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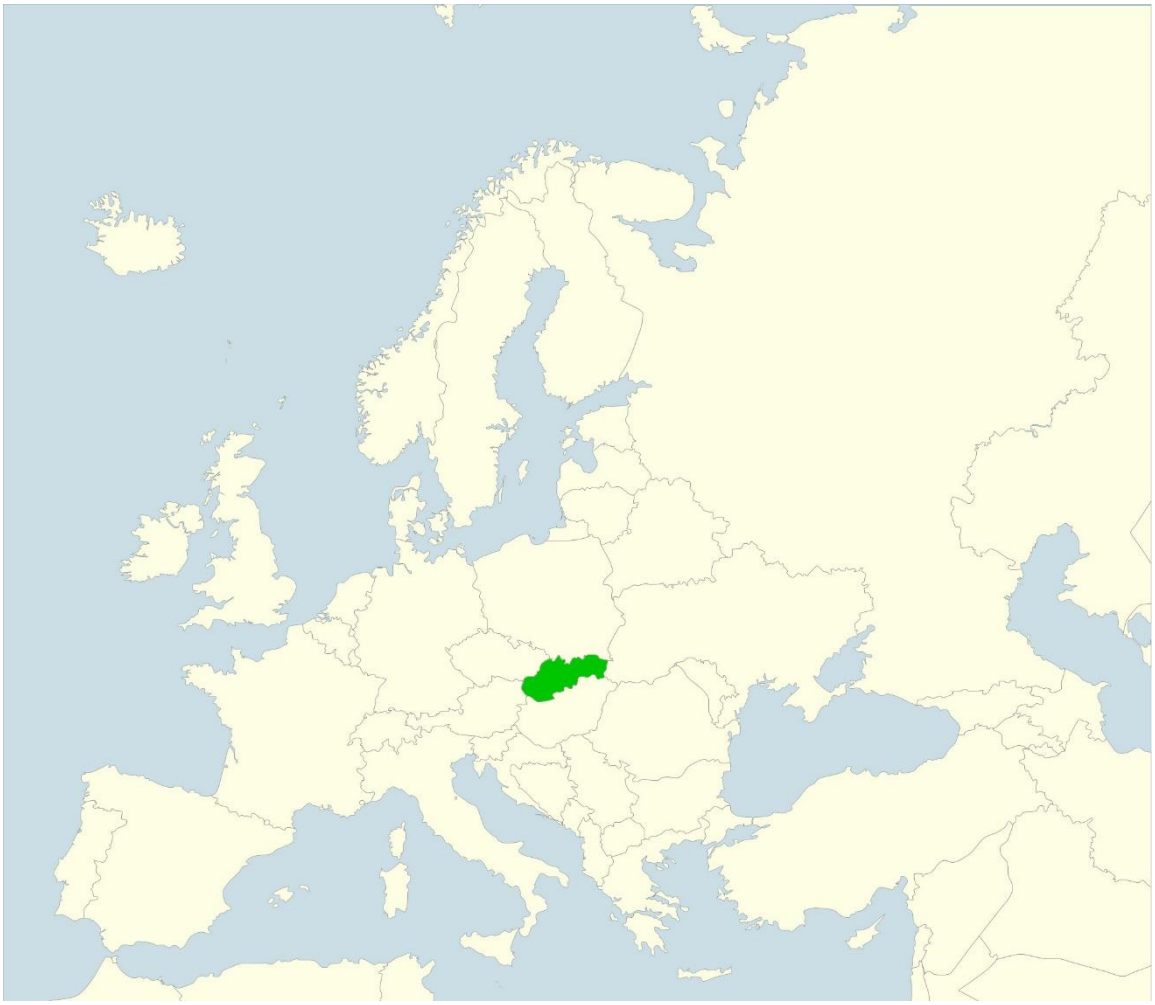
PROXIMITY AND POPULATION SIZE IN RURAL PROSPERITY: INSIGHTS FROM SLOVAKIA

Oto Hudec,
Bernadeta Mackaničová Havrillová[1]



[1] Oto Hudec, Bernadeta Mackaničová Havrillová, Department of Regional Sciences and Management, Faculty of Economics, Technical University of Košice, Slovakia. E-mail: oto.hudec@tuke.sk. ORCID: 0000-0002-8877-8647

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Abstract: Municipal prosperity is central to regional development and well-being, particularly in geographically and socio-economically fragmented settings such as Slovakia. This study introduces a composite Municipal Prosperity Index (MPI), tailored to capture the multidimensional factors influencing prosperity at the local level. Drawing on theoretical frameworks and recent data from the 2021 Population and Housing Census, the research examines why some municipalities achieve sustained growth while others face stagnation or decline. The MPI integrates financial health, work, human capital, infrastructure, civic participation, and growth indicators to provide a holistic assessment. Through grouped analysis, municipalities are categorized by population size and proximity to regional centers, revealing significant disparities between suburban and isolated areas. The study highlights the effects of suburbanization, proximity, and governance on municipal success while addressing the unique challenges of rural areas. The findings offer actionable insights for policy-makers to foster balanced development and mitigate regional inequalities in Slovakia and other fragmented governance systems.

