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Effects of Indebtedness of Self-governing Regions: Comparison Between Selected Central European Countries

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Abstract We are enriching the debate on the indebtedness of self-governing regions with a scientific article that focuses on the effects of this phenomenum of the Czech Republic and the Slovak Republic as selected Central European countries. The main purpose of the article is to find out possible measures and solutions in the stabilisation of the financial security of self-governing regions in the surveyed countries. The research refers to the monitored period from the accession of both countries to the European Union in 2004 (data summarized in 2005) till 2022 when the final annual statistical data of the regional final accounts (referring to 2021) are available. Descriptive statistical method was used to express the development trends of indebtedness, represented by line graphs and tables. The data were aggregated for individual budget years in all self-governing regions, due to significant differences in the structure of fragmentation, the research results were interpreted through the indebtedness per inhabitant and the share of indebtedness to current income determined by the legal framework. Through the study of foreign and domestic scientific literature, possible preventive measures for reducing self-governing regions debt were proposed when using returnable funding sources after joining the European Union of these two countries.

Keywords: • fiscal imbalance • indebtedness • self-governing regions • regional budget

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1 Introduction

Rising expenses and revenue gaps will make fiscal situation difficult for self-governing regions to balance budgets while still providing for the needs of citizens as long as the coronavirus pandemic continues, and new crisis are coming in adverse scenarios. By assisting regional leaders in identifying escalate financial issues and workable remedies, central government can play a critical role in maintaining the fiscal health of self-governments. Particularly, regional and local self-governments might not have the resources and capacity to endure the enormous budgetary pressures that lie ahead. Fiscal stability and financial assistance might be determined by the central government's prompt support at this crucial time.

Financial decentralization increases the possibility that regional self-governments may behave irresponsibly hoping that a higher authority will step in and help them if they encounter financial difficulties. As a result, the economic literature strongly advises against bailouts, but no other way out is possible in practise. While nations lacking such a requirement occasionally do not, or only occasionally, bailout subnational governments, countries with a no-bailout rule frequently do so, largely due to a lack of financial support at the regional self-government level.

A well-balanced combination of policy measures, including provision of enough funds, proper fiscal monitoring, early intervention mechanisms, and bailout criteria that are sufficiently strict, appears to be necessary for regional self-governments to behave fiscally responsibly. Self-governing regions charge taxes and may have access to other sources of income, but they rarely cover all of their expenses. Many nations place restrictions on local tax sovereignty, and regional self-governments in worse financial situation may have small tax bases to provide public services as a basic legal requirement of central government (Maksimovska-Veljanovski and Stojkov, 2013).

A problem closely related to the financial problems of regional and local self-governments in Europe is, according to Baskaran (2009) the result of a vertical fiscal imbalance, which ultimately causes a horizontal fiscal imbalance between individual local and regional self-governments (differences in indebtedness).
Such vertical fiscal imbalances require the use of intergovernmental transfers and also using foreign sources of financing in the form of long-term loans (Eyraud and Lusinyan, 2013).
Local and regional self-governments might have to spend more money than they take in if funding is inadequate. On the other hand, intergovernmental transfers might make it harder for regional self-governments to operate effectively with public finances (Boadway and Dougherty, 2018). The reason is the state legislation, which regulates the issue of indebtedness of regional self-governments in the scope of limiting activities of subsequent regional development (Smith et al. 2019). Since

joining the European Union, self-governing regions in the conditions of the Czech Republic and the Slovak Republic have gradually started to use foreign sources of financing from private or public credit entities to finance their investment plans (Lentner et al., 2018).

Indebtedness of self-governing regions in these two countries has become a common phenomenon in the context of self-governing regions of the European Union. There are no possible solutions for immediately reducing the long-term fiscal imbalance in the form of the total debt of the self-governing regions of the Czech Republic and the Slovak Republic given the current legal rules and the economic situation of both countries. The law regulates only the issue of compliance with debt regulations in the form of a corresponding contribution of the maximum indebtedness of self-governing regions to current income. However, this indicator is not sufficiently important in the event of unpredictable crisis situations that significantly affect the financial health of self-governing regions in the event of a shortfall in revenues for the exercise of original and transferred competences from the central government at regional self-governments, which also belong to financial development activities with a high burden on regional budgeting.

The implementation of development contracts has led self-governing regions to depend on more and more frequently and to a greater extent on repayable sources of funding. Therefore, the question is what is the safe level of debt of self-governing regions as an integral part of public finances and ultimately public debt?

Public debt literature pays a lot of attention to central government. This is not surprising given that public debt constitutes a significant portion of central government debt still growing in Europe (Beqiray et al., 2018). The role of the separate model of public administration, which currently represents central government and self-government, brings with it an increasing debt problem. In the case of self-governing regions in the Slovak Republic and the Czech Republic, since 2004, respectively since the adoption of several laws that determined the fiscal decentralization of teritorial self-governments after joining the EU, legal measures regulating the maximum debt limits of self-governing regions were also established, in order to ensure the consolidated management of self-governing regions in both countries.

Currently, there are unanswered questions on the subject of limiting self-governing regions in their development due to insufficient financial resources for the implementation of not only financially demanding project and investment plans, but also in the current post-pandemic era and the coming energy crisis, also for the regular expenses of self-governing regions for the performance of providing basic services to the public. The basic goal of the research is to find out the reasons for the fiscal imbalance at the regional self-governments in the conditions of the Slovak

Republic and the Czech Republic and to determine possible preventive measures to prevent deep financial problems of self-governing regions.

In the research paper, we examine the primary fiscal rules and policies pertaining to self-governing regions in two European countries and discover significant differences between theory and actual practice as well as between fiscal rules and actual policies about fiscal debt on regional self-governments. By creating a comparative analysis, we describe the individual trends of financial congestion in the budget years 2005 to 2021 after the accession of the countries to the EU.
The research interpreted in this scientific paper adopted two research questions. The first of them (Research question 1) concerns the development of the indebtedness of the self-governing regions of both countries after joining the EU and monitoring the differences between individual budget years in the case of the analyzed self-governing regions of the Czech Republic and the Slovak Republic.
Finnaly, the second research question (Research question 2), deals with the relationship between the central government and the self-governing regions in Czech Republic and the Slovak Republic in the matter of financial assistance in case of crisis situations and financing of investment plans, which continues to be the financial coverage of revenue shortfalls from the central government and EU funds as a result of the insufficient financial autonomy of the self-governing regions. The attention of the presented article is aimed at joining the EU and what the factor caused in the two examined perspectives:
1. The development of the indebtedness of the self-governing regions of the Czech Republic and the Slovak Republic.
2. The development of the financial dependence of the self-governing regions of the Czech Republic and the Slovak Republic.on the state budget.

2 Literature overview

The problem of the indebtedness (long-term fiscal imbalance) of self-governing regions of European countries is dealt with by a relatively broad scientific community, but finding a suitable solutions and preventing measures for reducing public debt, which also includes the debt of self-governing regions, is quite difficult in the conditions of regional entities that are primarily dependent on foreign sources of financing with a wide competence framework, especially investment projects intentions (Wójczik and Ioannou, 2020).

Mazúrová and Kollár (2014) clearly state that part of the public debt of states is also the debt of self-governing regions and local self-governments, which they represent in our research on self-governing regions in the Czech Republic and the Slovak Republic. This statement is factually supported by the statistics of individual countries across Europe.

The impact on self-governing regions budgets during the COVID-19 pandemic were also addressed by the authors Mikuš, Brix and Šmatlánek (2021) and Minárik (2020). The authors came to the conclusion that the effects of the crisis are not uniform for all self-governing regions budgets, and each self-governing regions has limited limits for adopting financial measures, which are mainly influenced by financial reserves.

The reports of individual final accounting periods evaluate the development of the given indicator very carefully every year, in order to be able to examine developmental changes, e.g. by individual municipalities, cities and regions for the adoption of adequate restrictive measures, which influence and condition the negative deviations of the increase in the indebtedness of self-governing regions (Bajo and Primorac, 2014a).

