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STANDARD OF LIVING AND ITS ASSESSMENT IN THE VISEGRAD GROUP

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Abstract
Living standards today are closely linked to countries economic development, which influences them to a substantial extent. In recent years, several events have occurred that have had a significant impact on economic dynamics and affected global markets, with consequences also reflected in changes in living conditions and living standards. This article focuses on analysing trends in selected macroeconomic indicators that influence the living standards of the population in the Visegrad Group (V4) countries, which share similar economic and social characteristics as well as close cooperation. It subsequently assesses living standards in these countries using a scoring method, a scientific approach that makes it possible to rank the countries.

Keywords: standards of living, gross domestic product, inflation, the Visegrád Group, income conditions.

INTRODUCTION

The standard of living is currently a subject of extensive debate, attracting the attention of both academics and practitioners as well as the general public, at the same time, it should also be a matter of sustained interest for policy-makers. As with many concepts commonly used in the social sciences and humanities, such as poverty, homelessness, or quality of life, the standard of living does not have a single, comprehensive definition. This is due primarily to its broad scope, which extends into virtually every domain of human life as well as into the functioning of countries and their economies. Low living standards may reflect low economic performance, but they can also be indicative of deficiencies in central-government organisation and governance, including incompetence and pervasive corruption. Low living standards affect the lives of the population by intensifying adverse social outcomes, most notably the spread of poverty, and they may also contribute to social unrest and political instability, potentially culminating in the overthrow of governments where the political regime permits such contestation. By contrast, high living standards observed in selected countries are typically associated with favourable socio-economic conditions, higher life expectancy, and higher labour productivity.

How, however, can we determine whether the standard of living in a country is relatively low or high, or, more specifically, what constitutes an appropriate reflection of living standards? This may be considered in terms of economic size, the employment rate, the material well-being of the population, or the generosity of the social policy system. At the same time, living standards can also be expressed from a subjective societal perspective namely, whether the population of a given country considers its standard of living to be sufficient. The core indicators used in assessing living standards are primarily economic in nature, most notably gross domestic product, inflation, employment, monthly income, and housing costs. These can be complemented by socio-demographic indicators such as life expectancy, the age structure of the population, and the birth rate.

At present, there is an extensive debate over which member state of the Visegrád Group (V4) attains the highest standard of living. All four member countries have undergone broadly similar historical trajectories and share a long common history, including their experience as part of the Eastern Bloc. This raises the question of which country has achieved the strongest growth and how these countries have improved their standard of living. It is also important to examine how living standards have evolved over time and how they have been affected by exogenous shocks, notably the COVID-19 pandemic and Russian aggression against Ukraine.

1. THE CURRENT STATE OF THE RESEARCH FIELD AND THE RATIONALE OF ITS THEORETICAL

To ensure a clear understanding of the issue of living standards, it is first necessary to define this phenomenon. In the scholarly literature, and across the perspectives of numerous authors, the standard of living is not captured by a single, unified definition that would precisely specify its substantive content and its operationalisation and measurement whether through a composite indicator or a system of indicators. This is largely attributable to the breadth of the concept itself. The standard of living constitutes a multidisciplinary phenomenon shaped by multiple determinants that are examined across different academic disciplines. As a result, establishing a uniform definition is challenging, because authors tend to conceptualise living standards through the lens of their respective fields of interest. It should also be noted that the standard of living forms part of an even broader concept named quality of life and is therefore often conflated with it. While the two concepts are closely related, they are nonetheless distinct and require careful differentiation. The standard of living is examined primarily in sociology, economics, and psychology. For the purposes of this article, however, the focus is placed on the economic foundations of living standards.

Duffková, Urban, and Dubský (2008), conceptualise the standard of living in line with the most widely adopted approach, namely as the extent to which the population's basic needs are met, together with the set of conditions under which these needs can be satisfied. This is also shaped by the stage of economic development. As the authors emphasise, it is necessary to focus not only on individuals' consumption of goods and services, but also on the consumption of public services, which in many cases is not readily quantifiable. Heřmanová (2012), regards the standard of living as the objective component of the broader concept of quality of life, understood in terms of concrete, measurable indicators. At the same time, she argues that the concept should be supplemented by living conditions conditions that influence individuals' subsequent life chances and social status. According to the author, the standard of living can be assessed as the degree of material wealth or poverty, measured using quantitative indicators relating to the population.

Sova, Krebs, and Poláková (1984) define the standard of living as an expression of the extent and quality of consumption of goods and services, as well as other material living conditions that, taken together, influence the satisfaction of the population's needs. Smelser and Baltes (2001) emphasise that the standard of living refers to the level of household well-being and encompasses multiple dimensions, including consumption, health, nutrition, housing, and education. This level can be assessed through the systematic collection of data and the analysis of household behaviour. The Cambridge Dictionary (2025) defines the standard of living as the level of wealth, money, and comfort that people have in a particular society.

Based on the above, as well as many other definitions, the standard of living can be understood as being closely linked to core economic indicators, most notably household income and household consumption expenditure. These two factors directly affect the extent to which individuals, households, and broader social groups are able to satisfy their needs. A basic premise is that, all else equal, higher household income enables households to purchase a greater volume of goods and services and/or to obtain goods and services of higher quality than previously. Conversely, when these groups experience an income loss or decline, it is reasonable to expect lower consumption or expenditure cuts, which reduce the ability to meet needs and thus contribute to a deterioration in living standards. This issue is also connected to broader determinants, including the overall functioning of the economy and the policy choices of the central government. Through its decisions and policy instruments, the government should create conditions conducive to the sustained improvement and development of the population's standard of living—whether by strengthening the social policy system, improving the provision of public goods and services, or implementing measures to support entrepreneurship. This is particularly important because the private sector is a key producer of goods and provider of services, and it also employs a substantial share of the workforce.

The concept of the standard of living is closely related to the much broader notion of quality of life. According to Heřmanová (2012a), quality of life is inherently multidisciplinary and is studied

across sociology, psychology, cultural anthropology, political science, ethics, theology, social ecology, medicine, and many other academic disciplines. Because quality of life is a multidimensional construct, it encompasses both the material (objective) dimension of life and the subjective dimensions of lived experience, consequently, it is frequently linked to notions of well-being and welfare. The World Health Organization (1995) defines quality of life as an individual's perceived position in life, shaped by the cultural context and value systems in which the person is embedded, and understood in relation to their goals, expectations, concerns, and standards.

What remains constant is that quality of life concerns human existence and life itself. In simplified terms, quality of life may be understood as both an outcome and a consequence of interactions among determinants operating across multiple life domains, including health, family circumstances, economic conditions, and the environment (Hamráčková, 2014). As noted earlier, quality of life comprises several dimensions and components, and both its level and its perceived meaning may differ across individuals and social groups. For this reason, the concept is commonly differentiated into an objective and a subjective dimension. Objective quality of life refers to measurable living conditions and is typically assessed using a broad set of indicators, such as the availability of services, income levels, access to education, the quality of healthcare, and related determinants. It is widely recognised that living conditions and the standard of living substantially shape individuals' life chances and future prospects. These two concepts are closely intertwined and mutually influential. Subjective quality of life, by contrast, refers primarily to individuals' lived experience, evaluations, and perceptions of their lives. Precisely measuring or assessing subjective quality of life is inherently challenging, as it is shaped by a wide range of factors.

This raises the question of why we should examine the standard of living and compare it across countries. As Novák and Pahor (2017) argue, a country's economic performance, particularly when it is positive, has a substantial effect on the population's standard of living and clearly shapes its well-being. This is also supported by Ivanova and Masárová (2018), who emphasise that economic success is not solely a matter of demonstrating favourable trends in economic indicators, but also of ensuring improvements in the population's standard of living and quality of life, which can be assessed using relevant socio-economic indicators of such success.

1.1 Options for measuring living standards and their indicators

One of the most widely used indicators for monitoring the standard of living is gross domestic product (hereafter GDP). As Barreiro Gen (2019) notes, GDP is an aggregate measure of economic output, calculated as the total value of final goods and services produced within a country's territory over a given period, importantly, intermediate consumption (intermediate inputs) is excluded. The resulting output is typically valued at purchasers' (market) prices. GDP can be reported in several forms, for example in purchasing power parity terms (PPS) or as real GDP per capita (GDP per capita at constant prices), which is adjusted for inflation.

As Ivanová and Masárová (2018) note, GDP is a fundamental economic indicator that arguably best captures the economic performance of a given economy through the outputs generated by the factors of production available within a particular territory. As a measure, it provides a concise characterisation of economic activity and overall economic performance. Despite its widespread use, however, GDP is also among the most heavily criticised indicators for several reasons. Krugman and Wells (2012) highlight the insufficiency of GDP and, like many other economists, emphasise that while it can be a useful measure, it has clear limitations, especially its limited suitability as a proxy for the standard of living. An increase in GDP implies an outward shift of the economy's production possibility frontier, which should be reflected in greater productive capacity and an expanded set of feasible outcomes for society. Whether this additional capacity is actually utilised to improve living standards, however, is not guaranteed. Moreover, GDP does not capture the so-called shadow economy, which largely remains unrecorded.

These limitations underscore the need to complement GDP with additional indicators when examining living standards, in order to provide a more credible and comprehensive picture of their development over time. For this reason, a number of composite indices are used internationally, such

as the Human Development Index (HDI), the Global Competitiveness Index (GCI), and the Better Life Index, alongside many other measures that can enrich analyses of living standards. For the purposes of this article, GDP is supplemented with indicators of income, inflation, and unemployment, which are considered to exert the strongest influence on the population's standard of living.

Income, as can be inferred from many definitions of the standard of living, constitutes one of its essential components. A lack of income, or income that is insufficient, may result in an inability to satisfy basic needs, because individuals and other social groups would be unable to purchase the goods and services required to meet those needs. Household income can be classified into several categories depending on its source, including income from paid employment (dependent activity), self-employment or business income, secondary (supplementary) income, and social transfers (Masárová & Živcicová, 2012). The need to secure income in the form of monetary resources is closely linked to the nature of money and its functions. Money serves as the primary medium of exchange and a means of payment necessary for acquiring goods and services. It also functions as a store of value and, accordingly, underpins savings, while serving as a unit of account (Handa, 2009). Wage income is the most common source of household income. Labour is one of the key factors of production supplied in the labour market. In exchange for work performed, an employee receives a wage, which represents compensation for labour and effectively constitutes the price of labour. Wage levels are determined by employers' decisions, although these decisions must reflect labour supply conditions (Lisý et al., 2016).

Inflation is a highly salient macroeconomic phenomenon with important implications for both the standard of living and the overall functioning of the economy. How does it relate to living standards? At the most general level, rising inflation increases the general price level, resulting in higher prices faced by consumers. This, in turn, raises the prices of individual goods and services and affects the quantities that households are able to purchase. According to Eurostat (2025), inflation refers to a general increase in the price level of goods and services. When inflation occurs, the value of money declines because a given nominal amount can purchase fewer goods and services than in the previous period. The European Central Bank (2025) similarly notes that, in a market economy, individual prices may move in different directions, some rise while others fall, whereas inflation denotes a broad-based increase in prices. In practical terms, this means that one euro buys less today than it did yesterday. Inflation therefore reduces purchasing power over time and can materially affect the standard of living.

The final, yet no less important, indicator of the standard of living is unemployment. Unemployment is a complex phenomenon that is not merely an economic problem, it also has far-reaching consequences for individuals' personal lives. As a central social challenge of modern societies, unemployment is linked not only to income loss, and thus to a heightened risk of being unable to meet basic needs, but also to a range of other adverse outcomes. In general, employment supports individuals' welfare and constitutes a key precondition for its improvement. When a person loses employment and becomes unemployed, they forfeit part of their welfare as well as the associated positive effects of employment (Gedikli et al., 2022). Unemployment may subsequently result in material constraints that can translate into a fall below the poverty line, or a situation of living close to it. If this condition persists over a longer period, it reduces individuals' capacity to re-enter the labour market and, more broadly, to participate in social life. A persistently lower standard of living associated with unemployment limits participation in social and cultural activities. It may also exacerbate adverse effects on self-esteem as well as mental and physical health (Pohlan, 2024).

2. GOAL AND METHODOLOGY OF THE ARTICLE

The aim of this article is to compare and examine the standard of living in the countries of the Visegrád Group, namely the Slovak Republic (SR), the Czech Republic (CR), Hungary (HU), and Poland (PL), using a set of standard-of-living indicators selected by the authors, which are evaluated using a scoring method.

To investigate the topic, the study applies time series analysis for the period from 2019 to 2024 in order to examine and assess developments in selected indicators, specifically inflation, gross domestic product, unemployment, and average incomes in the V4 countries. This time horizon was chosen to allow a comparison of conditions prior to two major events, the COVID-19 pandemic and Russia's invasion of Ukraine, both of which affected the economic and social functioning of these countries. For the comparison of indicators, the study employs a comparative method, and the resulting findings are formulated using synthesis, enabling an assessment of the standard of living in the V4 countries and its development over time. For cross-country comparison, a scoring method based on the selected indicators is applied, allowing performance to be compared on a common scale. The scoring method was selected by the authors for several reasons, most notably because it enables a simple and transparent comparison. As Kutscherauer et al. (2010) note, there are numerous methods for measuring and assessing regional disparities, yet the simplest approaches are indirect methods based on scaling techniques. The scoring method can be classified within this group, and its key advantages include clarity, the possibility of incorporating additional indicators, and the ability to consolidate multiple indicators into a single synthetic characteristic.

The suitability of the scoring method for this type of comparison is also supported by Svátošová and Novotná (2012), who argue that evaluating changes in regions and their disparities requires indicators that enable a comprehensive characterisation, which can subsequently be transformed into an aggregate measure. Such an aggregate measure can be constructed using the scoring method as a simple and rapid procedure. This is consistent with Michálek (2012), who states that multi-criteria evaluation methods can be used to compare different objects based on selected indicators, particularly due to their ability to synthesise multiple characteristics into an integrative, quantitatively expressed indicator.

Secondary data were used for the comparison and analysis, drawn from the Eurostat database, which was selected because it applies to a harmonised methodology for the computation of the chosen indicators, thereby minimising potential inconsistencies arising from country-specific measurement approaches. The V4 countries were selected primarily due to their similar economic and social characteristics, as well as their close cooperation.

In this article, the scoring method is applied as follows. For each indicator, the country that attains the best value is assigned a score of 100, representing the maximum number of points. The remaining countries are then assigned scores for the given indicator according to the following procedure:

If a higher value is considered the best outcome, points are assigned using the following formula:

$$B_{ij} = \frac{x_{ij}}{x_{imax}} \text{ x } 100$$

If a lower value is considered the best value, we assign points based on the following formula:

$$B_{ij} = \frac{x_{imin}}{x_{ij}} \text{ x } 100$$

Where:

b_{ij} - denotes the score for the *i*-th indicator for the *j*-th region,
x_{ij} - denotes the value of the *i*-th indicator for the *j*-th region,
x_i max - denotes the maximum value of the *i*-th indicator,
x_i min - denotes the minimum value of the *i*-th indicator.

Subsequently, the corresponding integrated indicator is calculated as a weighted arithmetic mean of the scores obtained by each region across the respective indicators. In this study, the composite indicator is computed using the following equation:

$$d_i = \frac{\sum_{j=1}^{m} b_{ij}}{p_i}$$

Where:

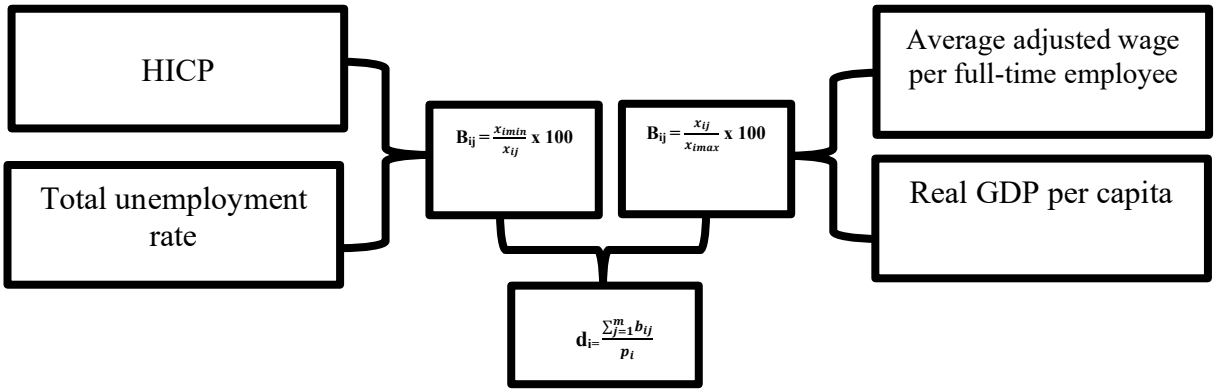
b_{ij} - denotes the number of points that country *i* received for indicator *j*,
m - denotes the number of assessed indicators,
p_i - denotes the number of variables actually evaluated for country *i*.

Subsequently, the country that achieves the highest score on the integrated composite indicator is considered to attain the highest standard of living among the V4 countries. To assess the standard of living, four indicators are employed:

- HICP (Harmonised Index of Consumer Prices)
- Average adjusted wage per full-time employee
- Real GDP per capita
- Total unemployment rate

The point calculations for each indicator are carried out in accordance with the scheme presented in Figure 1.

Figure 1: Methodology for Calculating the Scoring Method



Source: Authors owns elaboration

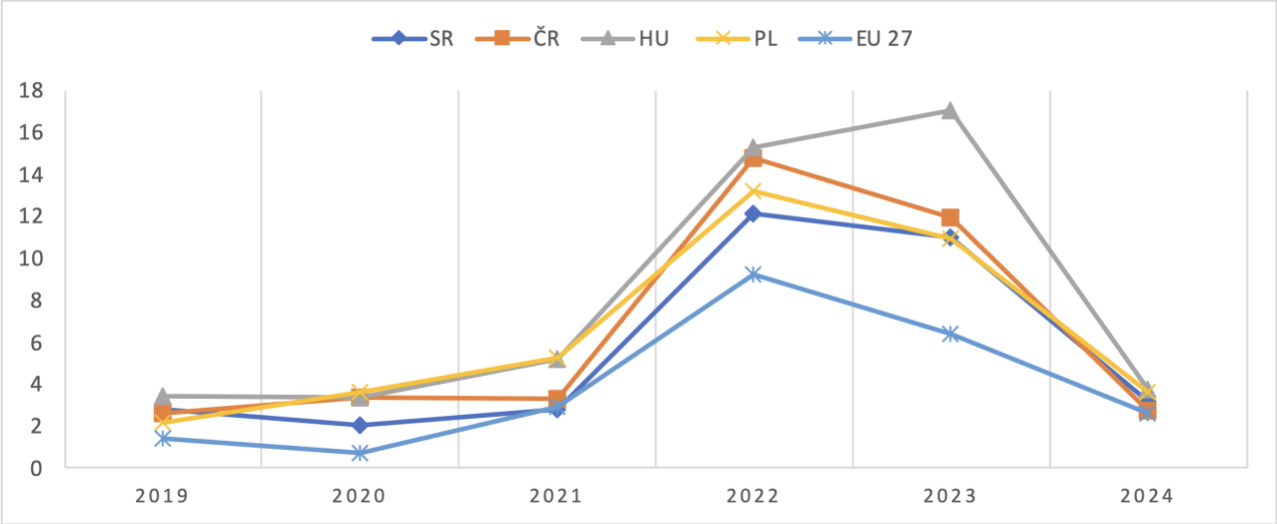
3. ASSESSMENT OF THE STANDARD OF LIVING IN THE V4 COUNTRIES

The assessment of the standard of living in the V4 countries is divided into two parts. The first part focuses on a comparison of the countries based on the selected indicators, with the V4 countries also benchmarked against the EU average. The second part evaluates countries' performance on the basis of the results obtained from the scoring method.

3.1 Comparison of Selected Indicators in the V4 Countries

The first indicator used to assess the standard of living in the V4 countries is inflation. For the purposes of this article, inflation is compared using the **Harmonised Index of Consumer Prices (HICP),** which constitutes an appropriate measure for cross-country comparisons of inflation developments across EU Member States. The term "harmonised" indicates that all EU Member States apply a uniformly defined compilation methodology, enabling direct and reliable comparability of data across countries. The HICP therefore represents a standardised and methodologically consistent indicator for monitoring changes in the overall price level and identifying inflationary pressures in the economy (ECB, 2025). The HICP provides internationally comparable inflation measures for individual countries as well as for the aggregates for which it is compiled. It is a macroeconomic indicator that captures changes over time in the prices of consumer goods and services purchased by households. At the same time, it serves as the official measure of inflation in the euro area for the purposes of monetary policy and for assessing inflation convergence required under the Maastricht criteria for euro area accession (Eurostat, 2025a). The annual rate of change measures the change in the index between a given month and the corresponding month of the previous year. The HICP shares a common reference year, which is currently 2015, where the index equals 100 (Eurostat, 2025b). The development of this indicator is shown in Figure 2.