Keywords: Population size; Prosperity; Proximity; Rural Development; Quality of Life

Abstrakt: Prosperita obcí je kľúčová pre regionálny rozvoj a blahobyt, najmä v geograficky a sociálno-ekonomicky fragmentovanom prostredí, ako je Slovensko. Táto štúdia zavádza zložený index prosperity obcí (MPI), ktorý je prispôsobený na zachytenie viacrozmerných faktorov ovplyvňujúcich prosperitu na miestnej úrovni. Na základe vytvoreného teoretického rámca rámcov a najnovších údajov zo sčítania obyvateľov, domov a bytov v roku 2021 sa skúma, prečo niektoré obce dosahujú trvalý rast, zatiaľ čo iné čelia stagnácii alebo úpadku. MPI integruje ukazovatele finančného zdravia, demografie, infraštruktúry, občianskej participácie a rastu s cieľom poskytnúť ucelené hodnotenie vidieckej prosperity. Prostredníctvom združenej skupinovej analýzy sú obce rozdelené do kategórií podľa veľkosti populácie a blízkosti regionálnych centier, čím sa odhaľujú významné rozdiely medzi prímestskými a izolovanými oblasťami. Štúdia poukazuje na vplyv suburbanizácie, blízkosti a správy veci verejných na prosperitu obcí a zároveň sa zaoberá špecifickými výzvami vidieckych oblastí. Zistenia poskytujú relevantné poznatky pre tvorcov politík na podporu vyváženého rozvoja a zmiernenie regionálnych nerovností na Slovensku.

Kľúčové slová: blízkosť; kvalita života; počet obyvateľov; prosperita; rozvoj vidieka

Highlights

- Proposes a new index to assess prosperity in small and rural Slovak municipalities.
- Shows how size and proximity shape uneven development across local territories.
- Identifies suburban growth as both a cause and symptom of spatial inequality.
- Offers a method to detect structural gaps in fragmented governance systems.
- Supports place-based policies to strengthen rural resilience and cohesion.

1. Introduction

Prosperity is a complex and multidimensional concept, with its definition varying across contexts and disciplines. Traditionally associated with metrics like income, employment, and GDP per capita, prosperity is increasingly recognized as a broader framework encompassing governance, sustainability, and well-being (Fritz & Koch, 2016; Wong, 2015). The challenge in defining and measuring prosperity lies in identifying the dimensions and indicators that adequately reflect its diverse aspects. Its scope and

meaning remain subjects of debate, particularly in differentiating it from related concepts such as living standards, development, growth, or quality of life.

A key distinction exists between prosperity, quality of life (QoL), and well-being, concepts that, while interrelated, serve different analytical purposes. QoL is centered on individual and community experiences, measuring subjective well-being, happiness, and access to essential services (Diener & Suh, 1997). While QoL measures personal and community well-being, prosperity provides structural conditions, such as governance, infrastructure, and sustainability, that enable it (Legatum Institute, 2023). Frameworks such as the Legatum Prosperity Index and UN-Habitat's City Prosperity Index highlight prosperity as a systemic phenomenon, emphasizing institutional and spatial conditions that enable societal success rather than purely individual experiences (Wong, 2015). It encompasses governance, economic infrastructure, and environmental sustainability, which collectively foster development and well-being. Consequently, prosperity reflects a place's capacity to provide opportunities and resources, enabling a higher QoL by translating those opportunities into personal fulfillment.

In response, several broader frameworks have emerged to capture the multidimensional nature of prosperity. The Legatum Prosperity Index expands traditional metrics by including governance, education, and environmental sustainability, while the UN-Habitat City Prosperity Index incorporates infrastructure, equity, and sustainability, offering a structural and systemic perspective. These indices focus on the conditions that enable societal and municipal success rather than individual well-being. By analyzing prosperity at the macro level – across cities, municipalities, or regions – such frameworks provide valuable insights into regional disparities and development trends. In recent years, the link between prosperity and environmental sustainability has gained prominence. Frameworks such as the Sustainable Development Goals highlight the necessity of inclusive and sustainable growth recognizing that prosperity is unevenly distributed (Osborn, Cutter & Ullah, 2015). Urbanization, infrastructure availability, and governance efficiency shape its geographic patterns, underscoring the importance of policy interventions tailored to local conditions.

However, a distinction exists between urban and rural prosperity due to the differing structural conditions, challenges, and opportunities faced by cities and rural areas (Feser & Isserman, 2005). Urban prosperity benefits from agglomeration effects, well-developed infrastructure, diverse economic opportunities, and better access to services such as education and healthcare. In contrast, rural municipalities face distinct challenges, including depopulation, aging, and service accessibility constraints. Indices like the City Prosperity Index (UN-Habitat) are largely urban-centric, overlooking rural-specific factors such as social cohesion, environmental assets, and local governance capacity. As a result, rural prosperity requires a distinct and tailored approach. In Slovakia, regional and municipal disparities reflect this rural-urban divide, with small and rural settlements experiencing diverging economic and demographic trajectories (Halás et al., 2017). While many rural municipalities struggle with limited infrastructure, economic stagnation, and depopulation, others thrive despite similar geographic and demographic conditions. This paper synthesizes key sources and methodologies to define prosperity and introduces a composite Municipal Prosperity Index, to assess the structural factors driving municipal success or stagnation in Slovakia. By doing so, this approach seeks to answer the research questions:

Why do some rural municipalities in Slovakia thrive while others struggle, even when they share similar geographic or demographic profiles? What factors influence the geographic distribution of municipal prosperity in Slovakia, and how do population size, proximity to urban centers, economic conditions, and infrastructure shape regional disparities?

This study contributes to theoretical debates on regional disparities, spatial inequality, and rural resilience, bridging conceptual gaps in existing prosperity frameworks. The Municipal Prosperity Index offers a policy-relevant tool for identifying vulnerable municipalities and designing targeted interventions that promote sustainable and inclusive regional development.