The Croatian authors Bajo and Primorac (2014b) researched the indebtedness of Croatian regions and, in comparison with the legislation of the Slovak Republic and the Czech Republic, state that in the Croatian legal system there is neither a formal consolidation of the indebtedness of regions nor its assessment, which, however, does not require the aspect of financial management of public debt. As the main reason, he brought the possibility of unlimited indebtedness of regions without a single limit of the given indicator, which, although it ensures the development of regions without limited financial resources, but can continuously increase the total indebtedness of self-governing regions.

According to Bobáková (2015), debt management of self-governing regions is an integral part of reducing public debt in the conditions of the object of our investigation in the form of the Czech and the Slovak self-governing regions. Authors research from 2015, in which focused on the indebtedness of self-government regions primarily in the conditions of the Slovak Republic, comes to the conclusion that despite the positive reporting of the results of the management of the regions until 2014 in the final accounts of the relevant territorial administrative units, they are increasingly forced to use foreign sources of financing for financial challenging investment intentions. The author also claims that the financial management of regional self-government cash-flows belongs to the basic reporting of fiscal imbalance in the form of total debt, which is an expression of the cumulative aggregation of credit frameworks during individual budget years.

Peráček et al. (2022) found in their research that crisis situations for self-governing regions that affect the population from an economic, social and security point of view are not sufficiently addressed in the legislation framework of the Slovak Republic.

Opluštilová (2016) claims that despite the low share of regional debt in the long-term fiscal imbalance of public finances, it is not correct to underestimate the indebtedness of self-governing regions. Every negative and positive movement in numerical expressions of indebtedness needs to be monitored, recorded and evaluated every year so that further new problematic changes in indebtedness indicators can be averted and for the state to regulate the financial situation at the regional self-governments. However, another important aspect of monitoring the long-term fiscal imbalance is the search for its causes in individual regional entities.

Allers and Natris (2021) dealt with possible effective measures for financial management failures of regional self-governments, which later caused a long-term fiscal imbalance affecting the total debt of the public administration by accumulating debt in budget years. One of the possible variants of how to achieve fewer unexpected interventions by the central government and shocks of regional self- governments in the form of indebtedness is to ensure that regions have enough financial resources to fulfil their normal tasks. Interventions are only necessary in unpredictable situations.

Mau (2015) in scientific research that focuses on the indebtedness of regions in the Scandinavian country, Denmark, which is characterized by a consolidated residential structure. The authors present the facts of the regulation of self-governing regions indebtedness through various mechanisms of the central government, which is the administrator of regional budgets, just as in the case of the countries of our research, the Czech Republic and the Slovak Republic. Members of European Union have a variety of policy alternatives to avoid regional budgetary issues.
The most important task of regional self-governments in the case of unpredictable situations that significantly affect negative fiscal imbalances in particular is the creation of financial reserves. An equally important matter of increasing the financial stability of self-governing regions in the event of global as well as national crises is the consolidated management of regional self-government representatives in the field of finance according to the importance of the purpose (Foremny, 2014).

An equally important matter of increasing the financial stability of self-governing regions in the event of global as well as national crises is the consolidated management of regional self-government representatives in the field of finance according to the importance of the purpose (Adamišin, Butoracová-Šindleryová and Čajková, 2021).

Jahoda, Peková and Šelešovský (2006) stated in their research, that is, seventeen years ago, that one of the most important sources of financing of regional self-governments in the Czech Republic is returnable sources of financing from foreign funds. As one of the few scientific workers, he also investigated the causes of

indebtedness and its regulation, with the adoption of possible effective measures against the increase of municipal debts. His scientific study points to state regulatory interventions in the form of legal limits on the use of returnable sources of financing in the Czech Republic and claims that in the analysed 2005, the relevant Ministry of Finance did not try to find the causes of the indebtedness of regional self-governments, but only solutions to the consequences, which the author does not perceive as a sufficiently significant long-term sustainable solution.
Even according to the European Charter of Local Self-Government, which Slovak Republic and the Czech Republic signed in 1999 and entered into force in 2000, reimbursable finances are explicitly permitted, specifically in Article 9, paragraph 2, 3, 4 and 8 (The European Charter of Local Self-Government, 1999).
The situation of public finances since 2005 in the case of indebtedness of self-governing regions in the Czech Republic or the Slovak Republic did not significantly affect the financial balance of the public budgets of both countries. Despite this, the situation was different between individual self-governing regions, and some self-governments have been struggling for a long time with an unfavourable credit burden on the budget (Maličká, 2017).

Dafflon and Beer-Tóth (2009) in the study of public debt management searching for the legal aspects of the possible limiting factors of regional self-governing regions indebtedness, which they consider essential for ensuring a stable fiscal situation for the economy not only of regional self-governments, but of the entire country from a macroeconomic point of view. They consider legal debt limits to be necessary, but not sufficient. According to the authors, financial management requires a more efficient approach of regional self-governments, which consists of assessing future financially demanding investments that cause an increase in the debt ratio. The assessment consists of the amount of own regional income, the ability to repay the loan principal on time and, in particular, sufficiently high financial resources created through reserve funds, which should primarily serve for the purposes of extraordinary expenses.

It was Červená, Cakoci and Olexová (2021) who discussed the issue of public debt during the COVID-19 pandemic and pointed to regional self-governing budgets that were affected by the crisis without any exceptions, because of insufficient creation of financial reserve.

Papcunová, Hudáková and Levický (2022) commented on the reduction of capital expenditures of Slovak regions in the wake of the new economic crisis caused by the pandemic due to the fear of a lack of own funds during the approved budget, especially in 2020 and 2021.

According to Babčák (2015), it is necessary to perceive public finances from an international point of view, which also serve to compare individual regional self-governments that are part of the structure of public finances of European Union countries. According to the author, the position of the self-governments of the Czech Republic and Slovak Republic is the same from the point of view of the hierarchy of territorial self-government, which includes local and self-governing regions. He considers, its important to compare these countries from the point of view of the indebtedness of the given states and its solutions for reducing the given fiscal indicator.

Fábián (2017) investigated the increase in the debt of Hungarian regions and also the causes of indebtedness. He came to the fact that the most significant factor that negatively affects the debt of regions is the lack of own income, which they cannot cover the financing of larger investments. He sees stricter rules for securing new credit frameworks, as is the case in the Czech Republic and the Slovak Republic, as a prevention of not increasing the indebtedness of regional self-governments in Hungary. He states that in Slovakia regional self-governments are entitled to use investment financing only if the total amount of already existing loans is not higher than 60% of the total income for the last budget period.

Ahrens and Ferry (2020) emphasize that it is the pandemic and other new crises associated with war or other events that significantly affect the financing of self-governing regions providing services to inhibitants. These are very specific problems that cause unexpected budget shocks, which are very difficult to predict, and the only way, according to the authors, is to secure additional funds from the central government in times of crisis.

According to Carlsson, Reeves and Swartz (2020), only a minimal number of economies will manage to eliminate the cyclical recession of the world economy with zero consequences.
Sandford (2016) claims that the complex problem of indebtedness of self-governing regions must be solved primarily at the national level during the multi-year approval of the state budget, as it is the central government that ensure financial coverage in the event of crisis fluctuations for regional self-governments with limited possibilities of increasing their own incomes.

The scientific output follows on from the research of the author Czupich (2020), who addressed the issue of the financial health of regional self-governments in Poland, a Visegrad country, which includes Slovak Republic and Czech Republic.

3 Research

The authors examined in detail the effect of indebtedness of self-governing regions in the conditions of selected Central European countries as an object of scientific research, but due to significant differences in the structure of fragmentation of self-governing regions and historical development disparities, the research results were interpreted and presented through several indicators (debt per capita, the share of indebtedness to current income, the share of indebtedness of individual regions on the aggregated debt for the examined countries). In the European definition, regional areas are defined as units NUTS 3 (Eurostat, The Statistical Office of the European Union, 2023). The presented type of self-government is significant and applicable for both examined objects of selected Central European countries and ensures the adequacy of the interpreted data, as self-governing regions group local self-governments throughout the territory of selected countries.