Figure 2: Year on year HICP trends in V4 countries compared with the EU average in %



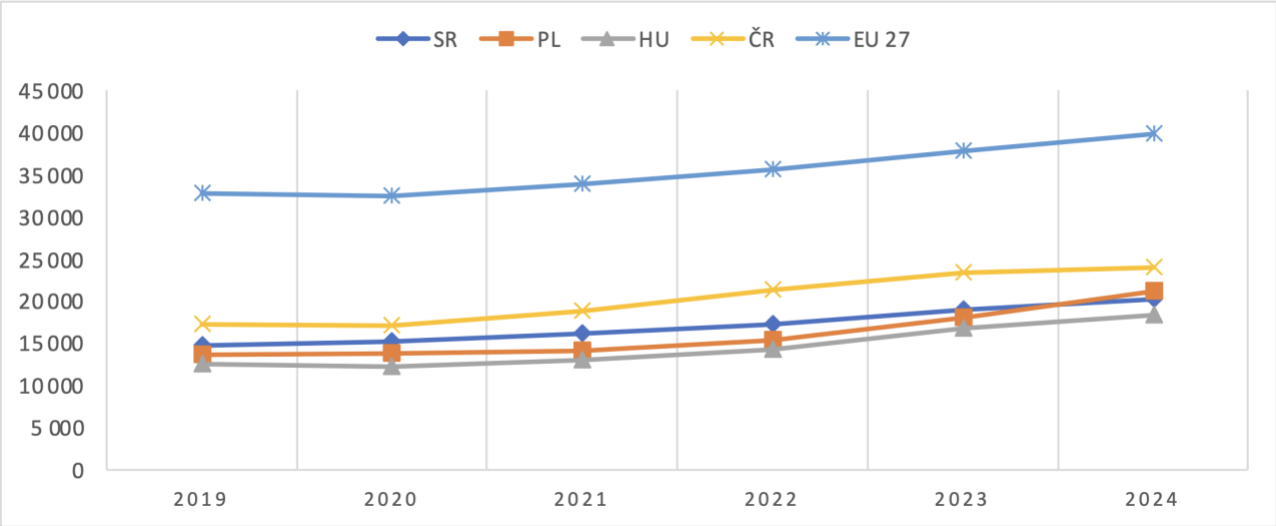
Source: Own processing based on Eurostat data

Inflation developments in 2019 were relatively stable across all countries. Poland recorded the lowest year-on-year increase, while Hungary exhibited the highest. The Slovak Republic and the Czech Republic maintained broadly similar year-on-year rates, at around 2%. In 2020, Hungary and Poland again recorded the largest increases, whereas the Czech Republic reported a comparable rise of approximately 3%. The Slovak Republic recorded the lowest inflation increase, at around 2%. In 2021, the price level increased across all V4 countries, driven primarily by the effects of the COVID-19 pandemic and the policy measures implemented by governments to contain the spread of the virus. These measures were reflected in restrictions affecting services, tourism, and transportation. In 2022, amid the lingering effects of pandemic-related measures and the onset of the war in Ukraine, inflation rose sharply across all V4 countries, with year-on-year increases exceeding 10 percentage points in each case. The largest inflation shock occurred in the Czech Republic, where inflation increased by more than 15% year on year. In Poland and Hungary, the increase reached approximately 13% to 14%. Among the V4 countries, only Slovakia recorded a year-on-year inflation rate of approximately 12%. In 2023, the inflation shock persisted, driven mainly by supply-chain disruptions, commodity shortages, and the energy crisis. Although the year-on-year increase in inflation was lower than in the previous year, it still remained close to 10%. Hungary was the only exception, where inflation increased further compared with 2021, reaching around 17%. In the following year, inflation declined as markets stabilised and policy and market-based responses alleviated the emerging constraints, with the base effect also contributing to the disinflation process. In 2024, the V4 countries recorded year-on-year inflation increases of only about 3 to 4 percentage points. It should be emphasised that the V4 countries remained well above the European average in this indicator, which can be regarded as an adverse development. In particular, in 2022 the EU-27 average was approximately 9%, whereas the V4 countries recorded values around 15%.

The second indicator focuses on monitoring developments in the population's income. For this purpose, the average adjusted annual wage of a full-time employee was selected. This indicator, computed by Eurostat, represents an earnings measure intended to approximate a wage level that is sufficient to ensure a decent living standard within a Member State. It is derived as an estimate based on the average annual earnings of individuals employed on a full-time basis.

The indicator is constructed using two data sources. The first consists of regular datasets from the national accounts, which Member States transmit under the European System of Accounts data-transmission programme. The second source is the Labour Force Survey, conducted by national statistical offices in accordance with EU regulations (Eurostat, 2025c). The development of this indicator is shown in Figure 3.

Figure 3: Average full time adjusted salary per employee in euros in 2019 – 2024



Source: Own processing based on Eurostat data

In 2019, all V4 countries recorded an increase in full-time employees' average adjusted wages. The Czech Republic experienced the highest year-on-year increase, while Poland recorded the slowest wage growth, with an annual increase of only slightly more than EUR 500. In the Slovak Republic, wages increased by approximately EUR 800, and in Hungary by more than EUR 1,000. In 2020, wages declined in both Hungary and the Czech Republic. In the Czech Republic, the decrease was approximately EUR 150, while in Hungary it amounted to EUR 388. Although both declines represented less than 1% year on year, they still constitute an unfavourable development. In Poland and the Slovak Republic, the upward wage trend continued in the same year.

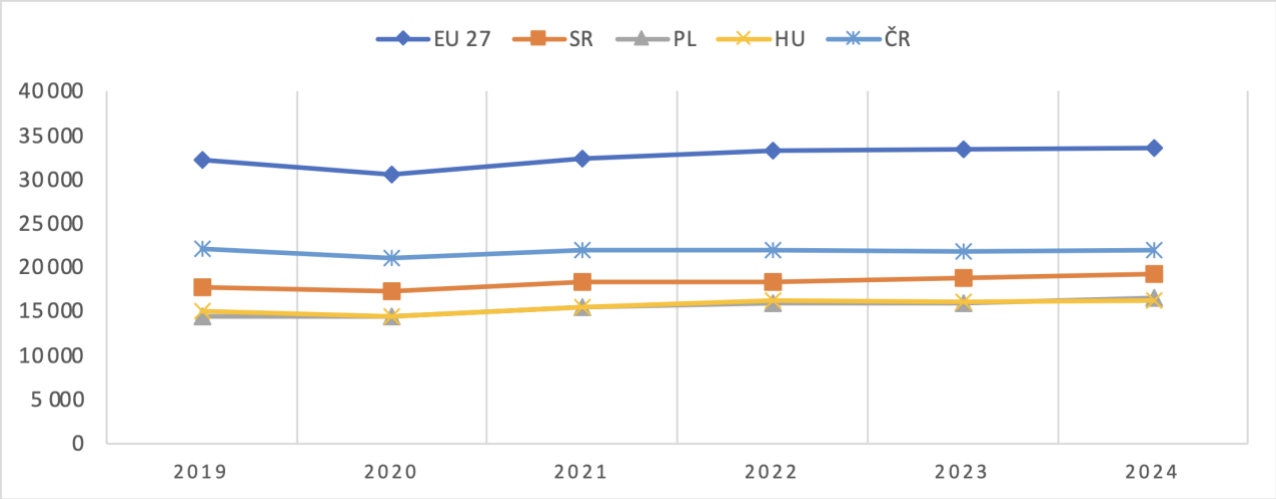
In 2021, Hungary and the Czech Republic recorded the most rapid year-on-year wage growth, at approximately 7% and 9%, respectively. Poland again exhibited the slowest growth, at around 2%, while the Slovak Republic maintained a solid growth rate of approximately 5%. In 2022, all V4 countries achieved a statistically and economically meaningful year-on-year increase in wages. The highest increase was recorded in the Czech Republic, reaching 13%, equivalent to EUR 2,495. Poland and Hungary reported increases of approximately EUR 1,300, corresponding to around 8% to 9% year on year. he slowest, yet still substantial, increase was recorded in the Slovak Republic, amounting to 6%, slightly above EUR 1,000. Despite several global events that significantly affected international and, subsequently, national economic conditions in 2023, the V4 countries registered a pronounced increase in this indicator. The Slovak Republic and the Czech Republic recorded growth of approximately 10%, corresponding to an increase of more than EUR 1,700. The highest increase was observed in Hungary, where annual wages rose by more than EUR 2,500, while Poland reported a comparable increase.Compared with 2023, year-on-year growth in 2024 decelerated slightly, but remained positive. Poland recorded the largest increase, with annual wages rising by more than EUR 3,000. By contrast, the Czech Republic experienced a marked slowdown, with growth of only around 2% in 2024, equivalent to EUR 544. The Slovak Republic and Hungary remained in positive territory, although growth did not exceed 10%. A pattern similar to that observed for the HICP is also evident for the income indicator, in the sense that the V4 countries remain substantially below the EU average. Even the pronounced increases in 2022 and 2023 were insufficient to close this gap, as the EU average is more than twice as high.

Another indicator examined is real GDP per capita. Real GDP is calculated at constant prices, that is, prices adjusted for inflation. Constant prices refer to the prices of a period selected as the base year, which in this case is 2010. By observing real output of goods and services across individual years, it is possible to draw conclusions about economic growth or decline. Considerable differences often arise between measured values of real and nominal GDP, with nominal GDP recording higher

values even when the volume of produced and sold goods and services remains unchanged, due to changes in the price level (Institute for Financial Policy, 2023).

The indicator is constructed as the ratio of real GDP to the average population in a given year. Gross domestic product expresses the value of total final production of goods and services generated in the economy over a specified period. It includes market output as well as production by general government and non-profit institutions. GDP represents a standard measure of the level of economic activity and is often used in practice as a proxy for the population's material standard of living. The development of real GDP per capita in the V4 countries is presented in Figure 4.

Figure 4: Real GDP per capita in 2019–2024, in euros



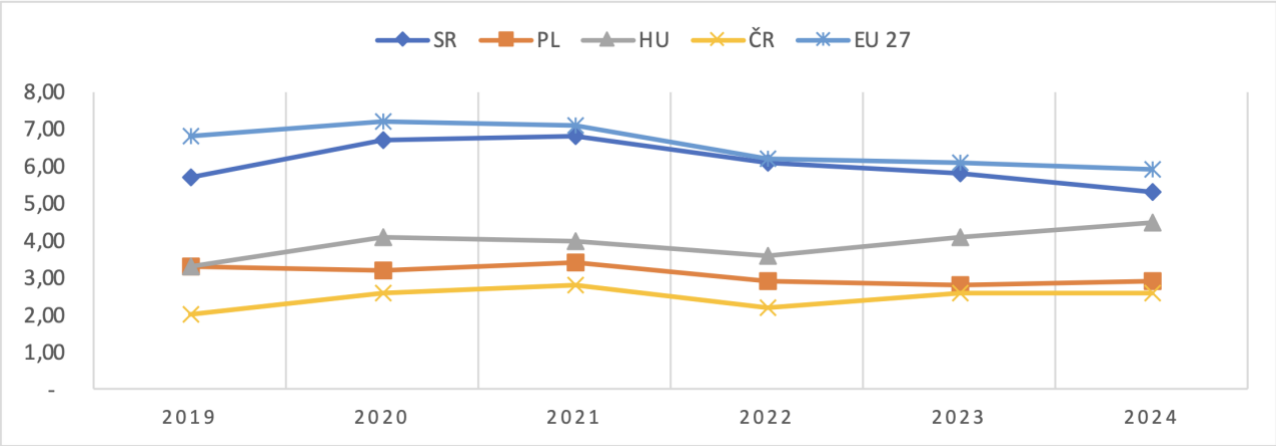
Source: Own processing based on Eurostat data

As shown in Figure 4, the V4 countries also lagged substantially behind the EU-27 average in this indicator, which was approximately twice as high. The Czech Republic was the closest to the EU-27 average, nevertheless, the gap still exceeded EUR 10,000 per capita. Overall, the Czech Republic exhibits the strongest performance in this indicator, recording higher levels than the other V4 countries throughout the entire period under review. At the same time, it registered the slowest year-on-year growth in real GDP per capita among the countries, with a decline of almost 5% in 2020, corresponding to approximately EUR 1,000. The most rapid year-on-year growth was observed in Poland, which was the only country in the group to stagnate in 2020, recording neither an increase nor a decrease relative to the previous year. Poland's largest annual increase occurred in 2021, reaching approximately 7%. Despite this, Poland continued to record the lowest GDP per capita among the selected countries. Hungary remained just behind Poland in this indicator. It recorded the strongest year-on-year growth in 2021, but there was a decline in 2020 and 2023, by approximately 4% and 1% respectively. The Slovak Republic recorded the second-highest indicator after the Czech Republic and showed year-on-year growth throughout the period, with the exception of 2020, when, as in other countries, a decline was recorded. In 2023 and 2024, growth slowed and remained below 1% year-on-year. The decline in 2020 was mainly due to the spread of the COVID-19 pandemic, which contributed to a slowdown in economic growth in all countries and affected services and transport in particular, among many other sectors.

The final indicator selected for assessing the standard of living is the total unemployment rate. The total unemployment rate is defined as the number of unemployed persons expressed as a percentage of the labour force. The labour force, or economically active population, comprises the total number of employed and unemployed persons. Unemployed persons are individuals aged 15 to 74 who, during the reference week, were without work, actively sought employment, and were available to start work. The data are reported as the percentage of unemployed persons in the labour force (Eurostat, 2025d).

Its relevance for the assessment of living standards arises from its relationship to labour-market conditions and overall economic performance, reflecting, for example, whether markets and firms are expanding and innovating in ways that generate new employment opportunities. At the same time, unemployment is closely linked to income and poverty risks, as the absence of employment may lead to income loss and heightened vulnerability. The development of the total unemployment rate in the V4 countries, together with the EU-27 average, is presented in Figure 5.

Figure 5: Total unemployment rate in the period 2019-2024 expressed in %



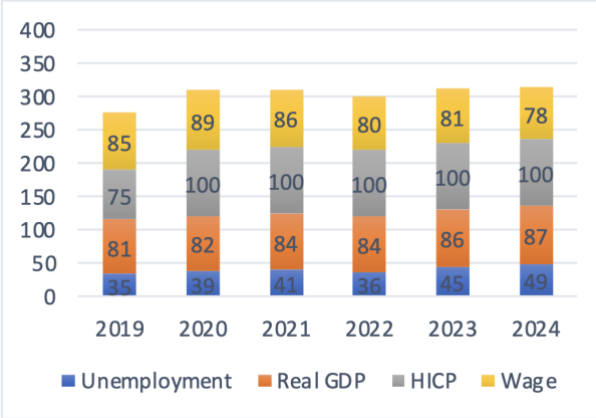
Source: Own processing based on Eurostat data

The development of the total unemployment rate can be assessed positively in all V4 countries relative to the EU-27 average, which is higher. Among the V4 countries, the Slovak Republic is the closest to the EU-27 average. The lowest unemployment rate was recorded in the Czech Republic, where it did not exceed 3% over the observed period and remained below this threshold throughout. Compared with 2019, however, the unemployment rate increased from 2.0% to 2.6% in 2024. This outcome remains favourable relative to the EU average, which has been gradually declining but still stands at around 6%. The highest unemployment rate among the V4 countries was observed in the Slovak Republic, where unemployment increased from 6.7% to 6.8% in 2020 and 2021. Subsequently, a favourable downward trend was recorded, with unemployment falling to 5.3% in 2024. Nevertheless, relative to 2019, this represents a reduction of only 0.4 percentage points. In Hungary, the unemployment rate stood at 3.3% in 2019, increased by 0.8 percentage points in 2020, and declined in the following years, with decreases continuing in 2021 and 2022. In 2023 and 2024, unemployment increased again, although by less than 1 percentage point. In Poland, the unemployment rate remained above 3% in 2019 and 2020. In 2022, it declined to 2.9%, decreased by a further 0.01 percentage points in the subsequent year, and in 2024 returned to the level recorded in 2022.

3.2 Evaluation of selected indicators for V4 countries using a scoring method

For the comparison of living standards across countries based on the selected indicators, the scoring method was employed to assess the Visegrád Group countries over the period 2019 to 2024. The scoring method incorporates countries' results derived from the values of the individual indicators, as described in the methodology section. The results for each country are presented in Figures 6, 7, 8, and 9, which report performance across the selected indicators.

Figure 6: Evaluation of the SR using the scoring method



Source: Own processing

Figure 7: Evaluation of the PL using the scoring method

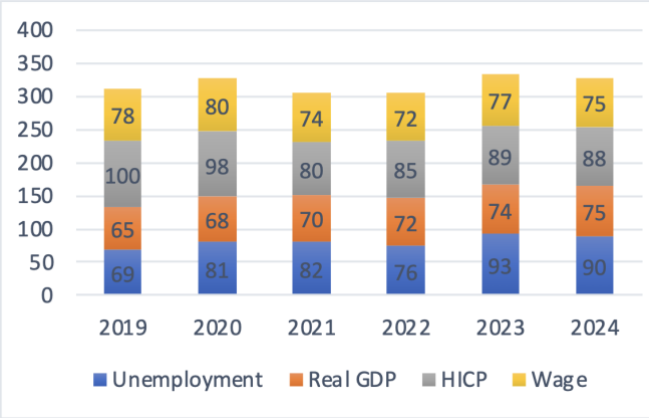


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Figure 8: Evaluation of the HU using the scoring method

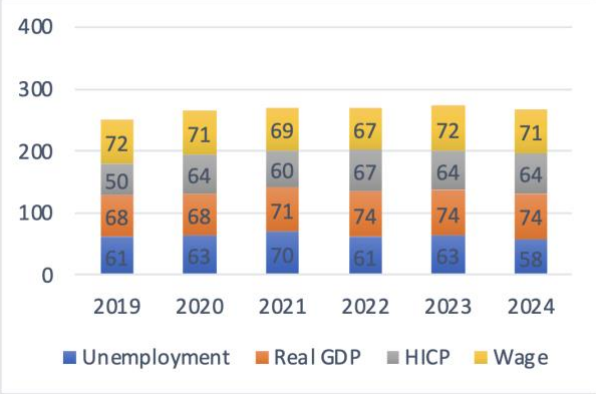

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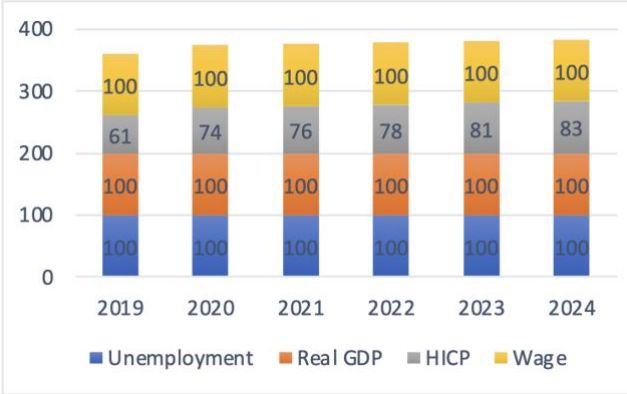
Figure 9: Evaluation of the CR using the scoring method



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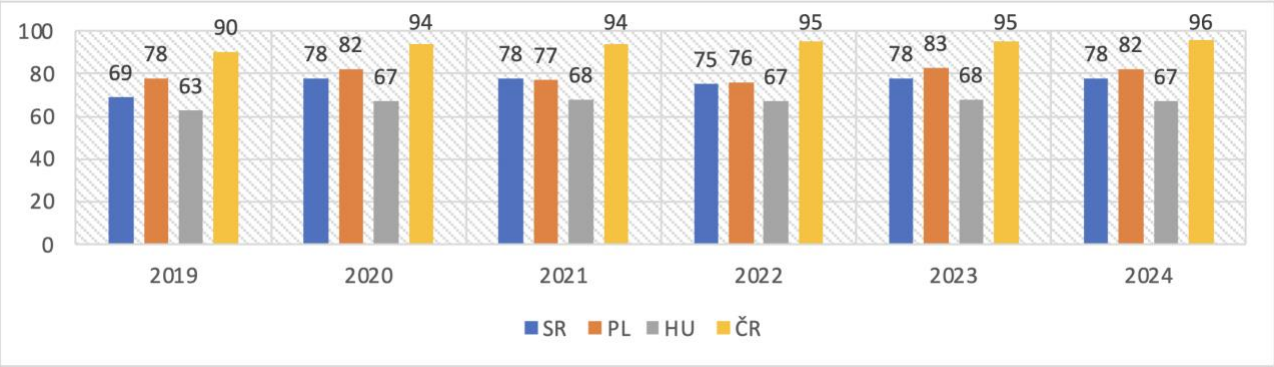
Based on the scoring-method analysis used to compare living standards across the V4 countries, the following results were obtained. The Czech Republic recorded the highest performance across the selected indicators, achieving the maximum score in three out of four indicators, and therefore ranks first overall. The only indicator in which the Czech Republic did not attain the highest score was the HICP, reflecting higher HICP inflation in selected years (see Figure 9.2.).