2. Key Approaches Sources Leading to Defining the Dimensions of the Prosperity Index

The theoretical foundation for understanding prosperity in rural municipalities must go beyond local considerations, as many challenges faced by rural areas, such as depopulation, economic stagnation, and limited access to essential services, are prevalent worldwide. While these challenges are particularly acute in rural regions, they are not unique to Slovakia. Across Europe and globally, municipalities encounter similar struggles in maintaining sustainable prosperity (Rodríguez-Pose & Hardy, 2015). Depopulation, especially in rural areas, is a widespread concern, affecting regions in Europe, the United States, Canada, or Japan (Johnson & Lichter, 2019). The European Commission (2022) has referred to many of these areas as “lonely places,” highlighting their vulnerability to economic stagnation and demographic decline, although the term "left behind places" is commonly used in the scientific literature (Ondoš, Sinčáková & Hudec, 2024). The loss of younger, economically active populations in these regions leads to a shrinking tax base, which hampers municipalities’ ability to sustain public services and invest in essential infrastructure (Pike, Rodríguez-Pose, & Tomaney, 2017). Similar trends are evident in the United States, where rural counties have experienced significant declines in both population and economic activity (Johnson & Lichter, 2019).

Addressing these issues requires targeted local economic development strategies. Transitioning from agriculture to tourism offers a promising method to enhance rural prosperity by leveraging unique cultural, natural, and historical assets, though it is not universally applicable due to varying local resources and socio-economic conditions. In regions where tourism is not feasible, alternative strategies such as sustainable agri-business, renewable energy projects, or heritage conservation may be more effective in fostering development (Salvatore, Chiodo, & Fantini, 2017). Regions with strong governance structures and public-private partnerships are often more successful in driving local economic growth. Investment in infrastructure, particularly in digital connectivity and transportation networks, is critical for remote and rural areas where access to jobs, healthcare, and education is limited. For instance, regions in Spain and Italy have implemented rural development programs that combine government support with local entrepreneurship to revitalize agricultural industries and promote eco-tourism (Knickel et al., 2018). This underscores the importance of place-based policies that capitalize on local strengths rather than relying solely on top-down economic interventions (Duranton & Venables, 2018). Such strategies address local economic needs while promoting social cohesion by providing residents with meaningful work and improving quality of life (Bosworth & Atterton, 2012). Rural prosperity, traditionally tied to agricultural modernization, is now increasingly recognized as a multidimensional concept that integrates economic efficiency with environmental sustainability, social cohesion, and well-being, as demonstrated by case studies in seven countries emphasizing diverse strategies such as organic farming, community collaboration, and rural innovation (Rivera et al., 2017).

The concept of prosperity has significantly broadened in recent years to encompass more than just economic measures. Research by Stiglitz, Sen, & Fitoussi (2009) has been pivotal in redefining how nations and regions assess prosperity. They argue that traditional metrics like GDP fail to capture the full spectrum of well-being, particularly in areas grappling with demographic and social challenges. Instead, prosperity should be evaluated using composite indices that integrate economic, social, and environmental dimensions, such as the OECD Better Life Index (OECD, 2020a). Globally, the measurement of prosperity increasingly emphasizes social capital, community engagement, and environmental sustainability. For instance, in the Nordic countries, municipalities have successfully embedded environmental objectives into their economic development strategies, creating “green cities” that harmonize growth with sustainability (Giffinger et al., 2007).

Slovak municipalities are distinct due to their small size, rural nature, and fragmented governance. With over 2,900 municipalities, many of which have fewer than 300 inhabitants (Statistical Office of the Slovak Republic, 2020), governance and resource allocation are significant challenges. A large proportion of these municipalities are rural and less accessible, facing depopulation as younger residents migrate to urban centers or abroad, further straining local services (OECD, 2020b; Pike, Rodríguez-Pose, & Tomaney, 2017). Similarly, the Czech Republic, with over 6,200 municipalities, experiences comparable challenges of fragmentation and rural disadvantages (Vaishar et al., 2018). Governance complexities are exacerbated

by reliance on state subsidies and inter-municipal cooperation to deliver essential services (Bernard, 2018; European Commission, 2022). The rural prosperity gap is evident in both countries, with rural areas facing higher unemployment, weaker infrastructure, and limited access to services. Northeastern and southern Slovakia exhibit pronounced rural characteristics, including aging populations and infrastructural deficits (Dická, Gessert, & Sninčák, 2019). Studies from the Czech Republic further reveal significant variability within rural areas, where some peripheral regions suffer from compounded disadvantages – economic hardship and deprivation – while others maintain moderate satisfaction despite limited resources (Bernard, 2018). The challenges of rural development are deeply rooted in historical dependency (Rehák, Hudec, & Buček, 2013), with past decisions on settlement patterns, infrastructure investment, and administrative fragmentation continuing to shape current disparities and constrain opportunities for reform. Understanding the evolution and place-specific conditions influencing rural prosperity is crucial for achieving sustainable development and fostering well-being.

One of the dominant features of Slovakia's economic landscape is the pronounced west-east divide. This division is rooted in historical industrialization patterns, economic transitions, and spatial development policies (Ďurček, Fitalová, & Vizváry, 2024). During the socialist era, Czechoslovakia's regional policy aimed to achieve spatial equity through a strategy often described as "práca za ľuďmi" (bringing jobs to people). This approach sought to decentralize industrial production by establishing factories in previously underdeveloped rural areas, particularly in southern and northeastern Slovakia, to counterbalance the historically industrialized western regions near the Austrian and Czech borders (Halás et al., 2017; Rusnák et al., 2023). The planned economy prioritized full employment and industrial dispersion, which led to economic growth in peripheral and rural regions that had previously lacked significant economic activity. However, after 1989, the transition to a market economy exposed the unsustainability of centrally planned industrialization. Many enterprises that had thrived under state subsidies collapsed due to low competitiveness in an open economy, leading to mass layoffs and economic decline, particularly in the same regions where socialist industrialization had attempted to stimulate growth (Korec, 2014; Ondoš, Sinčáková & Hudec, 2024). The shift from state-controlled territorial planning to a market-driven system resulted in increasing spatial divergence, where the most competitive regions attracted investment, while peripheral regions were left behind. The most affected areas included southern and northeastern Slovakia, as well as other peripheral regions with weak economic diversification and a legacy of over-reliance on large, state-owned enterprises.