The object of our research, representatives of the regional self-government of the Czech Republic and the Slovak Republic, have been part of the international organization of the European Union since 2004, which was preceded by the opinion of the citizens in the previous referendum in 2003, in both cases with a positive opinion. Both separate countries, the Slovak Republic and the Czech Republic, have the same structure of territorial self-government, which consists primarily of local and regional level (two-level territorial self-government). The object of research is specified and expressed by the self-governing regions of the Czech Republic and Slovak Republic. In the case of the Czech Republic, the self-governing region of the capital Prague is omitted, because is not a component of other regions and it is not found in the official statistics of the Ministry of Finance of the Czech Republic together with other regions. The research object consists of 13 self-governing regions of the Czech Republic and 8 self-governing regions of the Slovak Republic.

The reason for choosing the object of research was primarily the same nature of the territorial administrative arrangement of the self-governing regions in the case of countries, the common historical development and the close connection of the central governments at the present time in the form of above-standard international relations.
In order to find out the causes of indebtedness of self-governing regions, our primary task was to analyse the final accounts of the object of research, create a graphic summarization of trends in the development of aggregated debt and examine individual deviations in budget years across both countries. The subject of the study is the fiscal imbalance of the self-governing regions of both countries from 2005 to 2021. We started in 2005 due to the accession of the countries to the EU (2004) and individual self-governing regions began to use funds from the European Union to finance their investment activities. We examined the primary final accounts of the research object in the monitored budget years 2005 to 2021. We analysed and compared the data. Data includes the fiscal imbalance that caused the height of the total indebtedness. We methodically examined selected items of financial statements, balance sheets, which are also regulated by both the Ministries of Finance of the Czech Republic and the Slovak Republic.

In the methodology for calculating the long-term fiscal imbalance of self-governing regions of the Czech Republic, we have retained the methodology valid since 2010. In the balance sheet of the final account, we have aggregated financial class 8; consisting of long-term and short-term bonds issued, bond repayments paid, and long-term and short-term funds received and their repayments.
We used the balance of the credit burden of self-governing regions as adequate material for the analysis and comparison of individual regions. In the case of the Slovak Republic, the total debt data was also found in the final accounts, but until 2010 it was necessary to primarily look for data in the text part to understand the context and often unpublished financial statements from the given periods.

Since 2010, the final accounts of self-governing regions in the Slovak Republic have had to include a separate section entitled as Overview of the codition and development of the debt. In the case of the Czech Republic, this information was only minimally published. The scientific study required accurate calculations of data from the accounting class of financing, with which it was possible to work further.

For the creation of the study, it was necessary to look for primary scientific articles in the area of self-governing regions debt with possible preventive measures to reduce it. The review of literature therefore serves the professional public to become familiar with possible measures to reduce the indebtedness of self-governing regions mostly in Europe in times of crisis.

During the research activity, we used several scientific methods with which we fulfilled the main goal of the research, namely to determine the effects of the increase in fiscal imbalance in the case of the second level of self-government, self-governing regions of the Czech Republic and the Slovak Republic and to create a proposal for solutions that could be used to prevent negative fluctuations in the fiscal imbalance of the object of investigation in the future. In order to fulfil the main goal of the research, other no less important partial tasks were also used.

The basic assumption was the creation of an analysis of the fiscal imbalance in the form of the total debt of selected self-governing regions in the Czech Republic and the Slovak Republic. The analysed data was aggregated, which created a graphic representation of the development of indebtedness in individual countries. The uniqueness of the analysis lies in the time period, which was set for the period of budget years 2005 to 2021. It is therefore a unique scientific work devoted to the indebtedness of two countries during the period of accession to the EU.

We compared all the analysed data at the regional level of the given countries and looked for possible connections related to the fiscal imbalance in individual years. Using the method of description, we described individual budget years and development trends in the area of financial security of self-governing regions. The observation method was also used in the scientific investigation for the purpose of systematic and purposeful perception of the financial character of self-governing regions in individual countries. A table editor was used to create graphic displays of the development of indebtedness of self-governing regions. Another scientific method in the investigation was the method of time series analysis, the essence of which consisted in the investigation of individual development characteristics of the fiscal imbalance over a wide time horizon.

In the results of our research, we interpret the most significant findings in the field of fiscal imbalance at the regional level of the object of research of the related member states of the European Union, the Czech Republic and the Slovak Republic, which were also going through the integration process in the field of public finances at subnational levels. However, the adoption of legislative measures, which had the task of regulating the indebtedness of self-governing regions, was adopted by countries at different time intervals and with different legal force, to which we also devote part of our research. The research has an analytical-comparative character with regard to the development of the long-term fiscal imbalance of the Czech Republic and the Slovak Republic in the context of more than 15 years (2005 - 2021) of development of the fiscal situation of the self-governing regions of both countries. Decisions in the area of allocation of financial resources from share taxes are in the hands of the state, and that is why it is important to monitor the situation, especially in times of unpredictable situations, both on the part of regional self-governments and on the part of the central government, which in times of crisis should ensure smooth coverage of revenue shortfalls of subnational levels. We also monitor the reasons for the emergence of deeper fiscal imbalance recessions, but also positive changes in the reduction of the total debt, thereby pointing out possible solutions for reducing the debt and anticipating an unfavourable fiscal situation in the following discussion part of the research.

In the case of self-governing regions of the Czech Republic, all data in the area of total debt and debt per capita were converted to the same currency (euros) according to the relevant exchange rate in individual budget years by the National Bank of the Slovak Republic.

With regard to the type of data that the research evaluates, the path of research questions (RQ) and not hypotheses was chosen, as the primary effort does not follow the relationships between variables, but their development tendency, for which deeper descriptive statistics were used. The discussed issue has a unique character from the point of view of the extensive form of analysis of individual 13 + 8 self-governing regions in the development trend of (variable) indebtedness in various type over the last 17 years since joining the EU. The most important findings

are summarized in the tables at the end of the article for individual self-governing regions of the Czech Republic and the Slovak Republic.
Based on the analysis of the literature on this topic and the legal frameworks implemented in the Czech Republic and the Slovak Republic aimed at reducing the indebtedness of self-governing regions in both countries, two research questions were formulated:

- RQ1: What impact did joining the EU have on the development of the indebtedness of self-governing regions in the Czech Republic and the Slovak Republic?
- RQ2: What impact did joining the EU have on the development of the financial dependence of self-governing regions of the Czech Republic and the Slovak Republic in relation to the central governments of the analyzed countries?

3.1 The Czech Republic

With the entry of the Czech Republic into the European Union, there has been increased concern over the growing regional debt, which affects the country's public finances. Several legal regulations were adopted regulating the indebtedness of regional self-governments. In 2004, a debt service system was introduced, but it was not successful, as municipalities circumvented the law and indebtedness increased despite measures taken by the central government. Self-governing regions received repayable financial resources in the form of loans from banking entities for pre-financing or participation in European projects. Another factor for which they got into debt were the floods in 2002 and 2006, the aforementioned unpredictable situations for which sufficient financial resources were not provided in previous periods. Other reasons for the deepening of the fiscal imbalance of self-governing regions, especially until 2005, were underfunded facilities that were delegated to the regions by the state (especially hospitals), which took over the regions and their debts.

Thus, the counties had to spend funds to pay off the debts of the given entities. Large investments were also brought with them by ground communications second and third classes, which were also under the competence of self-governing regions of the Czech Republic.
All data within the indicators of indebtedness and total debt in significant variations were collected through the analysis of the final accounts of self-governing regions of the Czech Republic for individual budget periods (Final accounts of self-governing regions of the Czech Republic in budget years 2005- 2021, 2022).