Hungary recorded the lowest scores across all indicators in the scoring-method assessment. Across each indicator, it consistently registered lower scores than the top-performing country and also ranked below the remaining V4 countries. Within Hungary's indicator-specific results, the highest score was achieved in the adjusted annual wage indicator, whereas the lowest score was recorded for the total unemployment rate (see Figure 8). Averaged over the period 2019–2024, Hungary trailed the top-performing country by more than 30 points, while the average gap relative to the other V4 countries was approximately 10 points. The Slovak Republic achieved the highest score in the HICP indicator, recording the top result among the V4 countries in each year from 2020 to 2024. In addition, after the Czech Republic, Slovakia attained the second-highest results in the adjusted annual wage indicator and in real GDP per capita. By contrast, Slovakia recorded the lowest score among all countries in the unemployment indicator, where its scores remained below 50 points in every year. Across the remaining indicators, the Slovak Republic trailed the best-performing country by an average of at least 15 points (see Figure 6). The final country assessed was Poland. Under the scoring-method calculations, Poland generally recorded scores in the range of 70 to 80 points across the selected indicators (see Figure 7). Up to 2022, Poland's highest-scoring indicator

was the HICP, thereafter, the total unemployment rate produced the strongest results for the country. The lowest-scoring indicator for Poland was real GDP per capita, where it trailed the best-performing country by approximately 25 to 35 points.

After assigning scores for the individual indicators examined, the next step is to evaluate living standards using an integrated composite indicator, which ranks countries according to their overall performance. The ranking is based on the arithmetic mean of the points obtained across the respective indicators. The overall ordering of countries is presented in Figure 10, which reports the total scores, where the country with the highest score is also the highest-ranked in terms of the assessed standard of living.

Figure 10: Ranking of countries based on the integrated composite indicator



Source: Own processing

After computing the arithmetic mean required to construct the integrated composite indicator, the countries were ranked as follows. Under the applied methodology, the Czech Republic recorded the highest standard of living, achieving the strongest overall results among the V4 countries. It maintained a clear first position, with a lead of more than 10 points in the composite score relative to the other countries. The Czech Republic attained the highest score in almost all of the indicators examined.

Poland ranked second overall. The only exception occurred in 2021, when Poland recorded a temporary decline in the composite score and the Slovak Republic achieved a higher score by one point. In all other years, Poland recorded the second-highest total score and therefore ranks second within the V4 group. The Slovak Republic ranked third, with average composite scores generally ranging between 75 and 78 points over the period, except in 2019. The only notable year-on-year decline occurred in 2022, when the score fell by three points, otherwise, it remained close to 78 points. Nevertheless, this still represents a gap of more than 20 points relative to the top-ranked Czech Republic. Hungary ranked last and was the lowest-performing country throughout the period under review, recording the lowest scores both across the individual indicators and in the composite indicator. Between 2020 and 2024, Hungary fluctuated around 67 to 68 points, which is more than 20 points below the Czech Republic. Relative to the other V4 countries, Hungary's overall composite score was, on average, approximately 10 points lower.

CONCLUSION

Measuring or estimating the standard of living is inherently challenging, as no single indicator currently exists that can unambiguously quantify it. The standard of living may be understood as an expression of the relationship between income and the capacity to spend on goods and services that specific groups are able to purchase. When the notion of an "average" or "adequate" standard of living is introduced, it can be interpreted as the ability to acquire a basket of goods and services that is generally considered acceptable within a given socio-economic context. In practice, the standard of living is still frequently proxied by gross domestic product, despite persistent criticism of its limited adequacy for this purpose. This motivates not only our approach but also that of other scholars to

consider additional indicators that can be meaningfully linked to living standards. GDP is used primarily because it captures economic performance within a country. However, strong performance or growth in GDP does not necessarily imply improved living conditions, nor does it automatically indicate a well-functioning and efficient economy. For these reasons, it is necessary to examine complementary metrics that provide a more nuanced picture of how living standards evolve over time and enable a more objective assessment by adopting a broader analytical perspective.

The aim of our research was to evaluate the standard of living in the Visegrád Four countries using the following indicators: GDP per capita, the total unemployment rate, the Harmonised Index of Consumer Prices (HICP), and average adjusted annual wages for full-time employees. The countries were subsequently compared using the results obtained from the scoring method applied to these indicators for each country over the period 2019 to 2024.

The indicators selected for evaluating and comparing the countries are macroeconomic in nature. The Czech Republic recorded the strongest performance in three of the four indicators, namely GDP per capita, wages, and unemployment. The only indicator in which the Czech Republic performed worse relative to the other V4 countries was the HICP, that is, the inflation measure. In contrast, the Slovak Republic achieved the best results in the HICP over the period under review, as inflation increased more slowly than in the other V4 countries. With respect to real GDP per capita, all countries exhibited an overall positive trajectory, which was interrupted in 2020. In that year, Poland was the only country that did not record a year-on-year decline, as the indicator remained broadly unchanged. Poland also showed the most pronounced improvement in real GDP per capita relative to the other V4 countries. In terms of the total unemployment rate, the Slovak Republic recorded the highest unemployment rate across the period, remaining the weakest performer among the V4 countries in this indicator. In Hungary, despite a decline in unemployment between 2019 and 2021, unemployment increased again in the subsequent years. For the income indicator, measured by the average adjusted annual wage of a full-time employee, the Czech Republic recorded the highest levels, while simultaneously exhibiting the slowest year-on-year growth. Wage growth was strongest in Poland, which recorded the highest annual growth rates, whereas Hungary and the Slovak Republic followed broadly similar trajectories. Overall, the V4 countries remain substantially below the EU-27 average in terms of GDP per capita and wage levels, while they tend to record lower unemployment than the EU-27 average, by contrast, HICP inflation was frequently above the EU-27 average, particularly in 2022 and 2023.

After evaluating the selected indicators, the countries were compared using a scoring method in which the indicator values were transformed into points for each dimension and subsequently aggregated into a composite indicator for each country. Under this approach, the Czech Republic achieved the highest assessed standard of living, with composite scores ranging from 90 to 96 points, losing points only in the HICP indicator. Poland ranked second overall, with scores between 76 and 82 points. The only exception occurred in 2021, when Poland ranked third because the Slovak Republic outperformed it by one point. Even when Poland is ranked second, the gap relative to the Czech Republic remains substantial, exceeding 10 points in every year. The Slovak Republic ranked third, recording composite scores of approximately 69 to 78 points, with a broadly upward trajectory over time. Hungary ranked last, with scores between 63 and 68 points, and did not exceed 70 points in any year. Accordingly, it lagged behind not only the Czech Republic but also the other V4 countries.

Across countries, the composite scores display a generally increasing pattern over the period. This suggests improving performance in the selected indicators, although intertemporal comparisons should be interpreted with caution given that the scoring is based on the relative distribution of indicator values within the compared group. At the same time, despite the degree of transparency and comparability offered by the scoring method as a multi-criteria approach, certain limitations remain. In particular, the selected indicator set may not fully capture broader socio-economic conditions or overall economic performance in each country, reflecting both the wide range of potentially relevant measures in this field and the unavoidable element of author judgement in indicator selection. Future research could therefore extend the analysis by incorporating additional indicators and, where

appropriate, alternative normalisation or weighting schemes, in order to provide a more comprehensive perspective on the phenomenon under study and on relationships among the indicators.

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THE CHANGING ROLE OF LOCAL GOVERNMENTS IN ECONOMIC DEVELOPMENT

HANČÁROVÁ Monika – SUHÁNYI Ladislav

Abstract
The article examines the evolving role of local governments in shaping regional economic development, with particular attention to their capacity to support small and medium-sized enterprises (SMEs). It analyses how decentralization, legal frameworks, and political factors influence municipal decision-making and the ability of municipalities to foster competitiveness, innovation, and economic resilience. The study highlights the shift from traditional administrative functions toward proactive, development-oriented local governance. It identifies key opportunities and barriers within existing support systems and offers recommendations for strengthening the effectiveness of municipal development policies. The findings contribute to a deeper understanding of how municipalities can become dynamic actors in promoting sustainable growth.

Keywords: local governments, economic development, regional policy, SMEs, decentralization.

INTRODUCTION

Economic development has traditionally been understood as a process led by national governments and market forces. However, globalisation, decentralisation reforms, and the growing diversity of local economies have repositioned local governments as key actors in shaping local prosperity. Increasingly, municipalities must respond to digitalisation, demographic changes, urbanisation, climate policies, and economic competitiveness by adopting modern development strategies.

The aim of this article is to analyse how the role of local governments in economic development is changing, identify the main factors driving this transformation, and evaluate the strengths and limitations of contemporary local development governance.

The role of local government in public administration and economic planning has changed radically over the past three decades, primarily as a result of the transformational changes in the global economy and society. While historically, and especially in the context of post-communist countries after 1990, cities and municipalities have been perceived primarily as administrative units responsible for basic public services and regulation, today they are increasingly established as strategic actors and key initiators of regional economic development (Havrienková, 2019).

This transformation is a response to the intensification of global megatrends, such as intense globalization and regional competition, the rise of technological innovation, and the pressing pressure for environmental and social sustainability. Modern local governments are no longer sufficient as passive managers of their territories; they must (OECD, European Commission 2019).

The aim of this article is to comprehensively analyse this dramatic change in the position of local governments. The research will focus on identifying key theoretical concepts – in particular the theory of endogenous development, the concept of the Entrepreneurial City and the Local Governance model – that define the modern role of the city.

Methodological study based on qualitative comparative analysis of secondary sources, drawing from a wide range of scientific works indexed in the Scopus and Web of Science databases, as well as from the right key international organizations.

As part of the analysis, we will identify practical tools and models of development (such as support for SMEs, Smart City solutions, or partnerships between the private and public sectors) and critically evaluate the barriers that hinder the effective implementation of development policies. Special attention will be paid to issues such as insufficient institutional capacity and high territorial fragmentation, which is particularly relevant for post-transformation countries.

The scientific contribution lies in the comprehensive synthesis of modern theoretical approaches with empirical findings, thereby providing an analytical framework for understanding the determining influence of local government on regional economic growth. The conclusions of the

study will offer recommendations for practice and policy-making, specifically aimed at strengthening the strategic and financial capacities of local governments, in order to ensure sustainable and inclusive regional development.

1.THE CURRENT STATE OF THE RESEARCH FIELD AND THE RATIONALE OF ITS THEORETICAL BASIS

The role of local government in economic development has undergone a fundamental transformation, transforming itself from a traditional administrative position to an active and entrepreneurial actor. This shift is theoretically anchored in three key concepts: the theory of endogenous development, the concept of the Entrepreneurial City and the Local Governance model, which together define the modern role of the city. The endogenous theory emphasizes that long-term growth of regions must be based on internal resources, such as human capital and innovation, which places the responsibility on local governments to become facilitators of these local resources. It is complemented by the concept of the entrepreneurial city according to which local governments adopt proactive, market-oriented behaviour – actively seeking investors, creating investment zones and marketing their territory (Hrivnak, 2021).

These proactive strategies are implemented through the Local Governance model where the local government acts as a coordinator of networks and partnerships between the public, private and non-profit sectors. The effectiveness of this governance is strongly correlated with the institutional capacity of the local government – the quality of planning, management and transparency, which is also confirmed by empirical studies from Europe (ScienceDirect, 2024).

Moreover, in the context of regional disparities and the need for coordination, the Multi-level Governance model (Hooghe & Marks, 2001) is applied, which ensures vertical and horizontal interaction between different levels of government, which is especially critical in countries with high territorial fragmentation.

In practice, this transformation is manifested in the following key areas:

- Support for SMEs and Economic Diversification: Local governments actively build business incubators and industrial parks, provide advice and simplify administration, thereby reducing unemployment and increasing the economy's resilience to shocks.

- Innovation and Sustainability: Modern cities implement Smart City policies (e.g. digitalization of services), invest in ecological and energy infrastructure, and integrate environmental sustainability into economic planning, as confirmed by OECD (OECD, 2020b).

The textbook definition for the “local government’s role” includes the following activities and range of sub-activities:

- **Planning** -objective setting, *ex-ante* assessment (usually cost-benefit analysis), and rulemaking.
- **Financing** -development of capital for long-term projects from both taxes and fees, paying as-you-go and through bonds, and the provision of inducements, incentives, and subsidies.
- **Delivering** – using public sector employees to deliver services, including, for example, teachers, firemen, policemen, sanitation workers, and public works personnel.
- **Regulating** – establishment and enforcement of property rights, taxation, and any other rules governing behaviour.
- **Managing** – coordination, contracting out, and *ex-post* evaluation, *inter-alia* (Valaskova et al., 2018; Havierniková and Kordoš, 2019; Dvorsky et al., 2020; Belas et al., 2020).

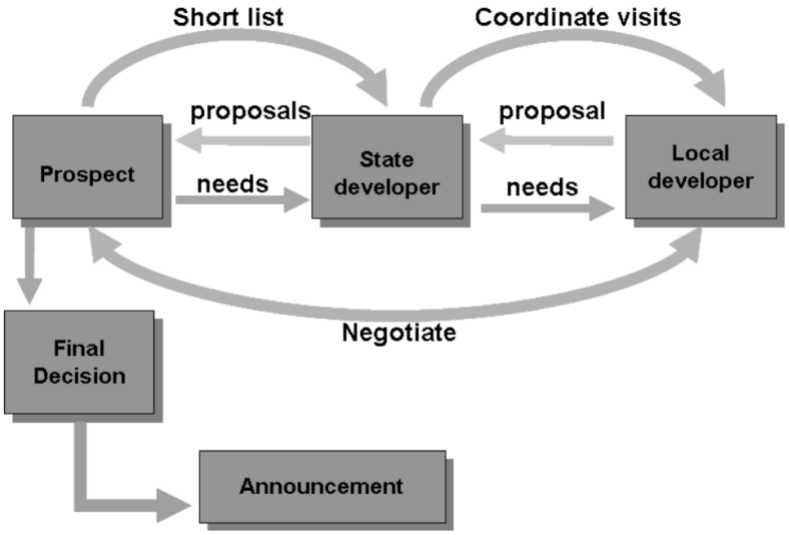
Table 1: Transformation of Local Government's Role (State of the Art)

Key Trend	Traditional Role (Old Paradigm)	New Role (Entrepreneurial Governance Paradigm)	Specific Tools and Examples
1. Strategic Governance	**Administrative** fulfilment of statutory duties, short-term planning.	**Strategic** leadership, long-term vision, and **data-driven decision-making**.	Smart City strategies, investment promotion plans, innovation policies, strategic zoning.
2. Multi-Actor Network Governance	**Isolated** operations, management solely within the public sector.	**Network Coordinator** and **collaborative governance** across sectors.	Public-Private Partnerships (PPP), coordination with universities, NGOs, regional development agencies, and start-up communities.
3. Entrepreneurial Role	**Passive** needs fulfilment, primarily regulatory oversight.	**Proactive** opportunity-seeking, **Entrepreneurial Local Government**.	Actively attracting investment, supporting economic clusters, developing SMEs, and promoting competitive advantages.
4. New Financial Mechanisms	Dependence on traditional tax and transfer revenues.	**Diversification** of revenues, utilizing innovative financial instruments.	EU structural and investment funds, Public-Private Partnerships (PPP), revolving funds, and loan schemes for SMEs.
5. Sustainability Focus	Separate environmental and economic policies, low priority for integration.	**Integration** of economic development with environmental and social policies (the **Triple Bottom Line** approach).	Promotion of green infrastructure, circular economy projects, low-carbon mobility, and energy-efficient construction.

Source: own processing according to Hrivnak, Moritzm, 2021.

Recent empirical studies from Italy and other European regions explicitly demonstrate a strong causal relationship between the quality of local government (governance quality), political trust and economic performance of regions. Local governments with higher institutional capacity – i.e. those with strong planning, transparent processes and quality human capital – achieve higher GDP growth and better well-being indicators. These results show that decentralization alone is not enough; it must be accompanied by capacity for governance (ScienceDirect, 2024; The Annals of Regional Science, 2024).

Figure 1: The economic development process



Source: Michael Luger, 2006.

SMEs form a significant part of the economic system not only in Slovakia, but in most countries of the world. The economic position of SMEs in individual countries is constantly growing. In developed economies, they represent the most progressive and important part of their economies. Ensuring their progress is a continuous and strategic task for all governments. The long-term organization of international organizations, as well as government bodies of the European Union countries, are relevant, high-quality and, above all, stable conditions for the establishment and further development of SMEs. Strategic support for SMEs cannot be oriented as a priority within electoral periods but must be set in the long term and ensured through action plans regardless of the political situation of the countries. This direction is relatively effective from a global perspective, and it can be stated that the support of SMEs and the associated elimination of obstacles to the development of SMEs are already part of the overall economic strategy of the countries (Dvorsky et al., 2020; Belas et al., 2020).

Several institutions deal with the issue of SME development in Slovakia, which also report standardized parameters for international institutions, thus creating a platform for international benchmarking. However, globalization processes and various global trends and risks stemming from them create pressure to search for other determinants and connections affecting SME development in Slovakia. From the reported reports, as well as from available studies from recent years, it can be concluded that the most common obstacles to the development of the SME business environment include poor law enforcement, instability (a large number of changes in the external business environment), ambiguity of laws, tax burden, bureaucracy and corruption (Valaskova et al., 2018; Havierniková and Kordoš, 2019; Dvorsky et al., 2020; Belas et al., 2020).

Considering the situation in Slovakia, the share of SMEs represents up to 99.9% of the total number of business entities, and their significant economic and social role is also related to this share. This significance stems both from the generation of job opportunities from this sector, in which the SME sector contributed 79.8% in 2020, and from the creation of added value (in the non-financial corporate sector), in which the SME sector contributed 53.6% in 2020. Microenterprises have an even more significant representation within SMEs. Microenterprises account for up to 97.2% of SMEs (2020), according to statistics from the Slovak Business Agency (SBA 2017, 2018a, 2021).

Table 2: Determinants of SME Development

Determinant Area	Level	Key Factors and Characteristics	Causal Links and Research Findings
I. Legislative and Legal Framework	**Macro**	Tax and contribution burden, conditions for starting a business, accounting regulations, administrative and regulatory duties, labour market regulation.	**Macroeconomic Stability:** Defines the burden, which is **not regionally differentiated**. Failure to consider **regional specifics** in national legislation leads to disproportionate impacts
II. Political, Economic, and Social Conditions	**Macro / Regional**	Industrial and transport infrastructure, labour availability, migration rate, demographic structure.	**Regional Disparities:** These factors are regionally differentiated; their disregard **deepens economic and social discrepancies**.
III. Financing and Capital Structure	**Micro / Macro**	Credit availability, optimal capital structure (debt-to-equity ratio), cash flow stability, ownership structure, profitability	**Access to Finance: Firm size** is positively correlated with credit access Micro-firms and **women-owned firms face greater financial constraints** (SMEs prefer **internal financing** (retained earnings) to mitigate risk.
IV. Human Capital and Demographics	**Micro / Regional**	Education, age, gender of managers/owners entrepreneurial attitudes, and experience.	**Risk and Performance Indicator:** Educated managers are better prepared for risk **Educated human capital** has a significant positive impact on SME development and growth dynamics
V. Political Factors and Institutions	**Macro**	Quality of the legislative and judicial system, protection of property rights, corruption levels, bureaucracy, **government influence on the education system**	**Trust and Efficiency:** High institutional quality **motivates firms to operate in the official environment** and increases efficiency **Bureaucratic burden** and high bureaucratic discretion lead to corruption
VI. Technological Factors	**Regional / Micro**	Availability of human capital for R&D, R&D infrastructure, public-private sector cooperation	**Competitive Advantage:** Research and Development (**R&D**) is the main determinant of **productivity growth and competitive advantage** Represents a significant opportunity for SMEs.
VII. Consumption and Demand	**Macro / Micro**	Household consumption, changes in income, structure of consumer spending	**SME Growth:** Insufficient demand has a **negative impact on growth** and increases competitive challenges. Good customer relations accelerate economic growth.

Source: own processing according to Dvorsky et al., 2020, Chowdhury et al., 2015, Dragnic, 2014, Cicea et al., 2019.

- **Doing Business Report (2019 data):** Slovakia ranked **42nd** out of 190 countries, trailing neighbouring countries like the Czech Republic (35th) and Poland (33rd). This highlights a major challenge for the region in actively supporting SMEs and eliminating disparities.
- **Dominant Obstacles in Post-Transition Countries (Dvorsky et al., 2020):** Weak law enforcement, legislative instability, excessive bureaucracy, high tax burden, and corruption remain persistent barriers to SME development.
- **Research Trajectories in Slovakia:** Studies predominantly follow two paths: a focus exclusively on Slovak SMEs, and a **comparative platform** of findings between Slovak SMEs and neighbouring V4 countries, aiming to adapt **best practices** (OECD, 2020).