The withdrawal of state support exacerbated regional disparities, mirroring pre-socialist patterns of uneven development. Peripheral rural regions experience structural disadvantages due to declining traditional industries, geographic isolation, demographic decline, and lower access to education and healthcare (Halás et al., 2017). The legacy of socialist industrial planning has left many regions reliant on single-industry economies, which have struggled to transition to modern economic structures following market liberalization. Studies have highlighted that these left-behind regions face increasing social disparities and have failed to integrate into broader national or EU economic networks (Korec, 2014; Rusnák et al., 2023). The disparities align with theories of cumulative causation, which suggest that wealth tends to concentrate in already prosperous regions, reinforcing existing inequalities (Ondoš, Sinčáková, & Hudec, 2024). Moreover, spatial equilibrium models highlight the role of connectivity and labor mobility in economic disparities (Halás et al., 2017). Rural areas near urban centers benefit from agglomeration economies, which generate employment opportunities, knowledge spillovers, and improved public services.

In Slovakia, municipalities in proximity to Bratislava, Nitra, Trnava, and Žilina exhibit higher economic performance due to industrial investments, better transport infrastructure, and stronger labor market integration. The automotive sector, featuring Volkswagen, Stellantis, Kia and Jaguar Land Rover, plays a crucial role in shaping economic dynamics. However, these benefits do not extend evenly across rural Slovakia. While municipalities within commuting distance of industrial centers experience economic spillovers, more remote rural areas remain marginalized, with minimal job creation and economic diversification (Rusnák et al., 2023). Growth pole theory suggests that such industrial hubs can drive regional economic expansion, but their impact on more distant rural areas is limited (Ďurček, Fitalová, & Vizváry, 2024). The center-periphery model explains the persistent economic gaps, arguing that core

regions accumulate capital and innovation, while peripheral areas struggle to attract investment. This process of uneven economic development is reflected in the contrasting trajectories of Bratislava and Košice. While Bratislava has consolidated its position as a dominant Slovakia's economic hub, benefiting from international capital inflows, skilled labor, and government resources, Košice region has experienced growing intra-regional disparities (Ondoš, Sinčáková, & Hudec, 2024). As the newly designated capital, Bratislava's elevated status reshaped its regional economy, triggering developmental spillovers into surrounding areas. This transformation, driven by spillover effects and metropolitan diffusion, has accelerated logistics expansion, suburbanization, and population growth, gradually integrating the rural periphery into a dynamic metropolitan region. Suburbanization, largely a response to rising housing costs, pollution, and congestion in Bratislava, reflects a broader search for a higher quality of life. However, it also generates externalities, including increased commuting times, infrastructure strain, and spatial inequalities, as development pressures reshape both urban and rural landscapes (Šveda & Šuška, 2014).

These shifts reinforced regional asymmetries, concentrating economic activity in western Slovakia, while peripheral regions, including eastern Slovakia, struggled with fewer growth impulses. Rural prosperity in Slovakia has been shaped by several key factors, with municipalities that successfully leveraged local governance, economic diversification, and strategic advantages emerging as "islands of success" in an otherwise challenging regional landscape. A crucial force behind this resilience has been effective local governance and the strategic use of European Structural and Investment Funds, enabling municipalities to enhance infrastructure, improve public services, and stimulate local employment (Halás et al., 2017). Additionally, tourism and environmental capital have played a significant role, as regions such as the High Tatras and parts of northern Slovakia have harnessed their natural and cultural assets to attract visitors, leading to sustained economic activity. Beyond tourism, some municipalities have thrived by building a diversified economic base, particularly those in the Žilina and Trnava regions, which successfully integrated into automotive supply chains and attracted foreign direct investment (FDI) to create stable employment opportunities (Jacobs, 2017). However, proximity to Bratislava and regional centers remains one of the most powerful determinants of rural prosperity. Rural settlements near Bratislava and western Slovakia have benefited from economic spillover effects, including better connectivity, labor mobility, and increased infrastructure investments, which have driven sustained growth (Šveda & Barlík, 2018).

Rural prosperity in Slovakia does not follow a single path but rather unfolds through different trajectories, shaped by a combination of structural conditions, policy interventions, and spatial advantages. While some municipalities may have emerged as islands of success, leveraging leadership, governance capacity, economic diversification, and external investments, others continue to struggle with economic stagnation and demographic decline. We hypothesize that proximity to Bratislava and regional centers, access to European Structural and Investment Funds, and integration into high-value industries play a decisive role in shaping rural prosperity. However, alternative models, such as tourism-driven growth in environmentally rich areas or locally anchored economic resilience, may also provide viable pathways for sustainable development. Understanding these varied trajectories is crucial for designing policies that reduce regional disparities rather than reinforcing existing divides. Given the variability across municipalities, an index measuring municipal prosperity could prove valuable for understanding and addressing rural challenges. By incorporating tailored approaches that consider local conditions and dimensions such as work, demography, infrastructure, civic participation, financial health, and growth, such an index could effectively capture the complex and multilayered nature of prosperity at the local level.