By joining the European Union, self-governing regions thus opened the way to important financial resources from the European Investment Bank for financing expensive projects that serve primarily for the regional development of the entire country. Therefore, own resources would not cover expenses of this nature and they

are forced to use foreign sources of coverage. However, the debt service indicator from 2004 had a necessary character, and with the passage of time, it is necessary to change the methodological guidelines for reporting the indebtedness of the regional self-governments according to the new regulation called the System of Information and Monitoring Indicators, which entered into force in 2008.
Among other important indicators, it monitors the one we are dealing with – long-term loans and credits received repayable financial aid and other debts, the aggregate value of which shows a long-term fiscal imbalance in the form of total indebtedness.

Since 2018, a fiscal rule has been in force in the Czech Republic for all self-governing regions and municipalities, which prevents the increase of debt, as it cannot pay 60% of the average funds for the last four budget years. It was a regulation of the European Union from 2011 on the financial consolidation of self-government funds. Since the establishment of self-governing regions in the Czech Republic in 2001, the regions started to get into debt in less than two years of their existence in 2003 in the amount of 54,5 mil. euros.

We recorded a dramatic increase in the total debt indicator in 2006, i.e. a year after the Czech Republic joined the European Union. The regions were given the opportunity to draw subsidies from the European Structural Funds, which were and are currently conditional on co-financing by the regions for the pre-financing of projects. Since this period, we have recorded a continuous increase in the fiscal imbalance, which peaked in 2014 with a value of 948,3 mil. euros.

For 2014, no significant legislative changes were adopted with an impact on income or expenditure of regional budgets. The loans received by municipalities from financial institutions were similar to previous years directed mainly to reconstruction and construction of technical infrastructure, to pre-financing investment projects co-financed from EU funds and for the regeneration and construction of housing fund.

Self-governing regions also used these funds for reconstruction, insulation and expansion school facilities, sports grounds and other civic amenities. These loans are distinguished relatively low interest rates and a very long maturity period. Česká spořitelna, a. s. still maintains its leading position in the provision of loans. Komerční bank, a.s. and Československá obchodní banka, a.s. Some statutory cities also drew loans provided by the European Investment Bank. The structure of the main sources of financing of individual parts of regional budgets remains long-term stable. The main source of funding for regions is transfers from the state budget, from state funds and from the budgets of regional councils; last year, received transfers (including transfers from own funds) accounted for more than 60% of the total income of regional budgets. (Ministry of Finance of the Czech Republic, 2022). The economy of the self-governing regions in 2015 was affected by the fact of the end of the period of drawing financial resources from EU funds within the program period 2007-2013 and the associated co-financing of projects. The tax revenue shortfall of the regions began to be gradually equalized, which was reflected in the reduction of indebtedness (loan repayments), which decreased by 50,7 mil. euros for the first time in 2005.

The results of management of regional budgets in 2016 were largely affected by the transition for the new program period for drawing funds from EU funds. On the income side this fact manifested itself in a lower volume of received transfers and at the same time also meant a decrease investment expenses. Regional budgets managed with a significant preponderance of income over expenditure, which had a beneficial effect on reducing indebtedness indicators.

The total indebtedness of self-governing regions decreased to the level of 784,5 mil. euros, approximately the same value as in 2009. In 2011, the European Union required by Directive 2011/85/EU to include the conditions of public sector indebtedness in the budget framework of the member countries (Council Directive 2011/85/EU on requirements for budgetary frameworks of the Member States, 2011).

The Czech Republic adopted the rules of fiscal responsibility of regions and the central government only in 2017, as the political situation in the country was not stable. The goal was the introduction of consolidated management, sustainable public finances and the strengthening of budgetary responsibility. The paradox is that until 2017, the debt of self-governing regions was decreasing in the three-year follow-up (Act No. 23/2017 Coll. The rules of budgetary responsibility, 2017).

Until 2019, the amount of debt fluctuated around the value of 780 mil. euros. In 2019, the trend of dynamic growth in regional self-governing budget revenues continued. The positive trend of reducing the debt of self-governing regions since 2014 ended in 2020 with the arrival of the COVID-19 pandemic. The COVID-19 epidemiological situation and the central government adopted measures to address it in 2020, which were intended to stop the disease's spread, left their imprint on the management of regional budgets. Among other matters, the decrease in the national gross revenue from income tax was a clear indicator of this fact, the decline in tax revenues of self-governing regions due to tax of natural and legal persons. Even yet, regional budget revenues continued their trend of yearly growth in 2020. For the ninth year in a row, the budget for territorial management was in surplus.

There was a small increase in the debt of regional self-governing budgets when compared to the previous year. The COVID-19 epidemiological situation and the central government adopted measures to address it in 2020, which were intended to stop the disease's spread, left their imprint on the management of regional self-government budgets.

This reality was particularly evident in the decline in the national gross revenue from income tax on natural and legal persons, which in turn resulted in a decline in the tax revenues of regional self-governing regions. Even yet, regional self-governing budget revenues continued their trend of yearly growth in 2020. For the ninth year in a row, the budget for territorial management was in surplus. There was a small increase in the debt of regional self-government budgets when compared to the previous year. From the point of view of the development of the debt of territorial budgets there was a slight increase compared to the previous year, but this increase was insignificant compared to the growth balances of territorial budget funds on bank accounts.

The administration of regional self-government budgets was marked by the epidemiological situation in 2020 the disease of the COVID-19 and the related measures taken by the central government, the aim of which was to prevent the spread of infections. This fact was reflected, among other things, in the reduction of the national gross income tax revenue of natural and legal tax persons, and therefore by a decrease in the income of self-governing regions. It follows from the reports that in the case of self-governing regions, including the established contributory organizations, there was an increase in the debt from the received long-term credits and loans by 133,9 mil. euros.

The debt of self-governing regions, including contributory organizations, increased compared to 2020, increased by 163,9 mil. euros the previous year and amounted to 944,5 mil. euros. At the end of 2020, the regions, including the contributory organizations established by them, reported a debt in the total amount 830,5 mil. euros. For the next year, the debt value increased by 13 %. In the period of the pandemic year 2020, the tax revenues of self-governing regions decreased, which was caused by a shortfall in income tax from natural and legal persons of the state, which is the basic income of self-governing regions, which were forced to use repayable sources of financing, resulting in an increase in the debt of the self-governing regions. Aggregated data of indebtedness of individual self-governing regions of Czech Republic are illustrated in Table 3.

Management of regional self-governing budgets in 2021 was a sign of favourable development, because after 2020, which was marked by restrictive measures not only by the central government, it returned again to the development of previous years. In 2021 territorial budgets showed better management results than in 2019, in the last before of the COVID-19 year. The self-government regions restrictive measures had an impact mainly on the economy of the regions, which in 2020 recorded the largest regional budget deficit in history. By the end of 2021, the self-governing regions, including the contributory organizations established by them, reported a debt in the total amount 944,5 mil. euros. Year-on-year, the value of the debt increased by 13.4% in amount 163,9 mil. euros.

Table 1 shows the development parameters of indebtedness of individual self-governing regions in the Czech Republic per capita, with the exception of Prague, as the data from the capital significantly distorted the overall indebtedness results. In the final accounts of the Ministry of Finance, Prague is shown separately, apart from the other self-governing regions.

3.2 The Slovak Republic

Since 2001 various competences have been delegated from the central government to the self-governing regions. In 2004, they independently obtained a costly competence in the form of managing second and third class roads from the Ministry of Transport of the Slovak Republic. The competence affects significantly the budget management of self-governing regions, and since its delegation, the self-governing regions are in debt. In 2005, a reform of fiscal decentralization was underway in Slovakia, in which self-governing regions became self-governing with their own revenues and revenues equally redistributed from the state budget in the form of personal income taxes.

The period of Slovakia's entry into the EU also brings with it the risk of indebtedness, just as in the case of the Czech Republic, and therefore several legal regulations were adopted that regulated the conditions for accepting repayable sources of financing. All data within the indicators of indebtedness and total debt in significant variations were collected through the analysis of the final accounts of self-governing regions of the Czech Republic for individual budget periods (Final accounts of self-governing regions of the Slovak Republic in budget years 2005-2021, 2022).