2. METHODOLOGY AND METHODS

The methodology of this article is based primarily on a comprehensive analysis of existing academic and professional literature related to the role of local governments in economic development. The research does not rely on primary data collection; instead, it synthesises knowledge from previously published studies, reports, and comparative analyses. This approach makes it possible to identify key theoretical trends, evaluate different perspectives, and compare the findings of various authors.

The first step of the methodological process involved collecting and reviewing relevant publications from international organisations such as the OECD, UNDP, and the European Union, as well as peer-reviewed academic articles focusing on decentralisation, local governance, and regional development. These sources were analysed to understand how the role of local governments has evolved over time and which factors influence this transformation.

The article also applies a comparative analysis of selected studies, which allows for the identification of similarities and differences in the approaches presented by various authors. By comparing findings from different countries and research environments, the article highlights which development tools and governance models are considered effective across contexts and which remain dependent on local conditions.

In addition, the methodology includes content analysis of legislative and strategic documents, such as municipal development strategies, national decentralisation frameworks, and policy guidelines. This analysis provides insight into how institutional frameworks shape the responsibilities and opportunities of local governments.

Overall, the methodological approach is based on literature review, comparison of research findings, and interpretation of secondary data. This enables the article to present a coherent overview of contemporary trends while avoiding primary empirical research, focusing instead on synthesising existing knowledge and identifying common patterns within the scholarly debate.

3. RESEARCH RESULTS

The conducted analysis shows that the role of local governments in economic development has undergone significant transformation, driven primarily by decentralisation reforms, globalisation, and the growing emphasis on innovation ecosystems. The reviewed literature and comparative studies demonstrate that municipalities increasingly move beyond traditional administrative tasks and assume more proactive, developmental functions. These include strategic planning, investment attraction, entrepreneurship support, and the creation of favourable conditions for innovation.

One of the central findings of the analysis is the widening gap between municipalities with strong administrative and financial capacities and those with limited resources. Regions with well-developed institutional frameworks, qualified staff, and diversified funding – such as EU structural funds, local taxes, and partnerships – show a noticeably higher ability to implement complex development strategies. Conversely, smaller municipalities struggle with insufficient expertise, limited analytical tools, and dependence on central funding, which restricts their strategic autonomy. This disparity is consistently reflected across multiple reviewed publications and case studies.

Another important result concerns the growing relevance of public-private partnerships and multi-stakeholder cooperation. Successful local economic development initiatives – such as innovation hubs, business incubators, and regional clusters – tend to emerge in environments where local governments actively collaborate with businesses, universities, NGOs, and regional authorities. The analysis of selected cases also confirms that local governments that invest in building long-term partnerships achieve more sustainable and scalable development outcomes. This finding aligns with broader European trends emphasising collaborative governance and network-based development strategies.

The comparative analysis of existing research further reveals that the effectiveness of local development policies is strongly influenced by the local economic structure. Municipalities with a diversified economy, strong SME base, and emerging innovation sectors are more capable of adapting to global economic changes. In contrast, municipalities dependent on a single industry or characterised by low private sector activity face greater vulnerability and require more targeted public interventions. This pattern is consistently supported by the findings of EU and OECD reports analysed in the study.

Finally, the synthesis of examined sources shows that evidence-based policymaking remains a critical weakness for many local governments. Although the importance of data-driven decisions is widely recognised, municipalities often lack analytical tools or systematic evaluation mechanisms. Where such tools are implemented, local development strategies tend to be more coherent, prioritised, and better aligned with long-term regional objectives.

Overall, the results confirm that the transformation of local governments into key actors of economic development is both necessary and ongoing. However, their ability to fully assume this role depends on internal capacities, access to resources, and the quality of governance networks. The discussion highlights that strengthening institutional capacity, promoting inter-municipal cooperation, and supporting innovation ecosystems are essential steps toward improving the developmental impact of local governments.

4. EVALUATION OF RESULTS AND THEIR DISCUSSION

The analysis confirms that the role of local governments in economic development has undergone a profound and multidimensional transformation. From previously passive administrators focused primarily on the fulfilment of statutory duties, municipalities have evolved into strategic, entrepreneurial and network-oriented actors that actively shape the direction of regional growth. Contemporary development theories – endogenous development, entrepreneurial governance, local governance and multi-level governance – clearly demonstrate that modern local governments must not only react to external pressures, but also proactively build local capacities, stimulate innovation and create favourable conditions for business and investment.

Empirical findings from European research illustrate that the success of this transformation is closely tied to the institutional quality of local governance. Municipalities with transparent decision-making, effective management, professional human capital and strong political trust achieve better socio-economic outcomes and are more resilient to global shocks. At the same time, the analysis highlights persistent structural barriers, especially in post-transformation countries such as Slovakia: territorial fragmentation, administrative overload, unstable legislation, and chronic capacity gaps limit the full realisation of local development potential.

A key part of modern municipal development policy is the support of small and medium-sized enterprises. SMEs represent the backbone of the regional economy and the main source of innovation, employment and economic diversification. However, their long-term development is significantly constrained by systemic obstacles such as unclear legislation, excessive bureaucracy, low law enforcement and frequent external regulatory changes. These barriers weaken entrepreneurial activity and limit the positive effects that SMEs could bring to local and regional development.

The findings of this study show that strengthening the strategic position of local governments must go hand in hand with improving institutional quality, long-term planning and building partnerships across sectors. Effective local development thus requires not only financial and

legislative tools, but also a change in governance culture – toward cooperation, innovation and evidence-based decision-making. By integrating economic, social and environmental priorities, municipalities can become key drivers of sustainable and inclusive regional development.

Overall, the article demonstrates that the transformation of the role of local governments is not merely a theoretical trend, but a practical necessity shaped by global competitiveness, technological change and societal expectations. Strengthening local governance capacities, supporting SMEs and improving the quality of institutions are essential prerequisites for ensuring that local governments can fully fulfil their strategic role in the economic development of regions.

CONSLUSION

The article examined the changing role of local governments in contemporary economic development, emphasizing their growing importance in fostering competitiveness, innovation, and sustainable growth. Through an analysis of current academic literature, policy documents, and international comparative studies, the paper identified key trends shaping local development governance. These include the decentralisation of economic responsibilities, the strengthening of public-private partnerships, and the shift toward knowledge-based and innovation-oriented development models.

A comparative review of existing research also highlighted significant differences among local governments in the European context, particularly in terms of administrative capacity, financial autonomy, and strategic planning. Municipalities with stronger institutional frameworks and diversified funding sources tend to adopt more proactive development strategies and demonstrate higher adaptability to global economic changes.

The synthesis of examined sources shows that local governments are transitioning from traditional administrative roles to more strategic and entrepreneurial actors. Their effectiveness increasingly depends on the ability to collaborate with businesses, universities, and civil society, as well as on the implementation of evidence-based policies. Overall, the findings underline that the transformation of local governments is an ongoing process shaped by globalisation, technological change, and societal expectations, requiring continuous adaptation and innovative governance approaches.

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AGRICULTURAL LAND USE IN SLOVAKIA AFTER THE EU ACCESSION

RUMANOVSKÁ Ľubica – LAZÍKOVÁ Jarmila

Abstract
Agricultural land is, foremost, a valuable natural resource and a key factor in agricultural production. However, it is also increasingly used for various other purposes, including industry, construction, tourism and the development of public spaces and infrastructure. With the arrival of a new investment, the share of agricultural land is usually decreased, as land is reclassified for non-agricultural use and subsequently developed for industrial parks. This increases the demands for housing and the quality and quantity of services, not only at the site of the investment but also in its broader surroundings. The aim of the article is to identify land use changes in one of the regions of Slovakia - the Trnava Region - over the past 20 years since Slovakia's accession to the EU, and to determine whether structural changes in land use resulting from the arrival of an investor in the region differ from those observed across Slovakia during this period. Our findings indicate that most agricultural land was withdrawn for activities that followed, accompanied, or supplemented the main investment. Therefore, when agricultural land is acquired for investment purposes, the consequences that the investment may bring for the land must be considered when preparing the land protection regulations.

Keywords: agricultural land, land use, land use change, land withdrawal.

INTRODUCTION

The value of agricultural land resides in its critical role as a natural resource that sustains both the economy and the environment. Slovakia, a country with diverse landscapes and rich biodiversity, is experiencing a gradual decline in fertile agricultural land, therefore it is necessary to pay close attention to land changes and long term land loss. As a member of the European Union since 2004, Slovakia has experienced land use changes due to various policy factors. Unique national and regional dynamics shaped such changes in land use. These changes resulted in the conversion of agricultural land to urban and industrial use, along with the construction of infrastructure and afforestation. Such changes create new obstacles to food production, biodiversity, and rural life. Among the new EU members, Slovakia's agriculture is characterised by land ownership fragmentation, complex systems, and a lack of controlled economic activity, resulting in a high monopoly on advanced agricultural technologies. It is in these conditions that agriculture and land use competition occur.

The paper focuses on analyzing of changes in agricultural land use in Slovakia over the past two decades, where a special attention is given to the Trnava Region, a key agricultural and industrial hub, which exemplifies the interplay between investment-driven land transformation and demographic trends. This research contributes to understanding the impact of policy instruments by examining land use trends, supported by statistical analysis, to inform policy development aimed at safeguarding Slovakia’s agricultural land resources for future generations while accommodating necessary economic development.

1. THE CURRENT STATE OF THE RESEARCH FIELD AND THE RATIONALE OF ITS THEORETICAL BASIS

The land is a natural resource, a natural heritage and economic, social and ecological potential of each country. Unlike capital and labour, land has fixed spatial boundaries and cannot be moved freely (Li et al., 2020). Land is completely immobile (Ali et al., 2014) and is becoming a scarce resource, asserting the need for more efficient land use allocation (Lambin & Meyfroidt, 2011).

Land means area of arable land, permanent pasture and meadows, moorland and cattle rangeland, forests and coastal areas on which peasants and indigenous peoples can carry out their agricultural, forestry, fisheries, pastoral and aquaculture production activities (ECVC, 2023). The portion of the land surface of the earth upon which plant grows is covered by the soil (Baldwin et al., 1938). Soil is a non-renewable dynamic natural resource that is essential to life (Schoonover & Crim 2015). Agricultural land, as a factor of production, plays a more significant role in agriculture than in

other sectors of production (Marks-Bielska, 2013; Jughaiman, 2017; Semin & Namyatova, 2019). It plays a major role in food production, water purification and carbon absorption (ECVC, 2023).

Land use means "the total of arrangements, activities, and inputs that people undertake in a certain land cover type" (FAO, 1998). Agricultural land use in Europe has changed considerably in the last decades (Klijn 2004; Verburg, 2013; Wnęk et al. 2021; Gerard et al., 2010; Munteanu et al., 2014). Different land use and cover change factors like population and economic expansion, built-up area expansion, etc. have forced human beings to convert agricultural land to non-agricultural purposes (Hasan et al, 2020).

Past land-use changes were driven mainly by socio-economic factors (Schirpke et al., 2023). Land-use changes can usually be affected by a complex interaction of various factors such as the climate, politics, and socio-economic conditions (Plieninger et al., 2016). These drivers have caused land use changes, which are linked to a number of socio-economic and environmental problems. Knowledge of the basic drivers of land use change as well as of its effects on the land is important for development of effective policies and for ensuring effective protection of the values of traditional agricultural landscape (Izakovičová et al., 2022b).

Critical challenges in Central and Eastern Europe, particularly in Slovakia, involve agricultural land abandonment and its conversion to non-agricultural uses, driven by socio-economic transitions that have transformed traditional land management practices. As farmland is lost or abandoned, biodiversity declines and regional food production capacity diminishes, calling for integrated rural development and land conservation strategies. (Van Vliet et al., 2015). The socio-economic dynamics underlying agricultural land abandonment have profound implications for ecosystem services, biodiversity, and rural landscapes, demanding coordinated and integrated approaches to sustainable land management (van der Zanden et al., 2017; Ustaoglu & Collier, 2018).

In Slovakia, rapid urbanization and land fragmentation have resulted in significant losses of fertile agricultural land, with consequential negative impacts on local agricultural productivity and rural livelihoods (Dobrovodská et al., 2022; Petrovič & Petrikovičová, 2021). This transformation not only diminishes the land available for food production but also disrupts the socio-economic fabric of rural communities reliant on traditional farming practices. Moreover, Slovak urban areas exhibit a highly dynamic character where landscape changes occur quite rapidly, driven by shifts in population densities, economic activities, and patterns of mobility (Kopecká, 2004). Such urbanization fosters spatial polarization, whereby the rural environment becomes an increasingly complex, multifunctional, and intensively used space within the broader urban network. This spatial complexity necessitates sophisticated land use planning approaches that acknowledge these multifaceted interactions (Nuissl & Siedentop, 2021). In Slovakia, rapid urbanization and land fragmentation have led to loss of fertile farmland, impacting local agricultural productivity and rural livelihoods. The conversion of agricultural land to urban and industrial uses poses a significant threat to food security and ecosystem services therefore sustainable land use planning and strong policy frameworks are essential to balance development and agricultural land protection (Dobrovodská et al., 2022; Petrovič & Petrikovičová, 2021, Pazur et al., 2020). The character of land use has fundamentally changed over the past 20 years. Many natural ecosystems have been occupied and degraded, the shares of elements of green infrastructure have been reduced, the degree of anthropisation of the area has increased and a considerable amount of the best soils have been taken up. If we want to secure natural resources for future generations, it is appropriate to set spatial limits for development and also to set limits for the use of natural resources on the basis of their qualitative and quantitative properties (Izakovičová et al., 2022a).

At the European level, land use and land cover changes exhibit complex interactions among policy reforms, economic transitions, and unique landscape features, which influence agricultural output, landscape diversity, and ecosystem services (Lambin & Geist, 2006; García-Martín et al., 2020).

Globally, the loss of agricultural land to urban expansion, infrastructure development, and other non-farm uses threatens sustainable food systems. This trend is driven by population growth, changing consumption patterns, and policy failures to protect valuable arable land. Effective

governance, land-use regulations, and incentives for sustainable farming practices are required to mitigate these effects and ensure food security (Seto et al., 2012; Robinson, 2024). Researchers, policymakers, and land managers need accurate and timely information on land use changes to help analyze its impact and manage its consequences (Krebs, et al., 2021; Brijmohan et al., 2025). Understanding the interactions behind land-use changes is crucial in identifying the factors that undermine policy objectives, that could elucidate future governance options for sustainable land use (Dingkuhn et al., 2025).

2. METHODOLOGY AND METHODS

The data were drawn from the Statistical Office of the Slovak Republic. The obtained data were processed mainly in the form of graphs and tables.

For a more detailed analysis of land use changes, we focused on the Trnava Region due to the implementation of major investments in this area during the followed period. Consequently, we compared land use changes in this region with those observed across the entire country.

To compare the development of the Trnava region and Slovakia, we used the chi-square test of goodness of fit defined as follows:

$$x^2 = \sum_{i=1}^{k} \frac{(E_i - T_i)^2}{T_i}$$

E_i: number of hectares of withdrawn land in the Trnava Region 2004 - 2024 for each reason
T_i: expected number of withdrawn hectares of land in the Slovak Republic for each reason

Critical value is defined as follows: $x^2 = (\alpha, k-1)$, where α = 0,05 and (k-1) = degree of freedom.

We supposed that the distribution of land withdrawn for purpose in the Trnava Region does not differ from the distribution in the entire country.

In the second step, we compared the individual types of construction purposes for which the land was withdrawn in the Trnava Region and in Slovakia, where E_i was number of hectares of withdrawn land in the Trnava Region 2004 – 2024 for each reason related to the construction and T_i is expected number of withdrawn hectares of land in the Slovak Republic for each reason related to the construction.

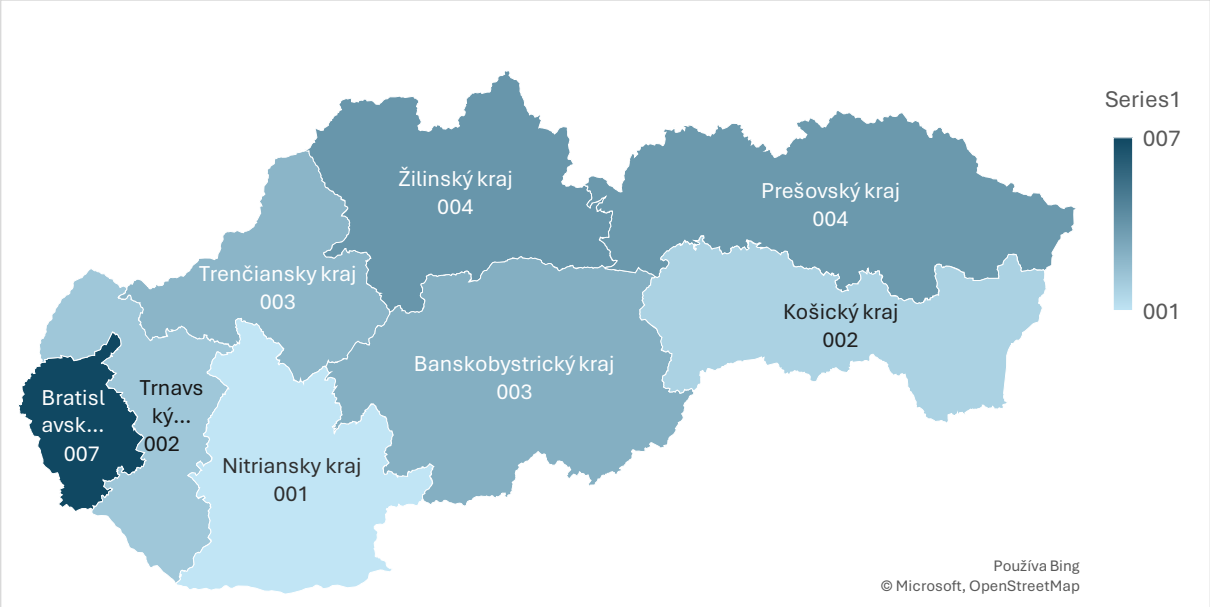
We supposed that the distribution of land withdrawn for constructions purposes in the Trnava Region does not differ from the distribution in the entire country.

3. RESULTS OF THE SOLUTION OF THE PROBLEM AND THEIR DISCUSSION

3.1 Land use development in Slovakia after the EU Accession

Slovakia is known for its diverse landscape and its biodiversity. Half of the country is covered by agricultural land located in the south of the country and about 40% of the total area of Slovakia is covered by the forest land located mainly in the north of the country. The water areas cover only 2% of Slovakia, built-up areas cover app. 5% and the rest of country (app 3%) is covered by other areas (e.g. rocky areas, mines, quarries, parking areas, airports, railways). During the monitored period 2004 - 2024 all land use types were increasing except agricultural land. Its share was decreasing by 1.45 percentage point (72,000 ha of agricultural land). Of it, the area of permanent grasslands was decreased by 39,000 ha, arable land 28,000 ha, 2,000 ha of gardens, 1,300 ha of vineyards and more than 700 ha of orchards. However, these areas did not decrease evenly in all parts of the country. It makes a difference if the area of arable land decreases in the south of the country, where the soils are of the highest quality, or in the north of the country with soil of much lower quality. Moreover, the figure 1 inform how many percentages of agricultural land has been lost of the total area of agricultural land in each region.

Figure 1: Lost of agricultural land in the regions of Slovakia (in % of agricultural land area in 2004)

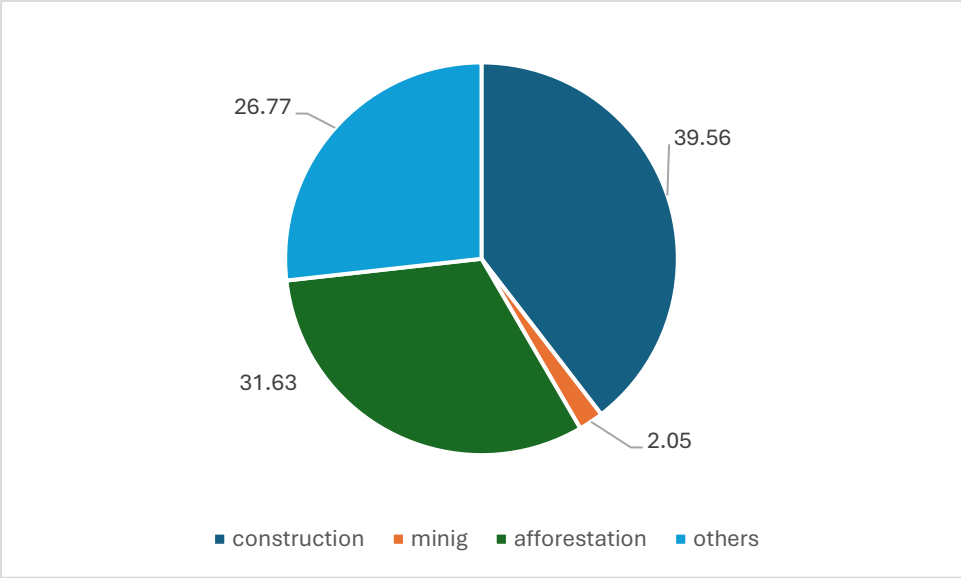


Source: own processing based on data from the Statistical Yearbook on the Land Fund of the Slovak Republic 2003-2023, 2025

Based on Figure 1, the greatest loss of agricultural land occurred in the Bratislava region, followed by the Žilina and Prešov regions in terms of the proportion of total regional area. The smallest losses were recorded in the Nitra and Košice regions. During the monitored period, land of lower quality was predominantly removed from the land fund. However, high-quality land, concentrated in the southwest of the country, accounted for 27% of the total area of land withdrawn from agricultural use. Over the past 20 years, app. 3% of agricultural land has been withdrawn for non-agricultural purposes.