3. Construction of the Municipal Prosperity Index

This methodology fosters universal prosperity, enables benchmarking against international standards, and supports the development of tailored strategies. The Municipal Prosperity Index (MPI) builds on established frameworks, particularly the City Prosperity Index (CPI) (UN-Habitat), Legatum Prosperity Index, OECD Better Life Index, and Social Progress Index, adapting their dimensions to the municipal scale. By integrating key indicators, the MPI assesses financial health, employment, human capital, infrastructure, civic participation, and growth, offering a comprehensive tool for evaluating local

prosperity. To ensure its theoretical and empirical relevance, our approach is twofold: we draw from regional science literature (Fritz & Koch, 2016; Johnson & Lichter, 2019; Moore, 2015; Rivera et al., 2017) and align dimensions with established indices. Research confirms that employment and entrepreneurship drive economic activity by boosting tax revenues, infrastructure investment, and local resilience, while human capital and workforce engagement foster innovation, attract investment, and enhance governance efficiency, contributing to long-term municipal sustainability. These insights shape the MPI's core dimensions, which align with widely recognized indices:

- Multidimensional Approach – Aligns with all indices in recognizing prosperity beyond economic output, incorporating governance, infrastructure, and quality of life.
- Economic and Labor Market Indicators – Similar to the Legatum Prosperity Index and CPI, the MPI includes employment rates, business activity, and municipal financial stability.
- Governance and Civic Engagement – Incorporates voter turnout, non-profit activity, and project implementation, mirroring the Legatum Prosperity Index and OECD Better Life Index**.**
- Human Capital and Demographics – Reflects education, workforce engagement, and population trends, aligning with the OECD Better Life Index and Social Progress Index.
- Infrastructure and Basic Services – Like the CPI, the MPI assesses technical and social infrastructure as crucial for municipal prosperity.

Broader indices typically assess prosperity at the national or city level, but at the municipal level, the MPI offers a more granular perspective. It emphasizes financial health through budget income, debt ratio, and liquidity, recognizing municipal stability as a key factor. Additionally, it incorporates quaternary sector employment, capturing the role of knowledge-based industries in local economies—an aspect often overlooked in broader indices. The MPI also integrates local growth and development metrics, including legal entities, municipal income growth, and aging trends, linking prosperity directly to demographic and business dynamics. Below is a justification for each dimension and the selected variables, based on their relevance and effectiveness in capturing the holistic prosperity of municipalities.

3.1 Dimension: Financial Health

Justification: Financial health is a crucial indicator of a municipality's ability to function effectively and sustain its services. Without a strong financial base, municipalities struggle to maintain infrastructure, provide public services, and respond to crises. Financial stability directly influences local governments' autonomy and capacity to invest in development projects.

Key Variables:

- *Budget Income (A1)* and *Debt Ratio (A2)* provide insights into the municipality's fiscal capacity and sustainability.
- *Long-term Liabilities (A3)* and *Liquidity (A4)* measure a municipality's ability to meet its financial obligations without risking default or sacrificing essential services.

3.2 Dimension: Work

Justification: Economic productivity and labor market conditions are fundamental to municipal prosperity. A prosperous municipality typically has low unemployment, high labor force participation, and a diverse local economy. Employment and entrepreneurship drive economic activity, which in turn supports public services and infrastructure.

Key Variables:

- *Unemployment Rate (B1)* directly measures labor market health, while *Economically Active Population (B2)* indicates the workforce's potential to contribute to economic productivity.

- *Companies and Sole Proprietors (B3, B4)* provide a view of entrepreneurial activity and the strength of the local economy.
- *Commuter Index (B5)* reflects the municipality's role within the regional economy and its capacity to retain or attract workers.

3.3 Dimension: Demography and Human Capital

Justification: A municipality's demographic structure and educational attainment shape its future growth and development. Prosperous municipalities attract and retain younger, skilled populations, who contribute to economic and social development. The quality of human capital, measured through educational attainment and workforce engagement, strongly correlates with a municipality's long-term sustainability.

Key Variables:

- *Population Growth (C1)* and *Density (C2)* are essential for understanding the municipality's demographic health and potential for economic and social growth.
- *Educational Attainment (C3, C4)* measures the human capital available in the municipality, which is a key driver of innovation and productivity.
- *Share of Population in the Quaternary Sector (C5)* captures the presence of high-value, knowledge-based industries, reflecting a municipality's economic sophistication.

3.4 Dimension: Technical and Social Infrastructure

Justification: Infrastructure quality, both technical (e.g., water, energy, telecommunications) and social (e.g., education, healthcare), is critical for ensuring a high quality of life and sustainable development in municipalities. Without adequate infrastructure, municipalities cannot support growing populations or businesses effectively, limiting their prosperity.

Key Variables:

- *Water and Sewer Connections (D1, D2)* measure basic living standards and the capacity for growth in housing and business.
- *Access to High-Speed Internet (D3)* is increasingly essential for economic development, especially in rural areas, as it enables entrepreneurship, remote work, and access to global markets.
- *Social and Technical Infrastructure Availability (D4)* reflects the municipality's ability to meet residents' needs in education, transport, and healthcare, which are critical for long-term prosperity.

3.5 Dimension: Civic Participation

Justification: Civic engagement and governance quality are central to prosperity, as municipalities with high levels of participation tend to make better decisions regarding resource allocation, development projects, and social services. Trust in governance and active participation in decision-making lead to more transparent, accountable local governments.

Key Variables:

- *Voter Turnout (E1)* measures civic engagement, reflecting how involved citizens are in shaping the future of their municipality.
- *Non-Profit Organizations (E2)* indicates the strength of the civic sector, which plays a critical role in community development and social support networks.
- *Project Implementation (E3)* reflects a municipality's capacity to plan and execute development initiatives, which is crucial for continuous growth and improvement.

3.6 Dimension: Growth and Development

Justification: Municipal growth is a critical indicator of future prosperity. Population growth, business creation, and increased municipal revenues are signs of a municipality's vitality. Conversely, population decline and rising unemployment indicate stagnation or decline. Monitoring these trends helps assess the overall direction of municipal development.