The fundamental parameters were created in 2004. In 2005, self-governing regions compiled their budgets according to §10 of Act No. 583/2004 Coll. on the budgetary rules of the regional self-government and on the amendment of some laws divided into current and capital. Financial ones are part of their budget management operations, which mainly implement returnable sources of financing and their repayment. In the first monitored year after joining the EU, self-governing regions showed a long-term fiscal imbalance in the amount of 44.9 mil. euros (Act No. 583/2004 Coll. on the budgetary rules of the regional self-government, 2004).

More than 19 mil. euros of the given amount represented the debt of the Košice self-governing region, which had obligations to suppliers for the repair of road infrastructure. In 2008, the debt began to increase significantly. The situation was caused by the global financial crisis, which also affected regional budgets. The slower positive trend of the economic development of the country of Slovakia caused the increase of interest rates on the interbank market.

The financing of the wide competence framework of self-governing regions could not be financed through their own revenues, and the self-government regions began to use primary returnable sources of financing from commercial banks and the European Investment Bank. In 2009, there was a significant decrease in loan repayments of self-government regions, which resulted in a negative trend of indebtedness when accepting new credit frames.

Measures in the form of reserve funds were not sufficient on the part of regional self-governments, were the increase in income from the central government. The reason was the rapid increase in current expenses, especially in the field of education. The main goal of the fiscal policy in 2010 in terms of the program statement the central government of the Slovak Republic was a prudent budget policy and the gradual strengthening of the stability of the public sector finances (Ministry of Finance of the Slovak Republic, 2022).

Basis for drafting the public administration budget for the years 2010 to 2012 represented the current forecast of macroeconomic development until 2012, which was based on estimates of development in 2009 and on internal and external assumptions conditions of the Slovak Republic economy in the medium term. Indebtedness at the regional level was not high, but the situation deepened again. We cannot consider debt reduction measures to be sufficient. The Slovak Republic, like the Czech Republic, is part of the European Union and had to be incorporated into of its legal regulations obligations regarding excessive indebtedness in connection with Council Directive 2011/85/EU on requirements for the budget frameworks of Member states (Council Directive 2011/85/EU on requirements for budgetary frameworks of the Member States, 2011). Unlike the Czech Republic, the Slovak Republic met the set transposition deadline and it became effective on March 1, 2012.

Constitutional law No. 493/2011 Coll., on budgetary responsibility of self-government regions, Article 6 relating to regions however, it did not take effect until January 1, 2015. Slovak Republic compared to the Czech Republic except for the Maastricht criteria must also comply with the rules of the Fiscal Compact. The aim of the constitutional law is to achieve long-term sustainability of the Slovak economy, to strengthen the effective use of financial resources and ensure solidarity between the current and future generations (Act No. 493/2011 Coll. on budgetary responsibility, 2022).

Changes in the legislation since 2004 have not changed, the Slovak Republic, as a member state of the European Union, drew several financial resources for regional development with the nature of co-financing, and debt reduction could not be expected with a broad competence framework and low own income and transfers from the state budget.

The increase was caused by an increase in bank loans. Repayment of loan principals was at a slower pace than receiving new funds from foreign sources. However, it is necessary to say that the regions have not yet violated the legally established limits of the maximum form of indebtedness, and the acceptance of repayable resources was still well below the limit of 60% of the total current revenues of the budgets of individual regions. By 2014, the aggregate amount of the total debt of self-governing regions in the Slovak Republic was reduced to the level of 2009. The year 2015 marks a very positive period in the GDP growth of the country of Slovakia. Foreign and domestic investments were behind the success. The impact of economic growth also affected self-governing regions in the form of a high rate of regional investments at low interest rates.
The self-governing regions managed to successfully repay their obligations, which resulted in only a minimal increase in debt in the longer term. The pace of high economic growth of the country ended with the arrival of the pandemic in 2019, which was reflected in the final accounts of self-governing regions in 2020 and 2021.

As a result of a situation reflecting a significant drop in economic activity caused by the pandemic COVID-19 and especially for the purpose of ensuring financial coverage of measures aimed at to mitigate the negative consequences of the pandemic, as well as to take into account the loss of income of the state budget in 2020, the central government of the Slovak Republic proceeded to approve it during 2020 amendments to the Act on the State Budget for the year 2020 and its submission to the National Council of the Slovak Republic. Self-governing regions draw bank loans mainly for the purpose of pre-financing investment projects financed from European structural and investment funds, for example for the restoration of buildings of self-governing regions (mainly school facilities) with the aim of reducing them energy demand and overall modernization, for the renewal of road infrastructure and refund of already spent investment expenses. The debt increase of self-government regions was largely due to the provision of repayable financing aid in the framework of the COVID-19 aid from state financial assets in the aggregate amount 52 mil. euros and other repayable financial assistance provided during 2020 in the total amount of 80 mil. euros (Banská Bystrica Region 25 mil. euros, Košice Region 20 mil. euros, Trnava Region 15 mil. euros, Žilina Region 8 mil. euros, Prešov Region 8 mil. euros, Nitra Region 4 mil. euros).

The funds are mainly intended for the reconstruction of roads second and third classes within the scope of self-government regions. The debt of self-government regions increased by more than 127 mil. euros for one budget year, which is the highest amount for the period of functioning of self-government regions. The reason was not only the arrival of the COVID-19 pandemic, but also the receipt of other repayable financial aid, especially for the reconstruction of roads and bridge structures, many of which were in a state of disrepair (unsolved since the transfer of competences in 2004). However, we note that capital expenditures were planned in the mid-term budget and would have increased the total debt equally without the impact of the crisis. However, the crisis deepened the debt mainly due to the fact that funds were redistributed from one area to another inefficiently as a result of the lack of own income of the regions, which spent funds on non-routine activities to prevent the spread of the pandemic. Period to secure funds (reserves) for self-governing regions in unexpected crisis situations, and they were forced to use foreign sources of interest-bearing financing (continuous indebtedness) throughout their existence. In the case of the Slovak Republic and its self-governing regions, our findings are the results of indebtedness, which say that in the case of a crisis situation caused by the COVID-19 pandemic, the increase in the fiscal imbalance was once above average and in the next budget year the debt began to decrease. However, there were also self-government regions in which the debt per capita grew slightly (Table 4), but most of the self-governing governments were able to reduce the debt. The reason was primarily the repayment of existing long-term credit frames, which reduces the principal from the total amount.

The emergence of debt in the object of our research was primarily influenced by the period of crisis situations of a global nature, while self-government regions did not have their own financial reserves to avert the negative effect of crises on the management of public finances. However, we consider the continuous increase in debt primarily as a failure to solve the problem at the central government level of the monitored countries. Individual self-government regions, regardless of right-wing or left-wing orientation, did not create an optimal environment for the financial provision of regional self-governments in the Czech Republic and the Slovak Republic. The research confirmed the theoretical starting points on the basis of which we conclude that the legal environment does not have a positive effect on debt reduction in any way, and the only way to reduce self-governing regions indebtedness lies in the central government's role in timely financial intervention in regional self-government budgets with free financial resources of state.

