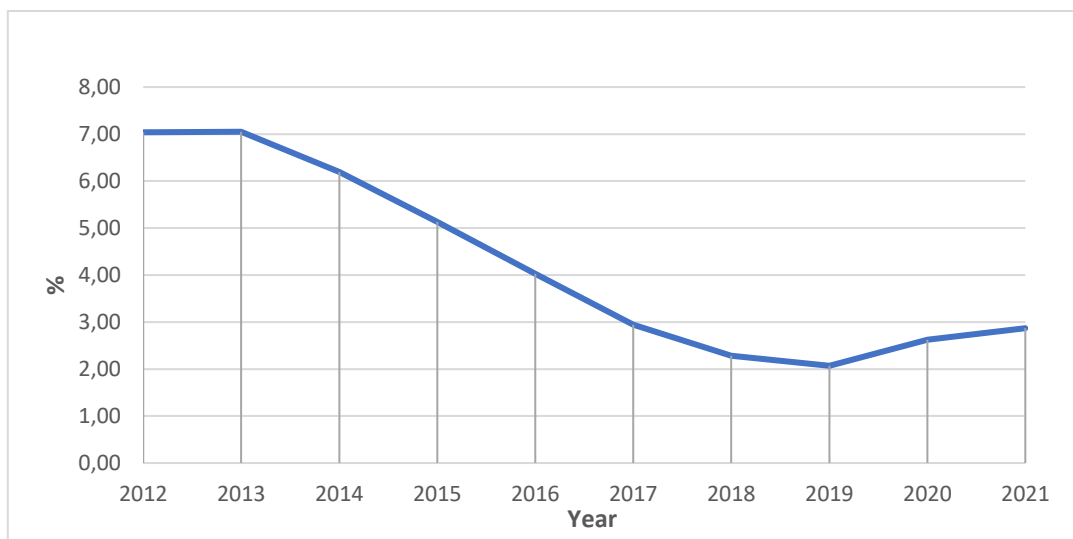
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[1] Sociální politika [online]: Vývoj minimální mzdy od jejího zavedení v roce 1991. 2017.
WWW: <https://socialnipolitika.eu/2017/01/vyvoj-minimalni-mzdy-od-jejiho-zavedeni-v-roce-1991/>
[2] MPSV [online]: Ochrana zaměstnanosti. 2022.
WWW: <https://www.mpsv.cz/antivirus>

3 Practical Part

There is a clear tendency for the unemployment rate in the Czech Republic to decrease with time, trying to attain its regular mean. The emergence of new companies, commerce, services and economic upturn are the reasons for the unemployment rate's decrease. For the selected period, the lowest observed point of unemployment rate was detected in year 2019 which is the 'pre-COVID' year and from this year onward the unemployment rate began to rise again due the pandemic and its impacts on labour market.

Figure 1: Unemployment rate in Czech Republic for period 2012–2021

Source: CZSO, own processing, 2022

The interval estimate testing found the data prediction to be less reliable with a high REF score of 72.4%, with the estimated prediction interval including the upper and lower confidence intervals being:

$$P(0\% < 0.9533\% < 3.2823\%) = 0.95$$

Showing the estimated value for 2022 of being at 0.9533%, clearly being affected by the built-up decline from 2012 to 2019 before the pandemic. The equation also predicts that the value in 2022 will be included somewhere within the values from 0.01% to 3.2823% at a 95% confidence rate.

The average growth resulted in 0.895699836, showing an estimate that on average the unemployment rate is at 89.56% from the year prior. Estimating a possible trend that the value of the year 2022 will decrease by 1.043%.

The hypothesis testing with statements:

H_0 … there is no significant relationship between the set values

H_1 … there is a significant relationship between the set values

Resulted in a value lesser than the set alpha of 0.05, thus H_0 is rejected and H_1 stands leading to a conclusion that there is a significant relationship between the set values.

The result of the fixed base index was equal to 0.41428, meaning the unemployment rate in 2021 is 41.42% of what it was in 2012. While there is a noticeable shift from decline to a slight rise in the pandemic year of 2020, the curve is already beginning to straighten out in 2021. The chain base index calculation resulted in 1.1153, for the year 2021 and 2020. This result shows a slow increase by 11.53% and leads to the conclusion that the unemployment percentages of Czech Republic are beginning to stabilize as if compared to the growth during the pandemic year which was equal to 1.23809 which was an equivalent to a 23.8095% increase since 2019. It can be expected that the rates will plateau in the following year and then begin to return to a value similar to that of the year before the impact of the pandemic which is the main external force that pushed the rates up in the first place.

Comparing the development between men and women using correlation analysis to effectively compare any possible similarities between the data sets of men and women. As the correlation coefficient may be affected by trend throughout the years, in order to make sure the trend is not affecting the numbers and thus the output a theoretical dataset had to be created from the actual data, using linear regression equations, which is to be reduced from the actual value to create residual. The correlation coefficient of the residual values, thus eliminating any possible trend, resulted in r = 0.99652. This means that the data is not affected by the trend, however it is affected by the situation of each specific year. The result shows that there is a very strong positive correlation between the two data sets of men and women.

The age and education level in the regions of Czech Republic are split into 19 regions in this analysis. Overall, the unemployment among all the regions has decreased in comparison to the year 2012. The correlation between the years 2012 and 2020 among all observed regions is equal to r = 0.88971. This shows a strong positive correlation for the data of all the region's leading to possible assumptions that when the unemployment of the Czech Republic changes, the regions will be impacted accordingly in similar fashion. The data for the age groups shows a consistent trend of the fact that most of the unemployed population is located within the 30 to 45 age range. The most common age range in the end is 30–34 with 16%. Out of all the age groups, the 4 groups located in age ranges of 25–44 have a total of 114.8 thousand people, while the surrounding 7 groups ranging 15–24 and 45–64 have a total of 94.2 thousand people.

Conclusion

When putting Czech Republic in the world scale it is a country with one of the lowest unemployment rates. Unemployment in the Czech Republic during observed period from year 2012 to year 2020 had undergone two different phases of its cycle. Unemployment was consistently decreasing, and situation was significantly improving as the economies were able to rise along with increase of GDP and that from the first observed years up till year 2019. In this year the share of unemployed people from total population equal to 2.07%. It was the very lowest recorded during observed period. In contrast the highest value was reported in years 2012 and 2013, that being equal to 7.05 for year 2013 and 7.04 for year 2012. However, unemployment in the country was not only decreasing. From year 2020 onwards it began to increase yet again. The biggest impact on unemployment certainly had COVID-19. As many businesses due to national regulations were forced to close down not everyone was prepared for such event with sufficient savings and became unemployed. In addition, many business owners were forced to close their businesses down due to lack of demand.

Looking at unemployment in more detail such as age category. According to data from observed years the unemployment affects mostly people from 25–35 years. Unemployment seems to affect more female individuals rather than men as in many cases they take the role of the housewife. Helpful solution to case of this category would be a requalification.

In year 2012 the area with most unemployed people was Jihovýchod which is basically Vysočina and Jihomoravský region together. Value was 63.1 thousand unemployed. And the lowest value obtained during that year was 14.1 thousand unemployed from Plzeňský region. In year 2020 the region with highest unemployment was Moravskoslezský with 21.3 thousand people unemployed. In exact year, the smallest value was recorded in Pardubický region with only 4.2 thousand people.

Unemployment is a problem that affects every country. With appropriate strategy by correct analysis of the society and its current state, it can help reducing the unemployment of one country.

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