Key Variables:

- *Population Growth (F1)* and *Legal Entities (F2)* track expansion in terms of both population and business activity.
- *Income Growth (F3)* indicates the municipality's capacity to generate and reinvest revenue in public services and infrastructure, which is key for sustainable development.
- *The Aging Index (F4)* provides insights into demographic challenges that may impact future labor supply and economic activity.

4. Methodological Framework for Constructing the Municipal Prosperity Index

Compared to prior classifications of Slovak municipalities that primarily focused on settlement hierarchy and social amenities (Smékalová, 2018), the MPI adopts a more holistic approach, incorporating financial, economic, and governance dimensions to provide a deeper insight into municipal well-being and resilience. All data used in the composite index pertains to the year 2021, except for the Growth and Development dimension, which captures changes over a 10-year period (2011–2021). This period was selected to leverage data from the Census of Population and Housing conducted in both 2011 and 2021, allowing us to compare municipalities' performance across various indicators. The sources of data are listed in the final part of the references. These are not data collected by the authors but are based on official sources from the Ministries of Interior, Finance, and Labor, as well as the Statistical Office, National Bank, and census data collected at ten-year intervals. We assume that similar data are available in other EU countries, though they may be structured differently across institutions. In any case, compiling such data from multiple sources is a time-consuming process.

Correlation and Redundancy Check: A key step in the process was constructing a correlation matrix (Spearman's rank correlation coefficient) to ensure that no variables were excessively correlated. For instance, a high negative correlation was observed between the share of economically active residents and the unemployment rate within the Work dimension, prompting us to retain only the unemployment rate as an indicator. Another high negative correlation appeared between the aging index and the share of the population in pre-primary and primary school age, but we retained both variables since they belong to different dimensions and do not interfere with one another.

Data Imputation: In cases where data was missing or evidently incorrect, we applied data imputation. For example, we used this approach with financial indicators for some small municipalities. Missing data for the aging index within the Work dimension were filled by calculating the arithmetic mean of neighboring municipalities within the same district that had a similar population size. Extreme variations in population size and other values, which skewed the results, were adjusted while preserving the rank order, as our goal was not to create a ranking but to develop a model of prosperity and the factors significantly related to it.

Data Normalization: The selected indicators are expressed in different units (EUR, absolute values, percentages, etc.), requiring appropriate normalization to convert them into dimensionless units (scaling) for index construction. Given the high variability between municipalities whether in terms of population size, distance to regional centers, or other factors, logarithmic transformation was applied to reduce variability and approximate a unimodal distribution. This transformation was used for the following variables:

- The Financial Health dimension: municipal income, long-term liabilities, and immediate liquidity.

- The Work dimension: aging index.
- The Civic Participation dimension: project activity.

For variables such as long-term liabilities and project activity, a constant (+1) was added to handle cases where the variable had a zero value in the dataset. This adjustment affects the mean but not the variance, ensuring that all values of the variable remain positive. For data normalization, we employed a rank-order normalization method to mitigate the influence of extreme values. This approach is particularly appropriate given the substantial differences between municipalities, some of which benefit from geographic advantages or disadvantages (e.g., "end-of-the-line" municipalities), making normal distribution an unsuitable assumption. For indicators where a lower value is considered better (e.g., unemployment rate, total debt, aging index), the following normalization formula was used:

$$\boldsymbol{x}\ normalized = \frac{\max\ (\boldsymbol{x}) - \mathrm{x}\ (\boldsymbol{i})}{\max\ (\boldsymbol{x}) - \min\ (\boldsymbol{x})}$$

max (x) is the maximum value of the indicator in the selected period,

mix (x) is the minimum value of the indicator in the selected period,

x (i) is the value of the indicator for the i-th municipality.

For indicators where a higher value is better (e.g., immediate liquidity, percentage of voters, share of population with completed university education), the normalization formula is:

$$\boldsymbol{x}\ normalized = \frac{\mathrm{x}\ (\boldsymbol{i}) - \min\ (\boldsymbol{x})}{\max\ (\boldsymbol{x}) - \min\ (\boldsymbol{x})}$$

Weighting and Aggregation of Variables: Due to the lack of a clear theoretical structure to justify a specific weighting scheme, and to avoid introducing subjectivity, we did not assign weights to individual indicators. Instead, we employed an unweighted system based on equal attribute weighting. After normalizing the indicators, we calculated the arithmetic mean within each dimension, followed by the arithmetic mean across dimensions. Thus, the final index is computed as the geometric mean of all normalized indicators. By maintaining equal weights across all indicators and dimensions, we ensure a balanced approach that reflects the diverse aspects of municipal prosperity without disproportionately emphasizing any single factor.

5. Geography of prosperity

Prosperous municipalities form a clear axis of development stretching from the capital Bratislava through regional centers Žilina and Banská Bystrica to Košice in the east. In contrast, the southern and northeastern peripheries remain disconnected from this prosperity axis, facing challenges of isolation, weaker infrastructure, and socio-economic stagnation. The map, created with Datawrapper, visualizes prosperity through deciles. Darker shades indicate the most prosperous areas, while lighter shades highlight less prosperous regions.