Most of the land was excluded for construction and afforestation and so-called other reasons, which can include, for example, the use of land for the construction of facilities for energy purposes, playgrounds, cycling infrastructure, sports halls, wastewater treatment plants (Figure 2).

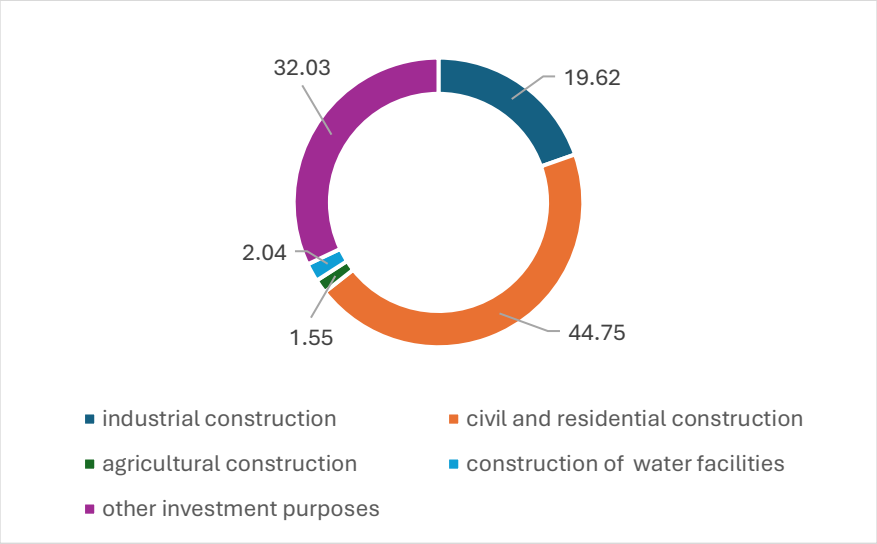
Figure 2: The most often reasons for the withdrawal of agricultural land in 2004 – 2024 (in % from total area of agricultural land in Slovakia)



Source: own processing based on data from the Statistical Yearbook on the Land Fund of the Slovak Republic 2003-2023, 2025

Civil and residential construction has had the greatest impact on the agricultural land withdrawn for construction purposes (Figure 3). The second category is "other investment purposes" e.g. administration buildings or social infrastructure (e.g. hospital, schools, senior houses).

Figure 3: The construction purposes for the withdrawal of agricultural land in 2004 – 2024 (in % from total area of agricultural land in Slovakia)



Source: own processing based on data from the Statistical Yearbook on the Land Fund of the Slovak Republic 2003-2023, 2025

Civil and residential construction accounts for the highest share of land taken away for construction purposes, even though demographic development has shown a negative trend since 2021. Until then, the population grew by an average of only 7,000 people from year to year, except for 2011, which recorded a decrease of 31,000 people compared to 2010. Nevertheless, the demand for housing and new housing is growing. This may also be due to new trends in housing, such as solo living or weekend living. Moreover, the transformation of the labour market, particularly the rise of

remote work and digital professions, has enabled more people to live farther from urban centres, reducing the need for daily commuting. This shift in settlement patterns also affects land use dynamics. To protect land, it is first necessary to know the causes of land use changes. However, these elements need to be investigated in a smaller geographical area than the entire country. Therefore, we chose one of the eight regions of Slovakia for further investigation, the Trnava Region region (NUTS III) that recorded large investments, especially in the automotive industry, in the monitored period.

3.2 Land use development in the Trnava Region after the EU Accession

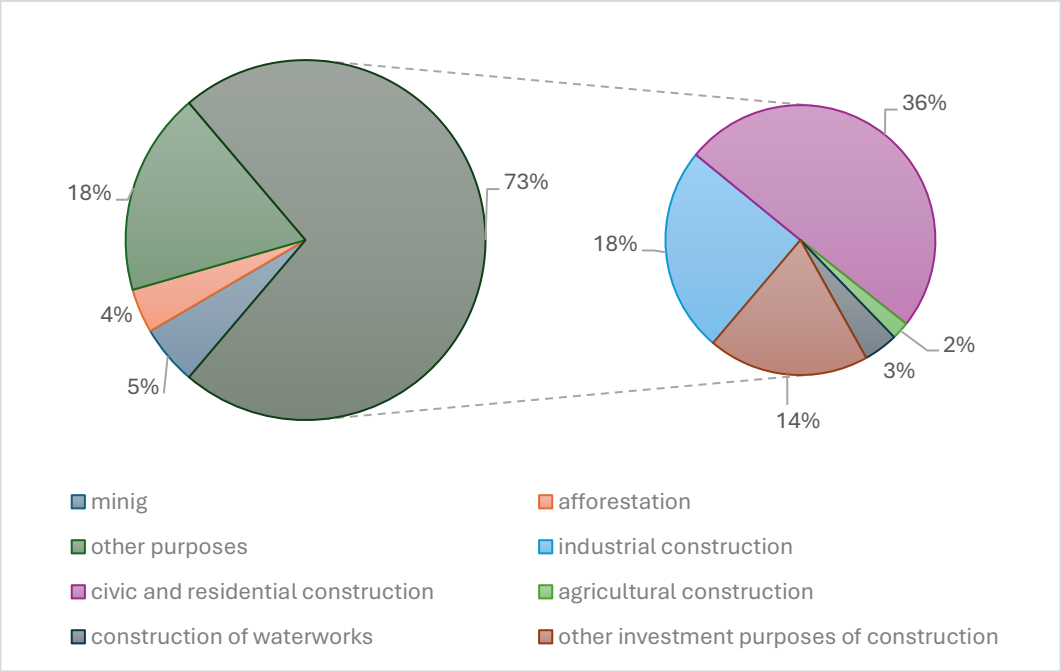
The Trnava Region (NUTS III) is one of the traditional agricultural regions of Slovakia, with a convenient location near the capital. Its borders stretch from the state border of Slovakia with Hungary in the south to the northern state borders of the country with Austria and the Czech Republic.

The Trnava Region covers an area of 414,700 hectares, representing 8.5% of the total area of Slovakia. Agricultural land accounts for up to 70% of the region, forest land makes up only 15%, and water areas represent 4%. Built-up area increased during the observed period from 6.5% to 7.3% of the total area of the region. Other land (e.g., wetlands, peatlands, karst formations, sand dunes) accounts for approximately 4%.

The Trnava Region has seven districts (LAU 1), comprising 251 municipalities, 17 of which have town status. About 1.5 million people live in the region. The Trnava Region is the second region (after the Bratislava Region) to record a population increase of more than 14,000 people during the observed period. In addition to these two regions, population growth also occurred in eastern Slovakia, particularly in the Prešov and Košice regions. The remaining regions of Slovakia experienced a decline in population during the same period. This indicates a likely rise in demand for residential and civic construction, leading to increased pressure for land withdrawal.

From 2004 to 2024, the Trnava Region lost 7,438 hectares of agricultural land. Of that, 73% was used for construction purposes (Figure 4), primarily for residential and civic development (50% of the land withdrawn for construction was used specifically for residential purposes), industrial construction accounted for just under 25%, other investment purposes for 19%, and the remaining land was used for agricultural and water-related projects (6%). In addition to construction, the land was also used for mining (5%) and afforestation (4%). For other purposes (e.g., construction of public utilities and social infrastructure), nearly 19% of the acquired land was used.

Figure 4: The withdrawal of agricultural land in 2004 – 2024 (in % from agricultural land in the Trnava Region)



Source: own processing based on data from the Statistical Yearbook on the Land Fund of the Slovak Republic 2003-2023, 2025

We were interested in whether the situation regarding land withdrawal the Trnava Region differed from the situation in Slovakia as a whole. For this purpose, we used the chi-square goodness-of-fit test, where we compared the theoretical frequencies for Slovakia with the empirical frequencies for the Trnava Region.

We formulated the hypotheses as follows:

H_0 (null hypothesis): The distribution of land withdrawn for purpose in the Trnava Region does not differ from the distribution in the entire country.

H_1 (alternative hypothesis): The distribution of land withdrawn for purpose in the Trnava Region differs from the distribution in the entire country.

In other words, the structure of land withdrawal purposes in Slovakia and in the Trnava Region differs significantly.

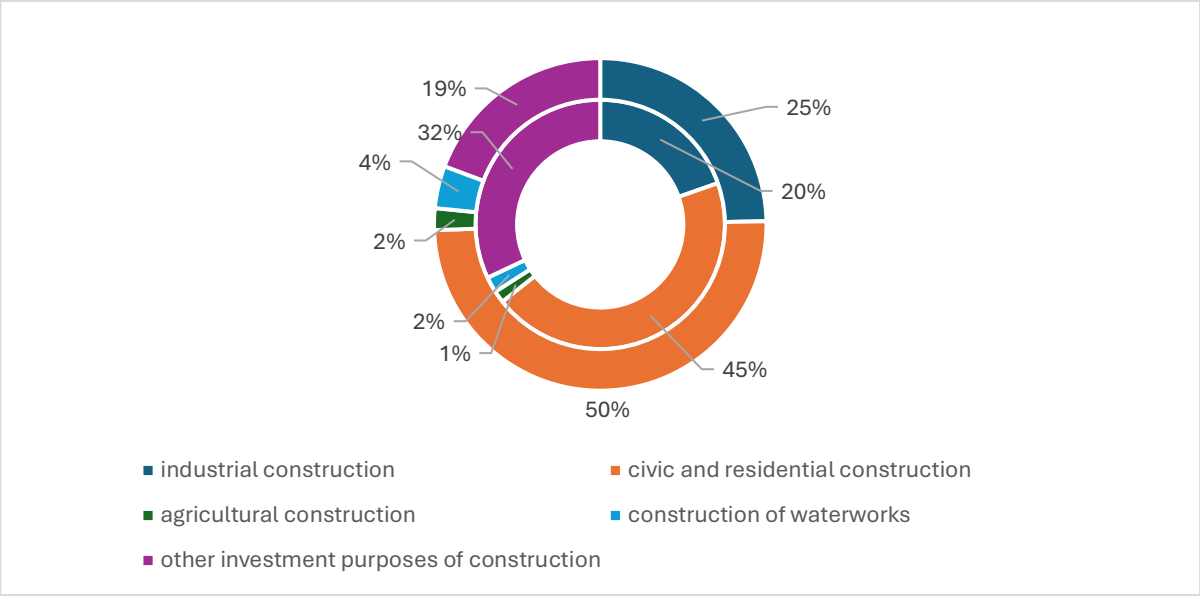
The calculated chi-square value of 4430.30 is greater than the critical (tabulated) value of 7.82, which was determined as the inverse value of the chi-square distribution (in Excel using the CHIINV function) with a probability of 0.95 and n–1 degrees of freedom.

From this, we conclude that while in Slovakia, land was used relatively evenly across most categories of land withdrawal (except for mining, which accounted for only 2% of withdrawn land), in the Trnava Region, construction purposes clearly dominated compared to other reasons for land withdrawal.

Therefore, in the second step, we compared the individual types of construction purposes for which the land was withdrawn in the Trnava Region and in Slovakia. Also in this case, we observed statistically significant differences in the structure of land withdrawal reasons related to construction purposes.

The calculated chi-square value of 497.66 is greater than the critical value of 9.48. Only in the case of other investment-related construction purposes did the Slovak Republic dominate over the Trnava Region (Figure 5).

Figure 5: The withdrawal of agricultural land in 2004 – 2024 in % from agricultural land in the Trnava Region (outer circle) and Slovakia (inner cicle)



Source: own processing based on data from the Statistical Yearbook on the Land Fund of the Slovak Republic 2003-2023,2025

Given the specifics of the Trnava Region compared to Slovakia, we focused on the structure of land withdrawn in the districts (LAU 1) of the Trnava Region in combination with changes in the population.

The largest increase in population was recorded in the districts of Dunajská Streda (13,411 inhabitants), Trnava (5,420 inhabitants) and Galanta (608 inhabitants) within the followed period. In the other four districts, the population balance is negative, especially in the district of Hlohovec (-2,027 inhabitants) between 2004 and 2024. The area of withdrawn agricultural land in the districts is developed very similar to the development of the number of inhabitants. The area of agricultural land decreased in all districts of the region; however, the largest area of withdrawn land was in the district of Dunajská Streda (1,811 ha), Galanta (1,599 ha) and Trnava (1,363 ha). In these districts, the withdrawn agricultural land represented 2.5 - 3% of the total area of the area in 2004 in individual districts. It can be stated that in areas with an increasing population, the largest decreases in agricultural land were recorded. The reason for the increase in population in these districts was mainly job opportunities created by foreign investors.

In 2003-2006, the Peugeot automobile plant began to be built in the city of Trnava. After ten years, this investment was expanded to include the production of new car models, which was accompanied by an increased number of parking spaces. The new investment brought more than 1,000 jobs. At the same time, during this period, the increase in investments in industrial parks continued (e.g. Samsung in the Galanta district in 2007, companies providing goods and services to the Peugeot plant since 2010, e.g. Faurecia, Valeo, Sofitec in the Trnava district, and in the Hlohovec district, two investors found a place: Faurencia and Vetter Slovakia, which, unlike other investors, is dedicated to the food industry, specifically fruit processing). In 2024, companies such as Vaillant, Protherm, Schaeffler Skalica and in the Trnava district, the Peugeot and ZF Slovakia automobile plants, also focused on the production of components for the automotive industry, will expand their investments. However, we will have to wait for some time for the impact of these investments.

In addition to the automotive industry, the Trnava region is also known for agricultural production, as it has the highest quality soils in the country. On arable land, mainly cereals, oilseeds, sugar and fodder beets, and corn for grain and silage are grown. In animal production, cattle and pig breeding dominate. In the food industry, the production of confectionery, malt and wine is especially known. Finally, it is necessary to mention the chemical and pharmaceutical industry in the Trnava

and Hlohovec districts and the production of glass fibers in the Trnava district. Current investments are focused on modernizing technologies towards sustainability (renewable energy, electromobility, photovoltaics, etc.).

From the above, it follows that most investments were concentrated in the capital of the region, Trnava and its surroundings, from which there is good access not only to Trnava, but also to the capital of Slovakia, Bratislava. These are precisely the areas with the most fertile soils in Slovakia.

Currently, the Trnava Region has 287,000 ha of agricultural land, of which 257,000 ha is arable land. The structure of crops cultivated on the agricultural and arable land has not changed significantly during the observed period. Monocultures of cereals, oilseeds, sugar beet, and fodder crops continue to dominate. However, there is no clear data on how much of these crops are used for food and feed production and how much for biofuels and biomass. The main reason why the land use structure in the region has not evolved significantly lies in persistent issues such as unclear land ownership and high land fragmentation, which continue to slow down the land market. The Trnava Region highlights the need for land law reforms particularly in clarifying ownership, addressing land fragmentation, and improving access to land for small farmers. Moreover, traditional farming practices are under threat from land concentration in the hands of large investors, rising technological demands suited primarily to large-scale farming, and a declining workforce in the agricultural sector. This development has also triggered speculative land purchases by investment groups—ostensibly for land management purposes—raising concerns about land concentration and transparency.

3.3 Political and legal instruments affecting the land use changes

Over the past five years, land use in Slovakia has been increasingly influenced by technological and environmental factors included in the political and legal documents of the EU and Slovakia as well. Among the most significant are efforts to mitigate climate change, integrate green infrastructure into urban areas, reduce waste generation, and enhance waste processing and recycling capacities.

The effects of climate change are becoming increasingly evident in the form of alternating droughts and floods, warmer winters with limited precipitation, and more frequent heatwaves. These changes are directly impacting agricultural practices, forcing farmers to switch to more heat- and drought-tolerant crops. While such adaptation is necessary, it is also associated with increased production costs and growing demands for expertise and innovation.

The developments are closely tied to the expansion of digital technologies, particularly in the fields of ICT and artificial intelligence, which have facilitated the digitalisation of sectors such as agriculture (e.g. smart farming) and urban management (e.g. smart cities). Precision agriculture has gained momentum as a tool for conserving soil and other natural resources.

The free movement of goods and capital, supported by EU policies such as the Common Agricultural Policy (CAP) and the European Green Deal, facilitates product exports and investment inflows without unnecessary bureaucracy.

At the same time, there has been a growing policy and market emphasis on supporting young and small-scale farmers, encouraging local production, and promoting short food supply chains (e.g. farmgate sales, farm-to-fork initiatives).

These trends are supported at the EU level, which actively promotes the Farm to Fork strategy and climate neutrality goals through instruments such as the European Green Deal. This has created increased regulatory pressure on the agri-food sector, including stricter rules for pesticide and fertilizer use, as well as obligations related to biodiversity protection and carbon sequestration. The development of precision agriculture is partly a response to these regulatory requirements. The energy crisis has intensified interest in renewable energy sources, including biomass, and spurred the construction of local energy solutions such as photovoltaic and solar power installations.

Furthermore, EU funding instruments such as Next Generation EU contribute to the implementation of green transition objectives.

Moreover, national environmental protection policies limit land use options and farming methods, increasing the overall costs of land utilization.

National environmental protection policies limit land use options and farming methods, increasing the overall costs of land utilization. The Trnava region is home to a drinking water reserve of European importance: the Žitný ostrov Protected Water Management Area. In addition, there are wetlands of regional importance, large-scale protected areas (Little Carpathians, White Carpathians, Záhorie and Dunajské Luhy), small-scale protected areas (nature reserves, protected areas, natural monuments, protected trees) and NATURA 2000 areas (protected bird areas and areas of European importance).

At the same time, EU environmental standards influence land use from production certification and ESG monitoring to restrictions in protected areas aimed at biodiversity and habitat protection. Slovakia, including the Trnava Region, must comply with EU commitments in the fight against climate change, reducing greenhouse gas emissions, protecting biodiversity, and increasing forest cover. European consumer demand for organic and local products also creates new opportunities for small farmers and traditional craftsmen in the region.

One of the important tools for protecting land from being used for non-agricultural purposes is the state's fee policy for the withdrawal of land for non-agricultural use. Its aim is to protect the country's best quality land and prevent to use it for non-agricultural purposes if there are other alternatives, e.g. the possibility of using lower quality land for the given purposes. This policy has been in place in Slovakia since 1976, but unfortunately it is subject to very frequent changes without prior analysis of economic, social and environmental impacts. Its constant changes are more reminiscent of the trial-and-error method, which, however, causes undesirable effects on the processes of agricultural land acquisition.

Since 1976, this policy has been changed three times and finally abolished in 2004 with the adoption of the new Act on the Protection of Agricultural Land. However, the legislator found that this step was not correct and reintroduced fees for the acquisition of agricultural land after 4 years explaining it as follows: "…*praxis showed that the abolishment of the fee was neither in favour of the land with the best quality or in favour of the maintenance and reproduction of the qualitative land potential in the Slovak Republic for the future generations and the fee are only economic measure for the agricultural land protection"* (The explanatory report to the decree no. 376/2008 Coll.). However, the fee was imposed exclusively on land within the first four quality classes; land classified in the fifth to ninth classes was exempt from the fee policy. The decree was replaced by Government Decree No. 58/2013 Coll., which entered into force on 1 April 2013. This new decree extended the obligation to pay the land withdrawal fee to all land quality classes, but the fee was only levied if the land belonged to the highest-quality 30% of land within a given cadastral area. For example, land classified as group 4 in a cadastral area in the south of the country was exempt from the fee, since the top 30% consisted of land groups 1 to 3. However, fees were paid for land classified as group 5 in the north of Slovakia, because the lower overall quality of the land meant that even this class fell within the highest-quality 30% in that cadastral area. This questionable policy remained in effect until the adoption of the amendment in 2025. In 2025, he amendment to the government decree from 2025 does not change the amount of fees, but it requires the payment of fees for every permanent and temporary withdrawal of land, regardless of its quality. Only the amount of the fee takes quality into account.

The problem with the changing fee policy is that, before each new regulation came into effect, there was a significant increase in the acquisition of agricultural land (Lazíková et al., 2019). Land may be withdrawn based on a decision of the competent authority. The validity of this decision is three years in the case of permanent withdrawal, and up to ten years in the case of temporary withdrawal, as land may be temporarily withdrawn for a maximum period of ten years. Therefore, in the case of changes in fee policy, those interested in land withdrawal are willing to withdraw the land earlier than they need it. The Trnava Region, together with the Bratislava Region with the soils of the highest quality, were among the regions where the largest share of agricultural land was taken from the total area of agricultural land in the region (Lazíková et al., 2019).