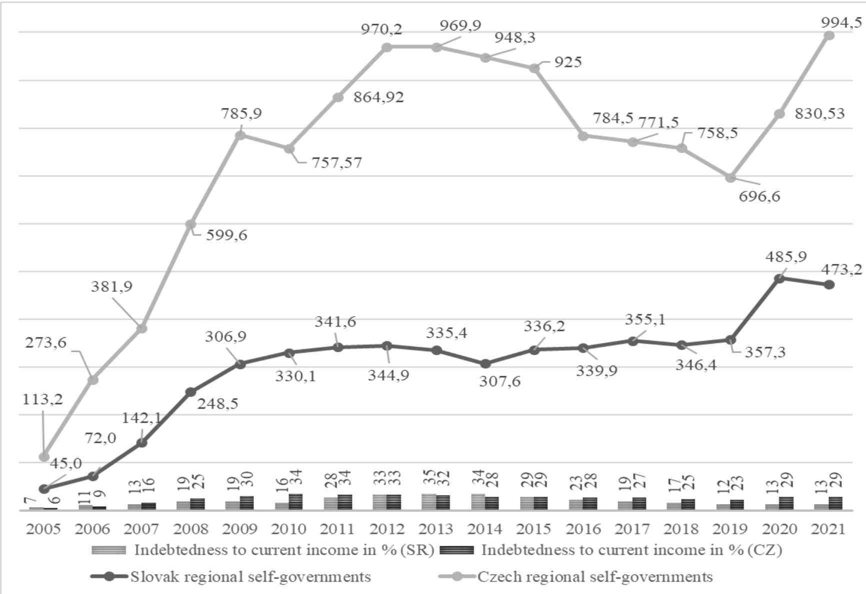
Indebtedness of self-governing regions started mainly with the entry of the monitored countries into the EU, because the use of foreign resources was conditioned precisely by co-financing, for which there were not enough financial resources. This was followed by the financial crisis in 2008 and a long recession that ended in 2015. However, the subject of the study did not create reserve funds during the monitored period in the event of a possible re-emergence of the crisis, which came in 2019. It turned out that the financial security measures of self-governing regions were not implemented and the debt increased. The state intervened and provided financial resources, but in the form of a loan, which had a negative impact on the total debt. Data of aggregated indebtedness of individual self-governing regions of the Slovak Republic are illustrated in Table 6.

The problem solved has a multidisciplinary character. It affects both the area of public finances as an economic area (the role of the state administration and self-government regions to ensure solvency in times of crisis), and also the area of sociology, because the lack of funds is solved in the regional self- government by increasing the fees for citizens' services and the standard of living decreases to a certain extent, and the research addressed covers the area policies, which in our contribution explains the ineffectiveness of individual self-government regions of the Central European countries in the 17-year period of the countries' entry into the EU, do not deal with the financial security of regions and problems are solved at late dates when there is no way back, which results in a constant increase in the debt of self-governing regions.

4 Discussion

The presented quantitative research shows the development of indebtedness of two countries together with the reasons for indebtedness, with the same arrangement of self-governing regions in the European Union, of which they also became member countries at the same year 2004. In the attached figure 1, the level of indebtedness (percentage form, %), as a result of a comparative analysis, and the development of the total debt (in aggregated form, €) of the self-governing regions of the Czech Republic and the Slovak Republic are expressed in mil. euros.

Figure 1: Evolution of indebtedness in the monitored period (mil. euros) and its confrontation with the legal limit to current income (60%) of regional self-governments in Slovak Republic and Czech Republic (in percentage)



Source: Own processing according to the final accounts of the self-governing regions in the Slovak Republic and the Czech Republic 2005 – 2021.

According to the analyzed statistical data of individual budget years in the area of total debt (€) and indebtedness to current income (%) of self-governing regions of both presented countries, the conclusion of research question 1 (RQ 1) is: Accession to the EU resulted in a rapid increase in debt in the case of the Czech Republic until 2012 to the adoption of legislation with regard to the reduction of the debt of self-governing regions from 2011 with effect in 2012. The result of the adoption of the legal framework was also the reduction of debt to current income (%) which has been decreasing since 2012. In the case of the Slovak Republic, joining the EU also meant the use of long-term loans, which meant an increase in the total debt indicator from 2005 to 2012 in the amount of 300 mil. euros. Compared to the Czech Republic, the indicator of indebtedness to current income showed more positive values during the observed 17-years development, with the exception of the periods of 2013 and 2014, where the presented values are higher by more than 2 percentage points.

Based on the findings, we conclude the first research question (RQ 1) that self-governing regions of the Czech Republic became indebted faster after joining the EU. The reason for this fact is the later adoption of EU legislation on the budgetary responsibility of self-governing regions, which should have been adopted no later than 2011. Its goal was sustainable public finances on subnational level of government (local and regional self-governments). In the given period, self-governing regions began to publish (in the case of the Slovak Republic) the level of indebtedness to current income, which could not be higher than 60%. Financial offenses and other budget restrictions are also currently in danger for violation. The second factor for which the public debts of the self-governing regions of the Czech Republic in 2005 grew faster was caused by taking over the debts of the hospitals, because they became their founders.

Accession to the EU caused an increase in the total debt due to insufficient financial security from the central governments for the regional self-governments of the Czech Republic and the Slovak Republic, which are still unable to finance investment projects exceeding the amount of their disposable income. However, a positive aspect of examining the issue of the indebtedness of the self-governing regions of both countries is the fact that the legal limit of indebtedness to current income of 60% was not exceeded by the self-governing regions in average values during the 17 years of operation in the EU union.

The result of the second research question (RQ 2) is: Access to the EU deepened the financial dependence of self-governing regions on central governments of the Czech Republic and the Slovak Republic. Self-governing regions do not have enough of their own income since joining the EU, which would ensure them a higher degree of autonomy from the central government in financing financially demanding investment plans. The only way is to increase the total debt of individual self-governing regions. The arrival of the COVID-19 pandemic showed financial unsustainability, continuing low preparedness of the self-governing regions on budgetary shortfalls in regional budgets and high dependency on the central government in the area of financial security at a time when expenses are not covered by own income.The only option for self-governing regions in both countries was to accept returnable sources of financing in the event of a shortfall in tax revenue, so that the self-governing regions could perform basic services for citizens at all. The central government and its solution to the revenue shortfall was to recommend savings to regions and service restrictions, which prevented the creation of new reserve measures in case of new crisis situations that await them and they did come. It was found that the financial health of self-government regions is sufficient in numbers, but in reality the ability to absorb unexpected expenses and revenue losses is almost non-existent.

According to Ahrens and Ferry (2020), the decisive factor in averting new financial shocks for self-governing regions is the provision of strong support from the state, as it has the tools to help self-governing regions in times of crisis. However, it is important that the aid is timely, because in the case of the examined states of the Czech Republic and the Slovak Republic, the aid did not arrive until two years after the outbreak of the crisis, and the financial capacities began to decrease significantly.

However, according to Bobáková (2015), there are also significant reserves on the part of the regional self-governments in reducing the debt and observed lack of interest in its consolidation. He talks about the not very positive development of the financial health of the regional self-governments. Its solution for managing crisis situations dwas the sufficient provision of financial reserves in the case of regional self-governments, whose only regional self-governing budget income is formed by the state in the form of personal income tax and other taxes are not collected by regional self-governments.

According to Vértesy (2020), the best way to reduce regional self-governments debt is continuous state aid over a longer period of time. Author defined this time from 2011, when the state bodies began to recover from the previous crisis. According to author, the state should have established by law the creation of mandatory reserves of regional self-governments in case of crisis situations. This fact did not occur, and in 2020 regional self-governments began to face significant increases in debt due to a lack of financial reserves again. Proven procedures such as debt restrictions have been applied in both countries for a relatively long period of time, but the results of deepening indebtedness or lack of financial resources continue unabated. New crises are coming and regional self-governments are calling for financial security, revenue increases and other measures to settle the time mismatch between regional self-government revenues and expenses. If the state during economic growth dealt with possible crisis situations in the future and provided reserves and measures to mitigate the negative effects of crises, their elimination would be much easier at present. We refer to the reality as a state of political unwillingness to address the sustainability of public finances of self-governing regions.

5 Conclusions

Indebtedness is a significant part of self-governing regions, especially since joining the European Union in the case of analyzed Central European countries. The given fact from the introductory part of the research and summarised literature was discovered in contribution to connection with the rising debt of both countries after joining the EU. The use of returnable sources of financing is primarily used to finance investment plans for which self-governing regions do not have funds left.