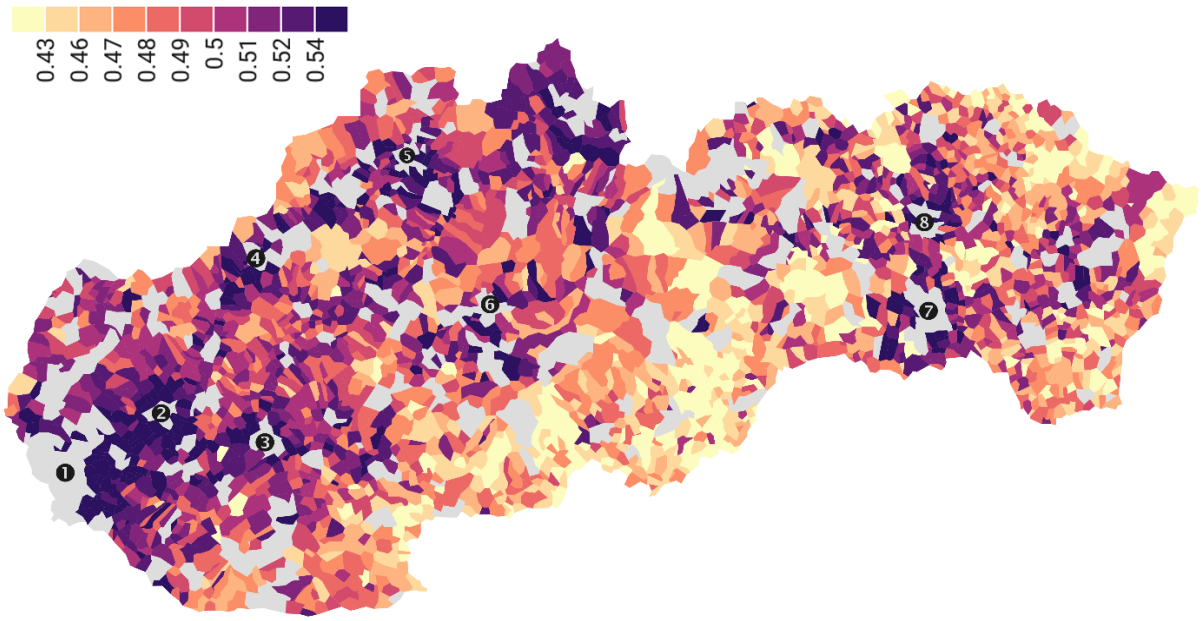


Fig 1. The map of the municipality prosperity in Slovakia and regional centers. Regional centers, including Bratislava, are marked with values 1 to 8. Source: own elaboration

❶ – Bratislava, ❷ – Trnava, ❸ – Nitra, ❹ – Trenčín, ❺ – Žilina, ❻ – Banská Bystrica, ❼ – Košice, ❽ – Prešov

A: Regional Disparities: A West-East Divide

The geography of prosperity in Slovakia reveals a clear west-east divide. Municipalities in the western regions, particularly those near urban centers such as Bratislava, Žilina, and Trenčín, exhibit significantly higher levels of prosperity. These areas benefit from well-developed infrastructure, strong labor markets, and economic diversification supported by industrial cores and regional economic integration. Proximity to the Czech Republic and Austria, alongside the favorable geography of the Považie region, further reinforces their advantages. In contrast, municipalities in the eastern and southern regions of Slovakia face persistent challenges. Rural areas in these regions are marked by weaker economic activity, insufficient infrastructure, and higher unemployment rates. Geographical isolation, compounded by limited investment in public services and economic opportunities, continues to deepen regional disparities and hinder balanced development across the country. Proximity to larger cities plays a significant role in shaping prosperity levels. Municipalities near urban centers, such as those around Bratislava and Trnava, tend to perform better due to spillover effects. These include increased access to employment opportunities, better connectivity, and enhanced access to public services, which collectively boost economic and social well-being.

B. Regional Disparities: A North-West and South-Central Divide

A notable regional disparity exists between Slovakia's northwestern and southern-central regions. Northwestern Slovakia, particularly areas around Žilina and Trenčín, displays relatively higher levels of prosperity. These regions benefit from the presence of industrial hubs, robust economic activity, and well-developed infrastructure. Proximity to key transport corridors and neighboring countries, such as the Czech Republic and Poland, further enhances their economic integration and access to markets. The diversified economies in these areas, bolstered by manufacturing and services, contribute significantly to their overall prosperity. In contrast, southern regions near the Hungarian border and parts of central Slovakia face persistent socioeconomic challenges. These areas are often dominated by agriculture-based economies and characterized by smaller, more dispersed populations. The southern regions are home to a significant Hungarian minority, whose municipalities often face additional barriers, including less access to economic opportunities and infrastructural development. The lack of industrial diversification, coupled with underinvestment in public services, limits their economic potential.

The highest unemployment rates and fewer opportunities for economic mobility exacerbate these challenges, deepening the prosperity gap with the more industrialized and economically integrated northwest. Addressing these disparities requires tailored place-based policies that account for the unique demographic, cultural, and economic dynamics of the southern regions.

C. Urban Proximity: Prosperity Linked to Urban Spillover Effects

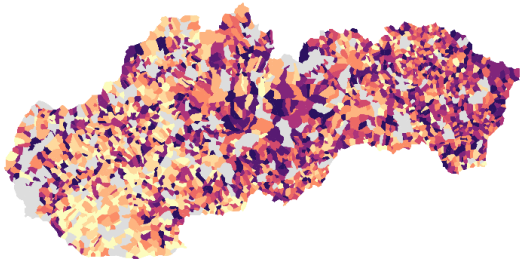
Municipalities located close to large urban centers in Slovakia tend to perform significantly better in terms of prosperity due to the spillover effects of urbanization and the presence of large industrial investments. These areas benefit from better access to employment opportunities and have favorable commuting conditions, allowing residents to participate in the urban labor market while living in smaller, often more affordable, communities. These dynamic supports both economic activity and demographic stability in surrounding communities and attract residents seeking the benefits of urban employment combined with the quality of life offered by a suburban environment. This trend is particularly illustrated by the regions around Bratislava, Trnava, Nitra and Žilina, which benefit from significant investments in the automotive industry, which is the basis of the Slovak economy (Volkswagen, Stellantis, Jaguar Land Rover, Kia Motors). Volvo's latest investment near Košice underlines the growing importance of the eastern part of the country in diversifying Slovakia's industrial environment and improving its economic prospects. These large-scale investments generate not only direct employment, but also indirect benefits such as the development of supply networks, improved infrastructure and increased demand for local services. The effects of urban and industrial spillovers are less pronounced in communities further away from major cities or industrial centers, highlighting the critical role of geographic proximity and strategic investment in shaping prosperity.