Despite the recent change in the fee policy, introducing a requirement to pay fees for the withdrawal of agricultural land regardless of its quality, it cannot be said that soil protection is

currently adequately addressed. Although statistics are currently unavailable, an increased share of withdrawn land can be expected in 2024–2025 because of the fee policy changes. While the Soil Protection Act obliges district offices in Slovakia to protect the highest quality soils (classified as 1st to 4th class), it does not prohibit the withdrawal of these soils from the land fund. We believe that such high-quality soils should not be removed from the land fund at all, or at the very least not permanently. Alternatively, the law could provide for clearly defined exceptions, allowing such withdrawals only in necessary cases. Moreover, the current fee for the permanent withdrawal of the highest quality land (set at 20 euros per square meter) does not reflect a genuine legislative effort to ensure meaningful protection of the country's best soils. The fee should be high enough to incentivize those interested in land withdrawal to prioritize the use of previously abandoned or overgrown areas (including land, buildings, facilities, and spaces) within the built-up areas of municipalities, towns and cities commonly referred to as brownfields.

CONSLUSION

The Trnava Region occupies a specific position. On the one hand, it offers a high concentration of industrial and agricultural production, developed infrastructure, and employment opportunities, making it one of the most economically dynamic regions in Slovakia. Within the Trnava Region itself, economic dynamism has generated growing demand for residential, industrial, and investment development, as well as expansion of technical and social infrastructure. This places considerable pressure on land use, leading to its intensification even in areas that are less suitable for development, particularly in the northern parts of the region. On the other hand, this concentration draws labour away from other regions, contributing to their depopulation, abandonment of agricultural land, rewilding of unused plots, and a gradual decline in traditional farming practices – factors that exacerbate regional disparities.

Land use in the Trnava Region generates a broad portfolio of effects that transcend the region's borders and impact the context of Slovakia. At the local level, land is under strong pressure caused by demographic growth, suburbanization, and the influx of industrial investments, followed by the development of services and transport infrastructure. These factors lead to the conversion of agricultural land, even though it is among the highest quality soils in Slovakia, fragmentation of landscape elements, decline in biodiversity, and loss of original habitats. At the same time, interest in local food products is increasing, but modern technologies continue to support large-scale agricultural production. The pressure from various stakeholders on different land use practices, alongside nature conservation demands, creates conflicts between economic interests and environmental goals.

The EU policies and Slovakia influence land use through legislation, adoption of international commitments in treaties, creation of subsidy tools and programs, and support for technological innovations (e.g., smart farming). It is important that these political and legal instruments cannot be created by trial and error, as they can lead to exactly the opposite effects than those intended by the introduced instrument. It is important that these political and legal instruments cannot be created by trial and error, as they can lead to exactly the opposite effects than the one the introduced instrument aims for. In addition, it is necessary to realize that the decision to withdraw land from the land fund for the investor will cause further land withdrawal at the investment site and in its wider surroundings. Subsequent activities, such as migration, housing demands, infrastructure construction, expansion of the quantity and quality of services provided will require further land withdrawal from the land fund, and often in areas where the best quality soils in the Slovak Republic are located. Ultimately, sustainable land use in Slovakia depends on policy frameworks that are proactive, data-driven, and tailored to the unique socio-environmental context, in order to maintain the functionality of agricultural landscapes while accommodating necessary urban development.

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THE IMPACT OF CONSOLIDATION ON MACROECONOMIC INDICATORS IN SLOVAKIA

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Abstract
The paper presents an in-depth case study of Slovakia, focusing on the economic impacts of the government's consolidation measures implemented over three consecutive years. The primary motivation behind these consolidation efforts is the need to restore and stabilize public finances after a period of increased fiscal pressure. In response, the government has introduced three distinct consolidation packages, each corresponding to a specific year and gradually intensifying in scope and impact. While the first two packages address the immediate fiscal challenges, the third consolidation package, which is already approved, is scheduled to take effect in 2026 and is expected to bring the most significant structural changes. The study pays particular attention to the broader macroeconomic implications of these measures, examining their effects on key economic variables such as economic growth, employment, investment activity, and household consumption. According to the macroeconomic forecast published by the Council for Budget Responsibility, the consolidation measures are likely to have adverse effects in the short to medium term. The forecast indicates a slowdown in economic growth and a deterioration of several macroeconomic indicators, reflecting the increased tax burden and higher costs for businesses and households. These findings suggest that although the consolidation measures aim to improve fiscal sustainability, they may simultaneously pose challenges to economic performance and overall economic stability.

Keywords: consolidation, Slovakia, macroeconomic indicators.

INTRODUCTION

The economic justification for consolidation measures in the Slovak Republic is primarily based on the need to stabilize public finances and ensure their long-term sustainability. Slovakia has been managing a public finance deficit for a long time, which has significantly deepened after the pandemic and the energy crisis. Without intervention, public debt would continue to grow, which would increase the risk of exceeding the limits set by the debt brake and threaten the state's ability to finance its basic functions, such as the pension system, healthcare and education (Lahiani et al., 2022). Consolidation therefore aims to slow down debt growth and gradually restore the balance between state revenues and expenditures (Georgantas et al., 2023).

An important aspect of consolidation measures is also reducing the costs of servicing public debt. Higher debt in an environment of increased interest rates means growing interest expenses, which subsequently crowd out other public expenditures, especially investments in economic development (Carriere-swallow et al., 2021) and public services. Fiscal discipline increases the country's credibility in financial markets and helps maintain lower interest rates on government bonds, which has a positive impact on the overall state's finances.

Consolidation of public finances is also necessary in terms of Slovakia's obligations to the European Union and the euro area. As a member state, Slovakia is obliged to aim for a public finance deficit below three percent of gross domestic product and to comply with common fiscal rules. Insufficient consolidation efforts could lead to the excessive deficit procedure, weakening the country's reputation and reducing investor confidence (Jacques, 2021).

Another economic reason for consolidation is the need to create fiscal space for the future. Responsible management in a period of immediate crisis allows the state to better respond to future shocks, whether it is an economic slowdown, geopolitical risks or increasing expenditures associated with an aging population (Kopecky, 2022). Without consolidation, the room for maneuver of public finances would be significantly limited.

Consolidation measures can also have an anti-inflationary effect. Prolonged high deficits support excessive demand in the economy and can contribute to the persistence of inflationary

pressures. Limiting public spending or increasing government revenues can thus contribute to more stable price developments (Buthelezi, 2023), especially in an environment of increased inflation.

From an economic perspective, consolidation should not only mean mechanical cuts or tax increases (Dabla-Norris & Lima, 2023) but should also lead to more efficient functioning of the state (Marattin et al., 2022). The aim is to limit untargeted and ineffective spending, increase the efficiency of public policies and shift resources to productive investments that support long-term economic growth (Jacques, 2021). Overall, therefore, the consolidation of public finances is seen as a necessary step to prevent long-term unsustainability, debt growth and a reduction in the state's ability to address future economic and social challenges.

1. THREE CONSOLIDATION PACKAGES IN SLOVAKIA

In the coming years, Slovakia will face a large-scale consolidation package of measures aimed at stabilizing public finances and reducing the budget deficit. The consolidation is divided into several waves that gradually affect the tax, contribution and fee system. The measures affect not only the business environment, but also employees, self-employed persons and consumers. A significant part of the changes brings an increase in the tax and contribution burden, although partial positive adjustments are also appearing in some areas. The gradual introduction of the measures is intended to mitigate their immediate impact, but the cumulative effect will be noticeable. The changes will be reflected in labour costs, prices of goods and services, and in companies' investment decisions. The consolidation steps also change the rules in the areas of VAT, excise taxes and social security. It will be necessary for entrepreneurs to adapt to the new conditions and reconsider their financial planning. The following overview summarizes the individual waves of consolidation and their key measures in the years 2024 to 2026.

First wave of consolidation in 2024:

- Reintroduction of tax licenses
- Increase in dividend tax (from 7% to 10 %)
- Increase in health contributions for employers and self-employed persons (only for the transitional period from 1.1.2024 to 31.12.2027)
- Increased turnover threshold for micro-taxpayers and for the 15% tax rate – one of the few positive changes
- Abolition of the public holiday (1 September)
- Higher court and administrative fees from 1.4.2024
- Additional taxation of banks (30% of profit)
- Exclusion of alcoholic beverages from the application of the reduced VAT rate for restaurant and catering services
- Increase in the excise tax rate on alcohol
- Increase in excise tax rates on tobacco and cigarettes
- Reduction of the contribution to the 2nd pension pillar to 4% of the assessment base at the expense of a higher contribution to the Social Insurance Company

Second wave of consolidation in 2025:

- Increase in income tax for large companies (24 %)
- Increase in the maximum assessment base in social insurance (increase from 7 times to 11 times the average monthly wage in the Slovak economy two years ago)
- Change in VAT rates (basic rate 23%; reduced rate 19% - for some foods, mineral waters, salt or electricity; reduced rate 5% - for selected basic foods, printing services, restaurant services, accommodation services, sports facilities)
- Reduction and tightening of the tax bonus per child
- Increase in the taxable income threshold for the self-employed and small businesses
- Re-reduction of the dividend tax

- Higher prices of highway vignettes for motorists
- Financial transaction tax (0.4% per transaction, 0.8% for cash withdrawals)

Third wave of consolidation in 2026:

10 consolidation measures with a fundamental impact on business:

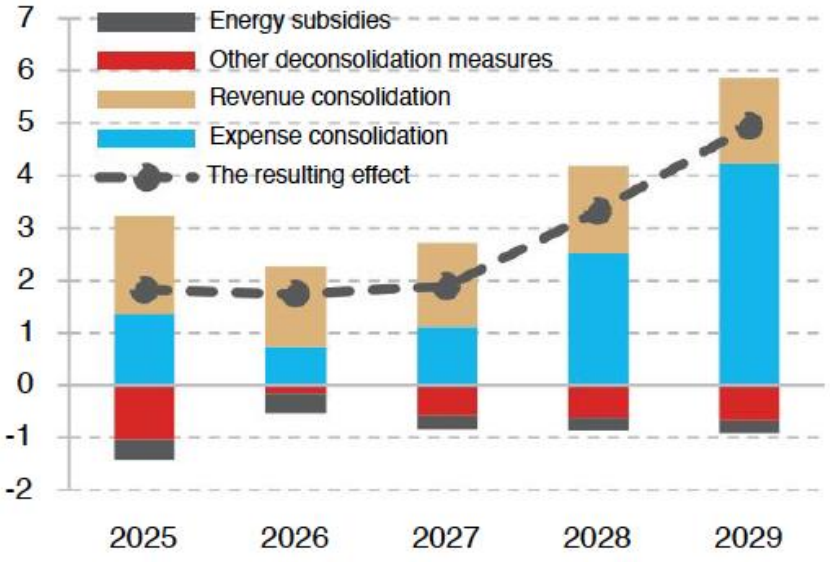
- Higher progressivity of personal income tax (two additional levels will be added to 19% and 25%, namely 30% and 35%)
- Higher health contribution for employees, self-employed and self-payers (increase by 1 %)
- Increase in the assessment base for self-employed persons (60% of the average wage two years ago)
- Shorter contribution holidays for self-employed persons (reduced from the fist 12 months to the fist 6 months)
- Social contributions also from income (remuneration) during incapacity for work (employee's sick leave)
- Employers will pay for an employee's sick leave for longer (extended from 10 to 14 days)
- New amount of minimum corporate income tax (the so-called tax license will increase from 3,840 € to 11,520 € for turnover higher than 5,000,000 €)
- Cancellation of some work holidays and partial lifting of the ban on retail sales during holidays
- Limitation of VAT deduction for cars (if they are also used for private purposes, a maximum of ½ of VAT will be deductible)
- Higher VAT on foods with increased salt and sugar content (23%)

The fiscal assumption (so-called "most-likely" approach) in 2025 is based on the current estimate of public administration management published by the Council for Budget Responsibility. The starting point for next year's fiscal framework (for 2026) is the expected impact of measures from the published consolidation package. The Council for Budget Responsibility assumes a total consolidation volume of approximately 1.8 billion € (Fig. 1). The difference compared to the volume of 2.7 billion € communicated by the Ministry of Finance of the Slovak Republic is represented by the following factors:

- taking into account the costs of energy subsidies as a deconsolidation measure,
- the assumption of counting energy subsidies in the deficit only with approximately half the refund from EU funds (or alternative refund of other expenses originally financed from national sources),
- a lower volume of austerity measures compared to the declared volume due to the absence of specification,
- different expected fiscal impacts of the measures (non-working days, valorisation of salaries in public administration).

According to the forecast, consolidation is not expected in 2027, but it will probably resume in 2028 and 2029, in which years the volume of consolidation could reach approximately one percent of Slovakia's GDP.

Figure 1: Consolidation structure (cumulative data, most-likely technical assumptions, in billions of euros)



Source: Council for Budget Responsibility, 2025

The Council for Budget Responsibility (CBR) publishes its updated macroeconomic forecast in order to take into account current information on economic developments and thus assess the realism of the forecast of the Ministry of Finance of the Slovak Republic (MF SR).

2. MACROECONOMIC FORECAST

The Council for Budget Responsibility (CBR) revised down its expectations for economic growth in the current (2025) and next year (2026) due to the harsher impact of the ongoing consolidation on the Slovak economy and the structure of the announced consolidation package next year focused on labour taxation, worse developments abroad and persistent global uncertainty. Other significant factors influencing economic development remain the drawing down of EU funds, including the recovery plan, and the government's policy regarding subsidizing regulated prices.

The third consolidation package in a row is significantly weakening economic growth and will result in a lower potential of the economy (Table 1), a further decline in competitiveness and attractiveness for investors. Even as a result of such consolidations, economic growth will only be around 1.5 percent by the end of the decade.

Table 1: Main indicators of the Council for Budgetary Responsibility forecast

(real growth in % unless otherwise stated)	Forecast					
	2024	2025	2026	2027	2028	2029
GDP	2.1	0.9	1.3	1.5	1.5	1.4
Household consumption	2.9	1.4	1.0	1.8	1.4	1.6
Fixed investments	1.8	4.2	0.8	-9.9	1.4	2.1
Public administration consumption	3.7	1.5	1.2	1.9	0.0	-0.4
Export of goods and services	0.3	3.3	2.5	3.8	3.4	3.1
Import of goods and services	2.3	4.9	3.0	2.1	2.9	3.1
Employment (ESA)	-0.2	0.0	-0.3	-0.1	-0.2	-0.3
Nominal wage (reporting by the Statistical Office of the Slovak Republic)	6.6	6.3	4.0	4.3	4.2	4.3
Real wage (deflated by CPI)	3.7	2.1	1.3	1.7	1.6	1.8
Unemployment rate, %	5.3	5.4	5.5	5.5	5.4	5.3

Inflation, % (CPI)	2.8	4.1	2.7	2.5	2.5	2.5
Production gap, % of potential product	0.2	-0.5	-0.9	-0.8	-0.6	-0.5
Nominal GDP, growth in %	5.8	4.4	4.1	3.8	4.0	3.8
Nominal GDP, in billion euros	131.0	136.7	142.3	147.7	153.7	159.4
Nominal disposable income, %	5.1	4.2	3.2	4.3	4.0	4.3
Savings rate, in %	6.0	4.7	4.3	4.3	4.3	4.5

Source: Council for Budget Responsibility, 2025

Outlook for the current year:

The expected economic growth will reach 0.9 percent in 2025, practically half the estimate from the beginning of the year. The economy is being held back by weaker performance in industry, whose investment and export activity has been weakened by uncertainty surrounding trade tariffs and the global economy. The deterioration in assumptions about the development of the European economy is postponing a slight recovery in foreign trade until 2027. The later start of production at the Volvo car factory is also contributing to the shift. Stimuli to the economy this year come primarily from the expected faster disbursement of the Recovery and Resilience Plan supported by the EU. Domestic demand is also contributing to growth, especially from government consumption, which is not showing signs of consolidation on the expenditure side this year, and partly from households, relying on the so-far stabilized labour market and dynamic wage growth.

Inflation could reach 4.1 percent this year, also due to a more dynamic rise in food prices and market services. The more significant increase in inflation this year is dampened by the widespread subsidization of energy prices.

Outlook for 2026:

In addition to unfavourable assumptions about the development of the European economy, the macroeconomic development of Slovakia in 2026 will also be determined by the impacts of the presented consolidation package and the final form of energy subsidies. Given the lack of specification of a large part of the austerity spending measures and the expectation of deficit financing of energy subsidies, the assumption of a total net volume of measures adopted by the government is about 1.7 billion euros. A significant part of the consolidation specified so far (more than 80 percent) is based on increasing state revenues, mainly through a higher workload.

Taking into account the government's previous practice in the area of providing energy subsidies, the communicated costs, as well as the share of households that would be affected by the subsidies, the technical assumption of the main scenario is that the government will continue its policy of across-the-board capping of gas and heat prices. Postponing the implementation of their prices prevents a one-off jump in inflation, but at the expense of higher costs for public finances, as well as extending the period of higher inflation into the future.

The agreement reached between the EU and the US on custom duties could lead to a reduction in global uncertainty and thus a slight recovery in investment. The final year of the recovery plan has lower than announced consolidation volume, the assumption of blanket energy subsidies and the easing of geopolitical uncertainty will be reflected in the expected 1.3 percent economic growth next year. Despite the expected favourable price development (inflation at 2.7 percent due to the assumption of a blanket price freeze), household consumption will be affected by weaker developments on the labour market and a slight increase in unemployment.

Medium-term outlook:

In 2027, the economic performance will be positively affected by the start of production at the Volvo car factory, while the slowdown will come from the end of the recovery plan in 2026. Given the technical assumption of no consolidation in the election year, the economy, supported by strengthening domestic demand and exports, will grow by 1.5 percent. In 2028 and 2029, consolidation is expected to resume, which, together with the continued decline in the labour force,

will keep economic growth at a similar level. From 2027, the gradual introduction of the ETS2 system may slow down the convergence of inflation towards long-term targets.

Given the planned consolidation and a more significant cooling of the foreign environment, the economy will be below its potential throughout the forecast horizon.

CONCLUSION

The presented article analyses the economic reasons, scope and macroeconomic consequences of consolidation measures in Slovakia in 2024-2026 and their extension into the medium term. Consolidation of public finances is a necessary response to the long-term unsustainable development of the deficit and public debt, which has significantly worsened due to the pandemic, the energy crisis and rising interest rates. Without the adoption of consolidation measures, the risk of disruption of the basic functions of the state and loss of confidence in financial markets would have significantly increased.

The analysis of the three consolidation packages shows that the Slovak government has decided on a gradual, but significant consolidation, which is largely based on increasing the tax and contribution burden. The measures affect a wide range of economic entities – from households, through self-employed persons to large enterprises – and their cumulative effect will be felt especially in the areas of labour costs, prices and investment activity. Although some changes are positive, the overall nature of the consolidation is predominantly restrictive.

The macroeconomic forecast of the Council for Budget Responsibility confirms that the consolidation measures will dampen economic growth in the short and medium term. The expected GDP growth rate will remain low and the economy will be below its potential throughout the forecast period. The negative impact of the consolidation is amplified by the adverse external environment, the decline in investments and the persistent uncertainty in the global economy.

In the long term, however, the consolidation creates the conditions for stabilising public finances, reducing debt risks and creating fiscal space to cope with future crises. However, the key prerequisite for success remains the quality of the measures adopted. If the consolidation is based mainly on increasing the tax burden without significant structural reforms on the expenditure side, it may lead to a weakening of the competitiveness and growth potential of the Slovak economy.

In conclusion, it can be stated that the consolidation of public finances in Slovakia is necessary, but its long-term benefits will depend on the government's ability to combine fiscal discipline with increasing the efficiency of public spending and supporting productive investments. Only in this way will it be possible to achieve sustainable public finances without significantly harming the country's economic growth and social stability.