The aim of the research, to find out what is the cause of the indebtedness of self-governing regions in the Czech Republic and in the Slovak Republic, moreover, in what ways the negative development of the fiscal imbalance of self-governing regions could be prevented in the future, was successfully fulfilled. A number of authors proved the generally known reason for the increase in the debt of the object of investigation in the form of a lack of own income, which is guaranteed precisely by fiscal decentralization (Niezgoda, 2022; Janas and Jánošková, 2022; Nemec and Špaček, 2020). We support the centralized fiscal federalism model, which, after all, remains in a certain form and is also applied in practice, and is the antithesis of those which argue for the advantages of fiscal decentralization, such as fiscal autonomy, which obviously changes the level of debt held by subnational governments. When discussing regional self-governing debts, the extremely low level of budgetary autonomy of Slovak regions is another crucial reality.

However, with our findings we express a negative attitude not only towards the central government, which allocates and redistributes financial resources to self-governing regions in insufficient quantity, but by analysing the final accounts of self-governing regions of the Czech Republic and the Slovak Republic, we conclude that during the economic growth of the country after the end of the 2008 crisis, the creation of financial reserves was of self-governing regions at an insufficient level and currently due to new crisis situations they are unable to provide full services to the general public and the debt is increasing.

We agree with the authors (Halásková and Halásková, 2020) that allocated funds of self-governing regions are closely related to the economic growth of the regions of those countries that have enacted decentralized levels of central government as the Slovak Republic and also the Czech Republic as a member states of EU, but by analyzing the final accounts of the countries examined in the research, we note a high degree of dependence of the self-governing regions in the area of financial security towards the central government, which paradoxically creates and produces the debt of the self-governing regions through the credit burden for several years in order to finance investment activities for which the self-governing regions cannot allocate funds.

The fact that repayment can be postponed played a key role in the fact that self-governing regions did not look for alternative non-strategic solutions to cover financial shortfalls and we are currently seeing an increase in the debt of self-governing regions (Čajková, Butoracová-Šindleryová and Garaj, 2021).

On the other hand, findings of increasing long-term fiscal imbalance are influenced by legislative measures that do not define the mandatory creation of reserves in budgeting. The problem has not been solved since the self-governing regions of both countries were established.

The authors Barbera et al. (2017) in their research on the prevention of fiscal shocks in the central part of Europe found that if self-governing regions were to dedicate a certain amount to a reserve fund every year (Absent fact in the legal framework in the focus countries with fiscal autonomy in the case of Slovak and Czech regions), the consequences of negative impacts on regional self-governing budgets would be much more subtle and the debt would deepen more slowly, which would represent fiscal stability in crisis situations affecting self-governing regional budgets in particular.

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Appendix:

Table 1: Indebtedness of self-governing regions in Czech Republic per capita expressed in euros

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Central Bohemian Region	0,0	0,0	0,0	23,6	76,1	83,2	99,7	124,3	131,7	132,8	123,4	95,1	81,6	78,3	71,1	84,7	114,6
South Bohemian Region	0,0	23,7	44,4	38,9	59,4	37,5	18,8	49,9	28,6	17,0	52,3	63,9	61,5	55,0	30,9	18,0	19,0
Pilsen Region	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Karlovy Vary Region	51,4	84,5	80,0	140,7	128,8	163,2	261,0	284,4	223,4	146,5	88,2	75,6	39,9	26,6	40,2	90,9	68,5
Ustí Region	4,8	8,9	14,1	20,7	95,6	99,9	116,5	134,4	118,7	94,8	92,7	83,4	39,2	34,0	44,3	66,3	85,6
Liberec Region	25,2	55,2	75,3	101,1	84,2	62,1	69,0	61,9	48,8	48,1	41,2	40,0	35,0	34,5	26,3	84,8	144,3
Hradec Králové Region	20,8	39,1	37,4	83,7	76,7	44,1	86,0	66,0	107,5	99,7	81,9	47,7	64,9	85,9	72,6	84,2	118,7
Pardubice Region	58,7	89,7	138,9	176,8	176,4	194,1	173,5	154,6	184,4	147,2	115,1	100,7	91,4	121,0	91,4	103,9	125,2
Vysočina Region	13,5	25,3	80,5	102,9	242,1	199,0	138,1	113,2	129,9	128,5	197,6	182,6	223,2	193,6	210,4	216,8	257,7
South Moravian Region	12,7	50,8	60,3	83,7	76,6	67,4	72,0	67,1	55,4	57,8	43,7	25,0	79,4	72,7	63,2	80,5	91,7
Olomouc Region	6,1	28,4	60,4	119,3	139,5	147,4	205,4	255,5	234,3	289,7	249,5	225,8	238,9	230,9	214,8	244,8	239,1
Zlín Region	20,0	50,2	46,6	80,5	120,5	120,1	109,9	119,8	155,1	153,3	150,8	144,2	138,8	131,0	125,5	108,0	163,9
Moravian-Silesian Region	6,4	18,0	24,0	45,6	35,3	33,9	52,7	74,3	77,4	91,9	122,5	97,4	76,5	79,2	76,9	93,8	95,6

Source: Own processing according to the final accounts of self-governing regions of Czech Republic and according to population data used from the Czech Statistical Office for the examined periods 2005 – 2021.

Table 2: The shares of indebtedness on overall indebtedness of self-governing regions of the Czech Republic expressed in %

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Central Bohemian Region	0,0	0,0	0,0	5,7	13,9	15,7	16,6	18,4	19,5	20,2	19,2	17,5	15,2	14,9	14,7	14,7	16,6
South Bohemian Region	0,0	5,5	7,4	4,1	4,8	3,2	1,4	3,3	1,9	1,1	3,6	5,2	5,1	4,6	2,8	1,4	1,2
Pilsen Region	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Karlovy Vary Region	13,3	9,1	5,9	6,9	4,8	6,3	8,5	8,6	6,8	4,6	2,8	2,8	1,5	1,0	1,7	3,2	2,0
Ustí Region	3,4	2,6	3,0	2,8	9,6	10,5	10,8	11,1	9,8	8,0	8,0	8,5	4,1	3,6	5,1	6,4	6,9
Liberec Region	10,0	9,1	8,9	7,6	4,8	3,7	3,6	2,9	2,3	2,3	2,0	2,4	2,0	2,0	1,7	4,6	6,9
Hradec Králové Region	10,0	7,7	7,4	7,6	5,3	3,2	5,4	3,7	6,0	5,7	4,8	3,3	4,6	6,1	5,7	5,5	6,5
Pardubice Region	26,7	16,8	18,7	15,2	11,5	13,2	10,3	8,2	9,8	8,0	6,4	6,6	6,1	8,2	6,8	6,4	6,2
Vysočina Region	3,4	2,6	5,9	4,8	8,7	7,4	4,5	3,3	3,8	3,8	6,0	7,1	8,1	7,2	8,5	7,3	7,3
South Moravian Region	13,3	22,0	18,7	16,5	11,5	10,5	9,9	8,2	6,8	7,2	5,6	3,8	12,2	11,4	10,7	11,5	10,9
Olomouc Region	3,4	6,5	9,8	12,4	11,1	12,1	14,8	16,4	15,0	18,6	16,8	17,9	19,3	19,0	19,2	18,3	15,0
Zlín Region	10,0	10,3	6,9	7,6	8,7	8,9	7,2	7,0	9,0	9,1	9,2	10,4	10,1	9,7	10,2	7,3	9,3
Moravian-Silesian Region	6,6	7,7	7,4	9,0	5,3	5,3	7,2	9,0	9,4	11,4	15,6	14,6	11,7	12,3	13,0	13,3	11,3
Overall indebtedness in mil. euros	113,2	273,6	381,9	599,6	785,9	757,6	864,9	970,2	969,9	948,3	925,0	784,5	771,5	758,5	696,6	830,5	994,5

Source: Own processing according to the final accounts of self-governing regions of Czech Republic 2005 – 2021.

Table 3: Indebtedness of individual self-governing regions of the Czech Republic in mil. euros

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Central Bohemian Region	0,0	0,0	0,0	33,9	109,5	119,2	143,5	178,9	189,6	191,1	177,6	136,9	117,5	112,7	102,3	121,9	164,9
South Bohemian Region	0,0	15,1	28,3	24,8	37,8	23,9	12,0	31,8	18,2	10,8	33,3	40,7	39,2	35,0	19,7	11,4	12,1
Pilsen Region	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Karlovy Vary Region	15,1	24,8	22,6	41,3	37,8	47,9	73,7	83,5	65,6	43,3	25,9	22,2	11,7	7,8	11,8	26,7	20,1
Ustí Region	3,8	7,1	11,3	16,5	75,5	79,8	93,1	107,4	94,8	75,7	74,0	66,6	31,3	27,2	35,4	53,3	68,4
Liberec Region	11,3	24,8	33,8	45,4	37,8	27,9	31,0	27,8	21,9	21,6	18,5	18,6	15,7	15,5	11,8	38,1	68,4
Hradec Králové Region	11,3	21,2	28,3	45,4	41,6	23,9	46,5	35,8	58,3	54,1	44,4	25,9	35,2	46,6	39,4	45,7	64,4
Pardubice Region	30,2	46,1	71,4	90,9	90,7	99,8	89,2	79,5	94,8	75,7	59,2	51,8	47,0	62,2	47,3	53,4	61,4
Vysočina Region	3,8	7,1	22,6	28,9	68,0	55,9	38,8	31,8	36,5	36,1	55,5	55,5	62,7	54,4	59,0	60,9	72,2
South Moravian Region	15,1	60,2	71,4	99,1	90,7	79,8	85,3	79,5	65,6	68,5	51,8	29,6	94,0	86,1	74,8	95,3	108,6
Olomouc Region	3,8	17,7	37,6	74,3	86,9	91,8	127,9	159,1	145,9	176,7	155,4	140,6	148,8	143,8	133,8	152,4	148,9
Zlín Region	11,3	28,3	26,3	45,4	68,0	67,8	62,0	67,6	87,5	86,5	85,1	81,4	78,3	73,9	70,8	60,9	92,5
Moravian-Silesian Region	7,5	21,2	28,3	53,7	41,6	39,9	62,0	87,5	91,2	108,2	144,3	114,7	90,1	93,3	90,5	110,5	112,6
Overall	113,2	273,6	381,9	599,6	785,9	757,6	864,9	970,2	969,9	948,3	925,0	784,5	771,5	758,5	696,6	830,5	994,5

Source: Own processing according to the final accounts of self-governing regions of Czech Republic 2005 – 2021.

Table 4: Indebtedness of self-governing regions in Slovak Republic per capita expressed in euros

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bratislava Region	0,0	3,9	3,8	10,2	27,8	36,7	52,0	58,7	54,1	52,7	55,2	51,6	62,0	69,8	74,5	85,3	101,2
Trnava Region	0,0	2,3	79,9	72,0	88,9	97,2	95,6	97,7	89,6	79,7	77,6	77,7	97,9	97,5	96,5	127,0	112,5
Nitra Region	5,2	11,5	15,9	45,9	61,1	62,0	58,9	55,2	47,5	38,8	40,1	36,7	33,0	29,2	25,7	32,3	28,9
Banská Bystrica Region	13,6	21,6	33,6	44,0	44,8	49,1	49,4	52,8	62,5	54,2	70,2	61,1	51,8	42,7	44,6	88,4	75,5
Prešov Region	1,2	15,6	39,2	54,5	51,3	54,5	55,8	50,2	49,7	45,6	65,4	71,7	77,9	78,8	82,2	96,9	102,0
Žilina Region	10,4	7,8	7,7	27,9	46,3	58,3	59,1	59,0	58,6	52,5	59,8	69,3	83,0	79,1	80,1	103,8	105,8
Trenčín Region	9,9	14,9	20,4	92,0	89,9	87,8	94,0	92,8	91,8	90,4	86,8	84,2	80,8	76,5	72,7	107,2	78,3
Košice Region	24,4	25,7	17,5	37,0	53,4	56,9	55,9	53,8	52,0	49,9	47,4	52,7	43,0	40,5	51,1	83,4	88,2

Source: Own processing according to the final accounts of self-governing regions of Slovak Republic and according to population data used from the Slovak Statistical Office for the examined periods 2005 – 2021.

Table 5: The shares of indebtedness on overall indebtedness of self-governing regions of the Slovak Republic expressed in %

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bratislava Region	0,0	3,9	1,9	3,0	6,5	8,0	10,9	12,2	11,6	12,3	11,8	10,9	12,6	14,5	15,0	12,6	15,4
Trnava Region	0,0	1,8	31,8	16,4	16,4	16,7	15,8	16,0	15,1	14,7	13,0	12,9	15,6	15,9	15,3	14,8	13,5
Nitra Region	7,8	10,8	7,6	12,5	13,5	12,7	11,7	10,8	9,6	8,5	8,1	7,3	6,3	5,7	4,9	4,5	4,1
Banská Bystrica Region	18,9	18,7	14,8	11,1	9,1	9,3	9,0	9,6	11,7	11,0	13,1	11,2	9,1	7,7	7,8	11,0	10,0
Prešov Region	2,3	17,5	22,3	16,3	13,5	12,3	11,8	11,8	12,0	12,0	15,7	17,1	17,7	18,4	18,6	16,1	17,4
Žilina Region	16,0	7,5	3,7	7,8	10,4	12,2	12,0	11,8	12,1	11,8	12,3	14,1	16,2	15,8	15,5	14,8	15,5
Trenčín Region	12,7	11,9	8,3	21,4	16,9	15,3	15,9	15,5	15,8	17,0	14,9	14,3	13,1	12,8	11,7	12,7	9,6
Košice Region	42,4	27,9	9,6	11,6	13,6	13,5	12,8	12,2	12,1	12,7	11,0	12,1	9,5	9,2	11,2	13,4	14,6
Overall indebtedness (mil. euros)	45,0	72,0	142,1	248,5	306,9	330,1	341,6	344,9	355,4	370,6	336,2	339,9	355,1	346,4	357,3	485,9	473,2

Source: Own processing according to the final accounts of self-governing regions of Slovak Republic 2005 – 2021.

Table 6: Indebtedness of individual self-governing regions of the Slovak Republic in mil. euros

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bratislava Region	0,0	2,8	2,7	7,3	20,0	26,4	37,4	42,2	38,9	37,9	39,7	37,1	44,6	50,2	53,6	61,4	72,8
Trnava Region	0,0	1,3	45,2	40,8	50,3	55,0	54,1	55,3	50,7	45,1	43,9	44,0	55,4	55,2	54,6	71,9	63,7
Nitra Region	3,5	7,8	10,8	31,1	41,4	42,0	39,9	37,4	32,2	26,3	27,2	24,9	22,4	19,8	17,4	21,9	19,6
Banská Bystrica Region	8,5	13,5	21,0	27,5	28,0	30,7	30,9	33,0	39,1	33,9	43,9	38,2	32,4	26,7	27,9	53,3	47,2
Prešov Region	1,0	12,6	31,7	40,4	41,5	40,4	40,5	40,6	40,2	36,9	52,9	58,0	63,0	63,7	66,5	78,4	82,5
Žilina Region	7,2	5,4	5,3	19,3	32,0	40,3	40,9	40,8	40,5	36,3	41,3	47,9	57,4	54,7	55,4	71,8	73,2
Trenčín Region	5,7	8,6	11,8	53,1	51,9	50,7	54,3	53,6	53,0	52,2	50,1	48,6	46,5	44,2	42,0	61,9	45,2
Košice Region	19,1	20,1	13,7	28,9	41,8	44,5	43,7	42,1	40,7	39,0	37,1	41,2	33,6	31,7	40,0	65,2	69,0
Overall	45,0	72,0	142,1	248,5	306,9	330,1	341,6	344,9	335,4	307,6	336,2	339,9	355,1	346,4	357,3	485,9	473,2

Source: Own processing according to the final accounts of self-governing regions of Slovak Republic 2005 – 2021.