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A KIS- ÉS KÖZÉPVÁLLALKOZÁSOK PÉNZÜGYI GAZDÁLKODÁSÁNAK ÉS TELJESÍTMÉNYÉNEK ELEMZŐ SZEMLÉLETE

ANALYTICAL APPROACH TO THE FINANCIAL MANAGEMENT AND PERFORMANCE OF SMALL AND MEDIUM-SIZED ENTERPRISES

SUHÁNYIOVÁ Alžbeta– SUHÁNYI Ladislav – SELÍN Jozef

Absztrakt
A tanulmány az Európai unió területén működő kis- és középvállalkozások pénzügyi gazdálkodásának és a teljesítményének időszerű kérdéseivel foglalkozik, hangsúlyt fektetve Szlovákia kis-és középvállalkozásainak elemzésére. A jelenlegi gazdasági és társadalmi körülményekre nézve a kis- és középvállalkozások jelentősége folyamatosan növekszik. E vállalkozások pénzügyi gazdálkodása és összteljesítménye a gazdaságfejlődés jelentős tényezője és a nemzetgazdaság fejlődése szempontjából véve stabilizáló tényezőként működik. A piacgazdaságban a sikeres vállalkozási fejlesztés alapvető eleme a vállalkozói tevékenység, amely értékeket, pénzügyi forrásokat és munkahelyeket teremt. A vállalkozás olyan céltudatos emberi tevékenység, amely a jövedelmezőség elérésére, a vállalkozás értékének növelésére és a vevői igények kielégítésére irányul.
Kelet- és Közép-Európa országaiban a kis- és középvállalkozások szektor egyre jelentősebb arányt képvisel és teljesítményük a nemzetgazdaságok számára nagyon fontos. Emiatt nagyon fontos a kis- és középvállalkozások pénzügyi gazdálkodásának és teljesítményének különböző nézőpontokból történő elemzése, mivel ezek a sikeresség mérésénél kulcsfontosságú mutatóknak tekinthetőek. Általában a vállalati teljesítmény fogalmát a vállalkozás piaci környezetben való létezésével, sikerének és jövőbeni fejlődési képességének meghatározásával kapcsolatban értelmezik. Egy vállalkozás sikeressége a gazdasági és pénzügyi célok teljesítésének mértékeként definiálható, amelyek közvetlenül befolyásolják a vállalkozás piaci értékének növekedését.

Abstract
The study deals with current issues of financial management and performance of small and medium-sized enterprises operating in the European Union, with an emphasis on the analysis of small and medium-sized enterprises in Slovakia. In the current economic and social conditions, the importance of small and medium-sized enterprises is constantly growing. The financial management and overall performance of these enterprises is a significant factor in economic development and acts as a stabilizing factor in terms of the development of the national economy. In a market economy, the basic element of successful business development is entrepreneurial activity that creates values, financial resources and jobs. Entrepreneurship is a purposeful human activity aimed at achieving profitability, increasing the value of the enterprise and satisfying customer needs.
In the countries of Eastern and Central Europe, the small and medium-sized enterprise sector represents an increasingly significant share, and their performance is very important for national economies. For this reason, it is very important to analyse the financial management and performance of small and medium-sized enterprises from different perspectives, as they can be considered key indicators in measuring success. In general, the concept of corporate performance is interpreted in relation to the existence of an enterprise in a market environment, its success and its ability to develop in the future. The success of an enterprise can be defined as the extent to which it achieves economic and financial goals that directly affect the growth of the enterprise's market value.

Kulcsszavak: kis- és középvállalkozások, vállalati teljesítmény, foglalkoztatás.
Keywords: small and medium-sized enterprises, corporate performance, employment.

BEVEZETÉS

A kis- és középvállalkozások (kkv-k) olyan vállalkozások, amelyek létszámban és gazdasági súlyban elmaradnak a nagyvállalatoktól. Az Európai Bizottság 2003. május 6-án kelt 2003/361/EK számú ajánlásában adott meghatározás szerint a kkv-k olyan vállalkozások, amelyek esetében a foglalkoztatottak száma és a vállalkozás gazdasági súlya bizonyos határértékek alatt marad:

- a közepes méretű vállalkozások legfeljebb 250 munkavállalót foglalkoztatnak, bevételük legfeljebb 50 millió euró, mérlegfőösszeg pedig legfeljebb 43 millió euró;
- a kis méretű vállalkozások legfeljebb 50 munkavállalót foglalkoztatnak, bevételük vagy mérlegfőösszegük pedig legfeljebb 10 millió euró;
- a mikrovállalkozások legfeljebb 10 munkavállalót foglalkoztatnak, bevételük vagy mérlegfőösszegük pedig legfeljebb 2 millió euró.

A kkv-k pénzügyi gazdálkodásának és teljesítményének kérdése rendkívül aktuális. Ez kellő figyelmet igényel úgy a kutatók, az elemzők, az akadémiai szféra, mint a gazdasági gyakorlat szakértői részéről is. A kkv-k hatékonyságának és teljesítményének értékeléséhez elsősorban magas színvonalú diagnosztikára, különféle modellek és módszerek alkalmazására, valamint megfelelő mutatókra és indikátorokra van szükség. A pénzügyi hatékonyság és teljesítmény megfelelő mutatóinak és indikátorainak azonosítása és használata nagyon fontos a kkv-k optimális irányításának, működésének és jövedelmezőségének biztosítása érdekében.

A kkv-k pénzügyi gazdálkodása és teljesítménye egy dinamikus és versenyképes piaci környezetben számos szereplő figyelmét kelti fel. A jelenlegi modern piacgazdaságban kkv-k nagyszámban jönnek létre, átalakulnak, egyesülnek és mennek csődbe. Ugyanakkor a pénzügyi intézmények szigorítják a hitel- és tőkenyújtásra vonatkozó szabályaikat és feltételeiket, az értékpapírokba vagy startupokba befektetők nagy körültekintéssel fektetnek be, a vállalattulajdonosok érzékenyek a vezetőktől és elemzőktől kapott különféle információkra. A kkv-k tevékenysége gyakran elemzésre és értékelésre kerül különböző nézőpontból. A vállalkozások pénzügyi helyzetét főként hatékonyságuk és teljesítményük határozza meg.

A gazdasági szakértők és szakemberek egyértelműen bizonyítják azt a tényt, hogy a kkv-k pénzügyi és gazdasági teljesítményének értékelésére alkalmazott módszerek közé leggyakrabban a fundamentális és a technikai elemzés tartozik. Ezek a módszerek a vállalkozásokat gazdasági és pénzügyi szempontból értékelik, mégpedig a vállalati környezet, a pénzügyi gazdálkodás és számviteli beszámolók elemzése, részletes tanulmányozása alapján (Bondareva 2020).

➢ *A kkv-k fundamentális elemzése* prioritásként kezeli az összes olyan makro- és mikroökonómiai tényezőt, amely befolyásolja a vizsgált vállalkozás valós értékét és teljesítményét (pl. szektor fejlődése, vállalati jövedelmezőség alakulása, vállalati likviditás, eladósodottság, osztalék összege, inflációs ráta, árfolyamok, kamatlábak stb.). A fundamentális elemzés lehetővé teszi annak az alapvető kérdésnek a megválaszolását, hogy a vállalkozás teljesítménye és piaci értéke milyen mértékben felel meg a valós, úgynevezett „belső" értékének. A vállalkozások pontos és magas színvonalú fundamentális elemzésének fő akadálya gyakran a vállalkozások minőségi és hitelesített információinak hiányában rejlik.

➢ *A kkv-k technikai elemzése* arra a kérdésre keresi a választ, hogy a kkv-k működése mikor lesz leggazdaságosabb és leghatékonyabb. A fundamentális elemzések és a technikai elemzések kiegészítik egymást, és szinergikus folyamatokat képviselnek. Míg a fundamentális elemzés hosszú és középtávú időhorizonttal, a technikai elemzés rövid távú időhorizonttal dolgozik. Általában, a fundamentális elemzéssel ellentétben, a technikai elemzés nem szorul a vállalkozás pénzügyi-gazdasági helyzetére vonatkozó információkra, ugyanis prioritásként a piacok eseményeit elemzi. A technikai elemzés a tranzakciók volumenének, a realizált vállalati teljesítménynek és a vállalati értékpapír-árfolyam mozgásának múltbeli és jelenlegi információi alapján, főként gazdasági információk alapján törekszik olyan tényezők azonosítására, amelyek előre jelezhetik egy vállalkozás fejlődését vagy a piac általános fejlődését.

A gyakorlatban a kkv-k pénzügyi hatékonyságának és teljesítményének mérésére különféle pénzügyi mutatókat és prediktív pénzügyi modelleket alkalmaznak.

1. A KKV-K TELJESÍTMÉNYÉRTÉKELÉSÉNEK ELMÉLETI ALAPJA

A kkv-k teljesítményértékelése fontos irányítási eszköz, amely jelentősen hozzájárul a vállalkozások minőségirányításához. A teljesítményértékelés a vállalkozási tevékenység különböző aspektusainak értékelésén alapulhat, például az egyes vállalati folyamatok teljesítményértékelésén, alkalmazottak teljesítményértékelésén, gépek és berendezések, technológiák vagy egyéb tényezők

teljesítményértékelésén, amelyek meghatározóak lehetnek a kulcsfontosságú vállalti célok sikeres elérésében. A vállalkozási teljesítményértékelés fontos eredményei közé tartozik a nyereséges és nem nyereséges vállalkozási tevékenységek azonosítása. Időbeli szempontból a teljesítményértékelés a múltra is irányulhat – amikor az elért eredmények kerülnek értékelésre a múlt ismerete alapján, de a teljesítményértékelés a jövőre is irányulhat, sőt akár a vállalati stratégia és tervezés módosításához is vezethet (Staněk 2017).

A vállalkozás pénzügyi teljesítményének mérése a pénzügyi elemzés standard különbség- és aránymutatóival történik. Ezek lehetővé teszik a pénzügyi teljesítmény belső és külső értékeinek monitorozását, mérését és értékelését, valamint hatékony vezetői döntések meghozatalát. A klasszikus pénzügyi mutatók a vállalkozások pénzügyi teljesítményének mérésére szolgáló első generációhoz tartoznak. Ezek a mutatók elsősorban a vállalkozás főbb tevékenységeit tükrözik a likviditás, az aktivitás, a fizetőképesség, az eladósodottság, a jövedelmezőség és a befektetési vonzerő területén, a befektetői érték szempontjából (Petřík 2009).

Jelenleg a vállalkozások gazdasági teljesítményét három alapvető módon értékelik (Kislingerová 2011):

➢ *Értékelés pénzügyi mutatók halmaza alapján* – az értékelés általában öt értékelési terület alapján történik, nevezetesen a likviditás, az aktivitás, a tőkeszerkezet, a jövedelmezőség és a piaci érték alapján. Ezek a mutatócsoportok egymástól függetlenek és párhuzamos mutatórendszert alkotnak. Ezen mutatók némelyike kulcsfontosságú teljesítménymutató – KPI (ide tartoznak a jövedelmezőségi mutatók, mint például a ROA, a ROE, a ROS; a likviditási mutatók; az adósságmutatók, mint például a kamatfedezet, a kamatteher; valamint az eszközforgási időszak, a kötelezettségforgási időszak, a követelések behajtási időszaka stb. formájában megjelenő aktivitási mutatók).

➢ *Értékelés piramis elrendezésű mutatók halmaza alapján* – amelyek logikusan piramis alakú dekompozíciókba rendeződnek, amelyekben a csúcson egy kulcsfontosságú, erősen szintetikus mutató áll, mint például az eszközarányos megtérülés (ROA) vagy a sajáttőke-arányos megtérülés (ROE). A szlovák kkv-k számára legmegfelelőbb piramis alakú dekompozíció az INFA modell, amely szigorúan elkülöníti a vállalkozás termelőerejének létrehozását és felosztását. A modell azt sugallja, hogy a vállalkozás teljesítményének méréséhez és irányításához egyértelmű csúcs kritériumnak kell lennie, és fontos, hogy megfelelő mérőszámokból álló rendszer álljon rendelkezésre. Egy vezetőnek ismernie kell a mérőszámok jelentését és azok kapcsolatait. A jövedelmezőséget és az ahhoz kapcsolódó kockázatot egészében kell kezelnie. Ehhez a pénzügyi mutatók önmagukban nem elegendőek, szükségesek a nem pénzügyi mutatók is és a közöttük lévő kölcsönös kapcsolatok ismerete.

➢ *Egyetlen aggregált mutató alkalmazásával történő értékelés*, amely a részleges mutatók és más statisztikai adatok egy egészbe való logikus szintézisét jelenti. Ezek a prediktív (előrejelzési) pénzügyi modellek viszonylag nagyszámban léteznek és általános hatékonyságuk a körülményektől, a szektortól és a megvalósítás minőségétől függően ingadozik. A prediktív modelleket csődelőrejelzési modellekre és hitelképességi modellekre is oszthatjuk. A csődelőrejelzési modell egy vállalkozás jövőben bekövetkezhető csődbejutás valószínűségét jósolja meg. A hitelképességi modellek a vállalatok pénzügyi állapotát diagnosztizálják, azaz, hogy egy vállalat egészségesnek vagy pénzügyileg veszélyeztetettnek minősül-e. A prediktív modell egy kkv-nál hatékony eszköznek minősül, különösen a jövőre vonatkozó korai előrejelzések esetén.

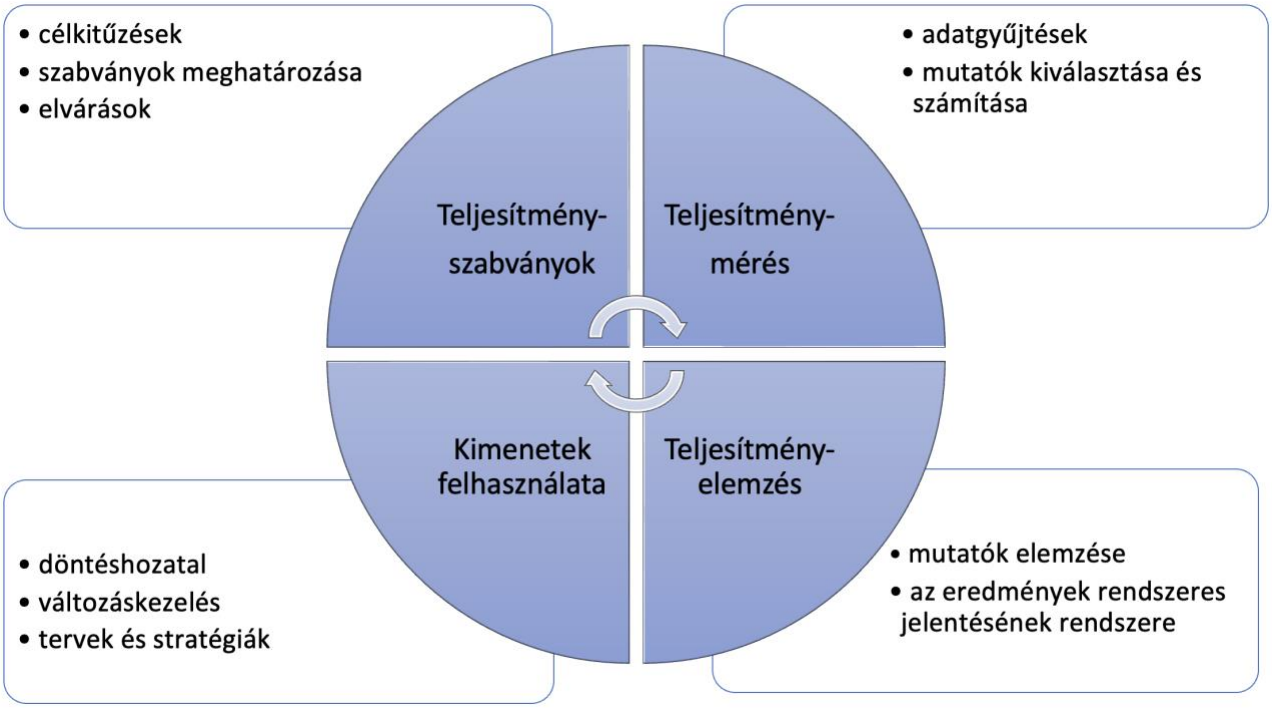
Teljesítményértékelési rendszer

Ha a kkv-k egy komplex gazdasági-társadalmi rendszert hoznak létre, amely tevékenységét külső és belső környezet determinálja, akkor maga a vállalatteljesítmény értékelése is rendszerszintű megközelítést igényel. A kkv-k teljesítményértékelési rendszerének elemeit, folyamatait és kimeneteit az 1. számú ábra mutatja be.

A vállalatteljesítmény magas színvonalú értelmezése megköveteli, hogy a vizsgált jelenség és a viszonyítási alap összehasonlítható legyen, meghatározott skála szempontjából. Ha ezeket a követelményeket a vállalatokra és vállalkozói tevékenységekre implementáljuk, akkor a teljesítményt a vállalkozói tevékenység végrehajtásának módjaként definiálhatjuk más vállalkozások viszonyítási

alapjához való hasonlóság alapján. A lényeg tehát a vizsgált (elemzett) vállalat összehasonlítása más vállalatokkal, kiválasztott viszonyítási elemek és mutatók alapján.

1. sz. ábra: Teljesítményértékelési rendszer



Forrás: Saját szerkesztés

2. CÉLOK ÉS MÓDSZERTAN

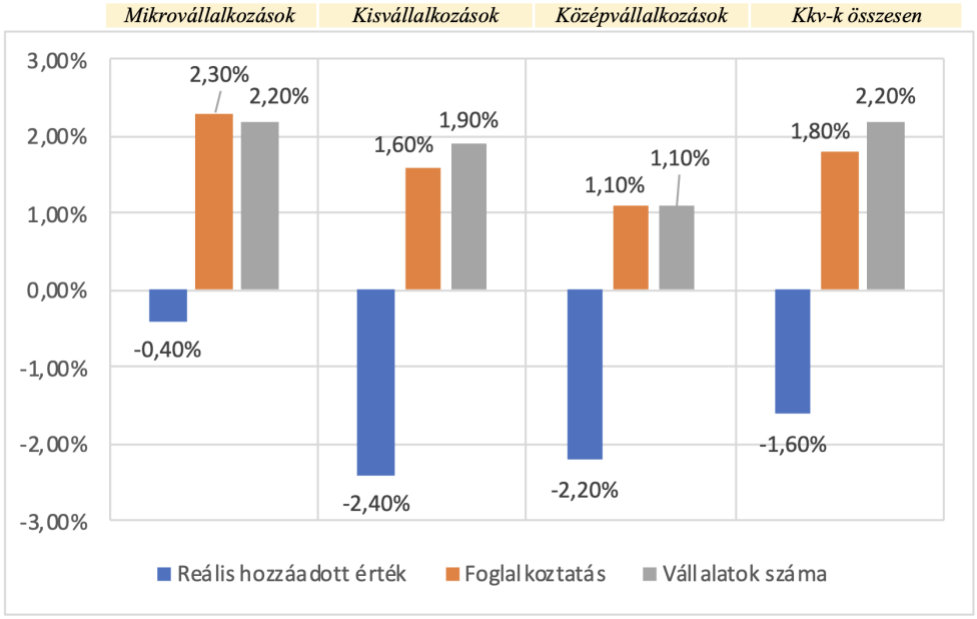
A tanulmány célja a kkv-k pénzügyi gazdálkodásának és teljesítményének vizsgálata az Európai Unió tagállamaiban, főképpen Szlovákiában. A kiválasztott mutatók elemzésének alapjául a Szlovák Köztársaság Statisztikai Hivatala adatbázisaiból, az Európai Statisztikai Hivatal adatbázisaiból, valamint a kis- és középvállalatok kérdéseivel foglalkozó intézmények jelentéseiből és tanulmányaiból származó másodlagos adatok szolgáltak. Az adatok Szlovákiára és az Európai Unió többi tagállamára vonatkoztak hároméves vizsgált időszakban, vagyis a 2021-től 2023-ig terjedő időszakban. Az eredmények térbeli és időbeli összehasonlítása lehetőséget ad a kkv-ra vonatkozó mutatók állapotának és fejlődésének nyomon követésére.

3. EREDMÉNYEK ÉS DISZKÚZIÓ

Az Európai Unió 27 tagországának bruttó hazai terméke 2023-ban 0,5 %-kal nőtt az előző évhez képest. A növekedés mérséklődött, különösen 2021-hez (6 %) és 2022-höz (3,4 %) képest, amikor a világjárvány utáni gazdasági fellendülés még viszonylag intenzív volt. A vizsgált időszakban sok volt a bizonytalanság és várakozás, ami természetesen a kis- és középvállalkozások finanszírozási lehetőségeiben megjelent, konkrétan problémás lett a finanszírozásukhoz szükséges eszközök megszerzése. Ez azonban visszatükröződött a teljesítményükön is. Az egyik fő kihívás az egyre növekvő infláció volt. Míg a nominális hozzáadott érték 2023-ban nőtt, reálértéken a kkv-k minden méretkategóriája ebben csökken. Úgy tűnik, hogy a mikrovállalkozások a legellenállóbbak, mivel a nagyobb vállalatokhoz képest rugalmasabban tudnak reagálni a makrogazdasági helyzetre és gyorsabban tudnak kilábalni a sokkhatásból. A hozzáadott érték legjelentősebb csökkenését a kisvállalatoknál regisztrálták (-2,4 %). Összességében a kkv-nál e szempontból nagyobb mértékű volt a visszaesés (-1,6 %) mint a nagyvállalatoknál (-1,1 %). Ugyanakkor, a vizsgált időszakban a foglalkoztatás pozitív növekedési ütemet ért el. A kkv-k közül a legnagyobb növekedés ismét a mikrovállalkozások esetében látható. Végül, de nem utolsó sorban elmondható, hogy a kkv-k minden

nagysági kategóriájának száma növekedést mutatott, folytatva ezzel a 2022-ben regisztrált trendet. (2. számú ábra)

2. sz. ábra: A reál hozzáadott érték, a foglalkoztatás és a kkv-k számának éves változása (%) az EU 27 tagállamában 2023-ban

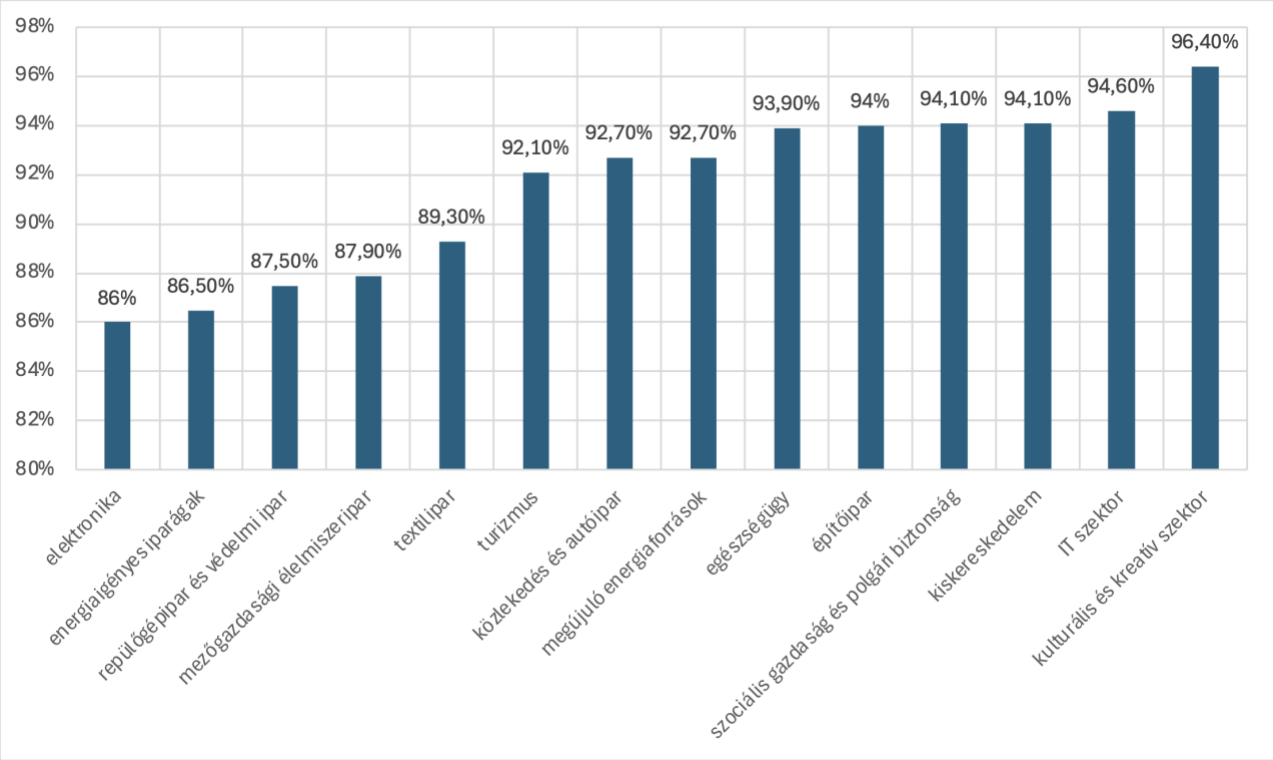


Forrás: Saját szerkesztés az Annual Report on European SMEs alapján (2024)

Elmondható, hogy 2021-hez képest 2023-ban a foglalkoztatottság teljes mértékben felépült és a világjárványt követően a számuk viszonylag stabil ütemben javult. Hasonlóképpen, a mikro- kis- és középvállalkozások száma is nőtt, ami természetes módon összefüggésben van a foglalkoztatás növekedésével.

Az európai ipari előrehaladás és fejlődés stratégiája szempontjából a kkv-k számos szektorban és az egész unió gazdaságában kulcsfontosságú innovációs eszközt képeznek. Elengedhetetlen a fejlemények rendszeres éves szintű nyomon követése a kkv-k 14 szektorában (3. számú ábra), tekintettel a jelentős hozzájárulásukra minden kulcsfontosságú mutató esetében (különösen a foglalkoztatás és a hozzáadott érték).

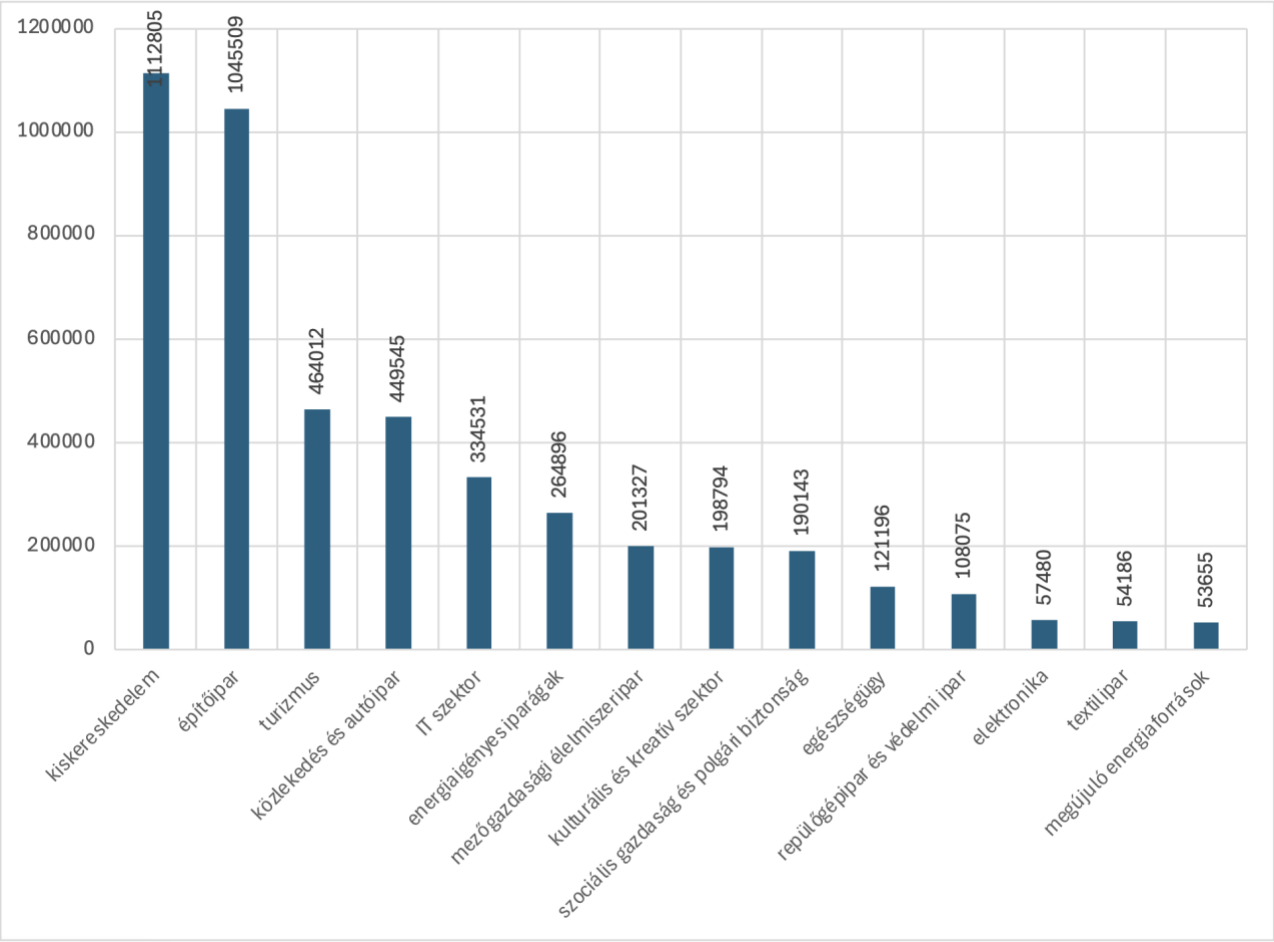
3. sz. ábra: A mikrovállalkozások részesedése az EU 27 tagállamában működő vállalatok számán, szektorok szerint a 2023-as évben (%-ban)



Forrás: Saját szerkesztés az Annual Report on European SMEs alapján (2024)

Az Európai Unióban több mint 23 millió kkv tevékenykedik. Az ábra alapján is arra következtethető, hogy a kkv-k kulcsszerepet játszanak minden ipari ökoszisztémában. Ezek a vállalkozások az összes vállalkozás 99 %-át teszik ki mind a 14 megfigyelt szektorra nézve. A kkv-kon belül a legnagyobb csoportot a mikrovállalkozások alkotják 93 %-kal, de ezek képviselete 2023-ban valamivel alacsonyabb (90 % alatti) az elektronika, az energiaigényes ipar, a repülőgépipar és védelem, az agrár-élelmiszeripar és a textilipar szektoraiban. A legtöbb mikrovállalkozás 2023-ban az informatikai és kulturális szektorban működött.

4. sz. ábra: Kkv-k hozzáadott értéke az EU 27 tagállamában, szektorok szerint a 2023-as évben (millió euróban)

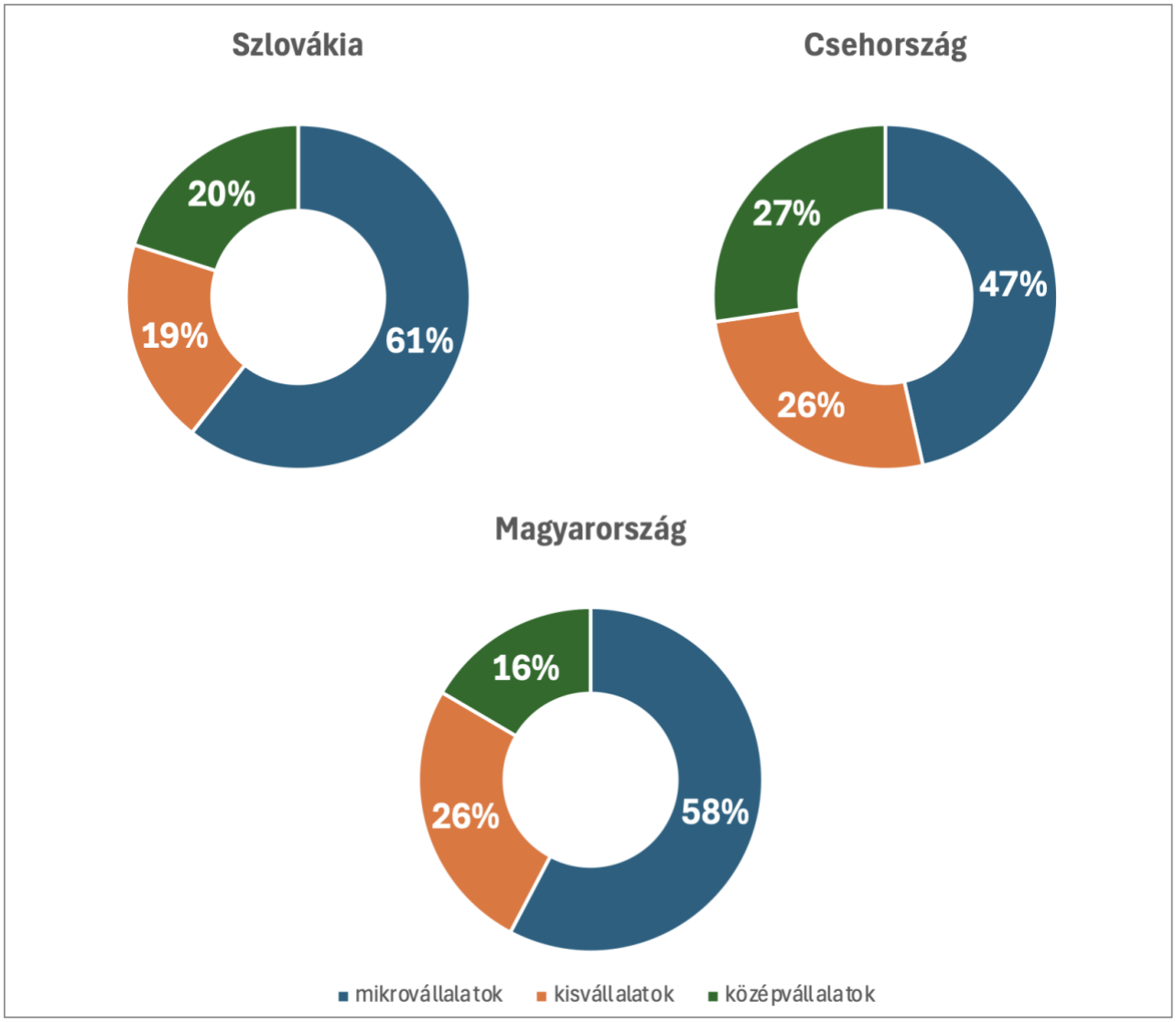


Forrás: Saját szerkesztés az Annual Report on European SMEs alapján (2024)

Az Európai Unióban működő kkv-k továbbra is a legnagyobb munkáltatóknak tekinthetőek 2023-ban. A legtöbb munkavállalót az „építőipar” (kb. 20 855 000) és a „kiskereskedelem” (kb. 19 303 000) szektorban működő kkv-k foglalkoztatják. Ezzel szemben, legkevesebb a foglalkoztatottak száma a „megújuló energiaforrások” és az „elektronika” szektorban. Megállapítottuk, hogy a legnagyobb számú alkalmazottal rendelkező szektorban termelték a hozzáadott érték legnagyobb részét is. (4. számú ábra)

Az 5. számú ábra szemlélteti a kkv-k jelentőségét a foglalkoztatottak száma alapján Szlovákiában. A foglalkoztatottak több mint 60 %-a mikrovállalkozásban dolgozik. megelőzve ezzel a közép- és kisvállalkozásokat. Ha összehasonlítunk három szomszédos országot, Szlovákiát, Csehországot és Magyarországot, elmondhatjuk, hogy Szlovákiában és Magyarországon a mikrovállalkozások legjelentősebb munkáltatóknak tekinthetőek. Ezzel szemben Csehországban a kisvállalkozások és középvállalkozások alkalmazzák a foglalkoztatottak nagyobb részét.

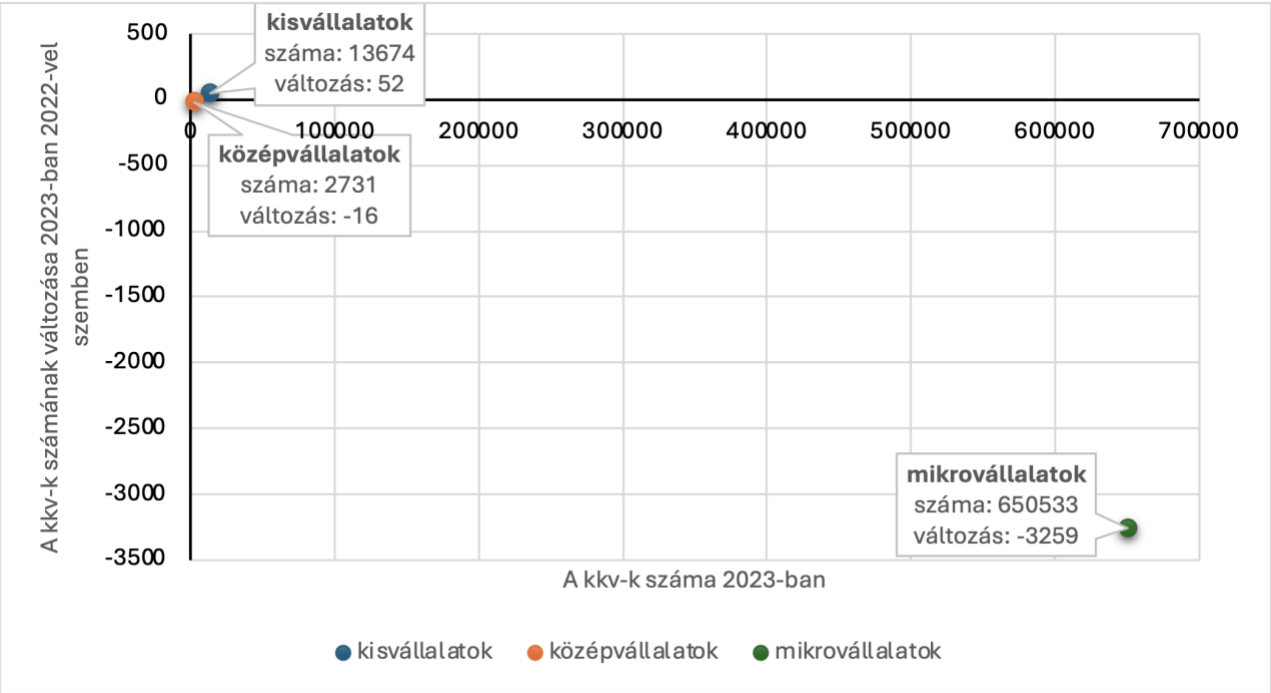
5. sz. ábra: A mikro-, kis- és középvállalatok részesedése a teljes foglalkoztatáson, Szlovákia vs. Magyarország vs. Csehország 2023-ban (%-ban)



Forrás: Eurostat, KSH (2024)

A kkv-k száma az egyik alapvető mennyiségi mutató, ami jellemzi egy ágazat állapotát. A kkv-k piacon való megjelenésüket, megszűnésüket vagy maradásukat 2023-ban számos gazdasági tényező, politikai döntés és hozzáállás befolyásolta Szlovákiában, akárcsak más EU-s tagállamban is. Ezek közé sorolhatók a magas inflációs ráták, az emelkedő kamatlábak, a geopolitikai bizonytalanság, az adó- és járulékszféra tartós instabilitása, valamint az egyes országok befektetési szándékai. A Szlovák Köztársaság Statisztikai Hivatalának adatai szerint 2023-ban Szlovákiában általánosan csökkent a kkv-k száma (2019 óta először). Abszolút értékben kifejezve a mikrovállalkozások csoportjában következett be legtöbb megszűnés, azonban a kisvállalkozások számában növekedés történt, mégpedig 52 szervezettel nőtt a számuk. (6. számú ábra)

6. sz. ábra: A kkv-k száma 2023-ban 2022-hez képest



Forrás: Saját szerkesztés az SBA alapján (2024)

Aktívan működő kkv-k közel fele a szolgáltatási szektorban tevékenykedett 2023-ban Szlovákiában. Körülbelül egyötöde (19,5 %) az építőiparban működött. A három legfontosabb szektorba az építőiparon kívül még a kereskedelem (15,2 %) és az ipar (13,4 %) tartozott. Az előző évhez képest változatlan maradt a kkv-ban foglalkoztatottak száma.

A kkv-k forgalmának éves negatív alakulása (-0,6 %) elsősorban az ipari szektorban jelent meg. Másrészt, a legjelentősebb éves teljesítmény növekedését az építőipar szektor mutatta ki. Az építőipari kkv-k termelése folyó áron körülbelül 10 %-kal nőtt.

ÖSSZEGZÉS

A mikro-, kis- és középvállalkozások hosszú távon is kulcsfontosságú munkáltatóknak tekinthetőek minden Európai Uniós tagállam területén. Szlovákiában is meghatározó jelentőséggel bírnak a gazdasági teljesítmény, a munkahelyteremtés és a hozzáadott érték teremtése szempontjából. Más méretcsoporttal összevetve Szlovákiában leginkább a mikrovállalkozások dominálnak. Az Unió területén a legnagyobb képviselete úgyszintén a mikrovállalkozásoknak van, főként a kiskereskedelem, az informatika, a szolgáltatások és a kultúra szektorokban. A kiskereskedelmi és az építőipari szektorok egyértelműen a legnagyobb hozzáadott értéket termelik más ágazatokhoz képest. Megállapítható, hogy a Covid-19 világjárvány utáni időszak pozitív jelentőséggel bír nemcsak Szlovákiában, de más EU-s tagállamban is. Az elmúlt időszakban az összes vállalat közül a legnagyobb ingadozást főként a mikrovállalkozások számában láthatjuk, amelyek a kkv-kategóriák közül a gazdasági, jogalkotási és politikai változásokra a legérzékenyebbek.

A kkv-k az Európai Unióban működő vállalkozások több mint 99 %-át teszik ki, ezért elmondhatjuk, hogy a gazdaság központi részét képezik. Támogatásuk és finanszírozásuk minden egyes gazdaság és az egész integrációs csoport gazdasága számára a túlélés kérdését jelenti. Ezért szükséges, hogy a kormányzati hatóságok gazdasági és politikai erőfeszítéseit folyamatos ösztönzésükre összpontosítsák, hogy válság idején is fennmaradhassanak, biztosítsák a gazdasági fejlődést és a foglalkoztatás stabilitását.

Projekthez való tartozás: Ez a tanulmány a KEGA 019TUKE-4/2025, KEGA 038TUKE-4/024, VEGA 1/0219/23 projektmegoldás része.

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