D. Peripheral and Isolated Areas: The Challenges of Geographic Isolation

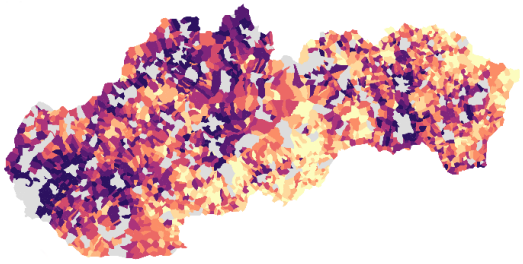
Peripheral and mountainous municipalities, particularly in central and eastern Slovakia, often lag significantly in prosperity due to geographic isolation and historical economic shifts. Regions such as the Slovak Ore Mountains, Gemer, and Spiš, once reliant on mining, have struggled to adapt following the decline of the mining industry. These municipalities, located in small valleys and remote areas, face limited economic opportunities and infrastructural challenges, marked by high unemployment, outmigration, and underutilized industrial facilities.

Geographic isolation intensifies these challenges. The valley-based settlements, surrounded by mountainous terrain, often lack adequate road connections and public transport, restricting access to regional economic hubs. Poor connectivity limits residents' access to employment, education, and healthcare, deepening their reliance on local, often low-value industries like subsistence agriculture and forestry. Outmigration is a persistent issue, as younger residents leave these regions for urban centers such as Bratislava, as well as cities in neighboring countries like Prague and Brno in the Czech Republic, or further abroad to the UK, Ireland, Germany, and Austria, in search of better opportunities. The northeast, particularly regions near the Ukrainian border, faces unique challenges tied to its historical legacy and geographical position. These municipalities are situated along the Schengen border of the European Union, creating both logistical challenges and opportunities. Historically, this region experienced waves of outmigration tied to political and economic instability, a pattern that continues to influence local demographics and economic prospects. The proximity to Ukraine adds a layer of complexity, with cross-border dynamics affecting trade, labor mobility, and economic development. Figure 2 illustrates the geographic distribution of the six dimensions of municipal prosperity in Slovakia, highlighting regional variations in Financial Health, Work, Demography and Human Capital, Technical and Social Infrastructure, Civic Participation, and Growth and Development.

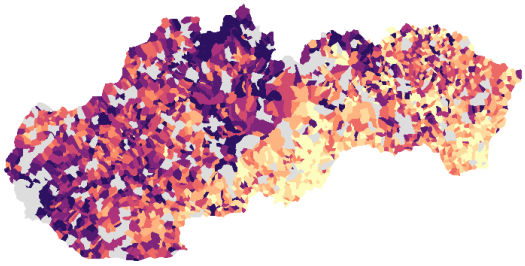
Dim. 1. Financial Health



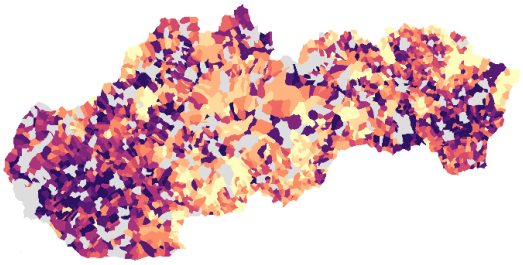
Dim. 2. Work



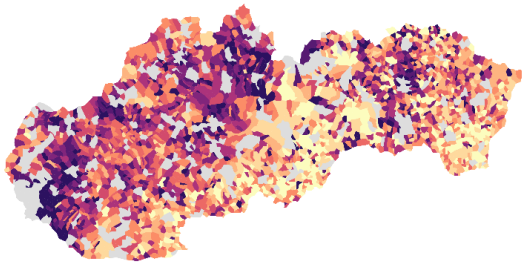
Dim. 3. Demography and Human Capital



Dim. 4. Technical and Social Infrastructure



Dim. 5. Civic Participation



Dim. 6. Growth and Development

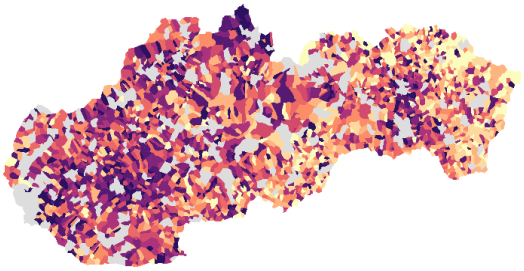


Fig 2. The map of the six dimensions of the municipality prosperity in Slovakia. Source: own elaboration

Dimensions of MPI: 1 – Financial Health, 2 – Work, 3 – Demography and Human Capital, 4 – Technical and Social Infrastructure, 5 – Civic Participation, 6 – Growth and Development.

The correlation matrix (Figure 3) reveals how these dimensions relate to the overall index. Dimensions such as Work (0.82), Demography and Human Capital (0.72), Technical and Social Infrastructure (0.73), and Civic Participation (0.72) show strong positive correlations, indicating they are key contributors to the composite measure. Their high correlations validate their importance in defining municipal prosperity. Financial Health requires careful interpretation, particularly for small municipalities. While per capita metrics can indicate financial stability, such as low debt or balanced budgets, they often reflect a different reality for smaller municipalities. For these, financial health may signify basic operational stability rather than the capacity to invest in large-scale infrastructure or social programs. For instance, a small municipality may have low debt but still lack the financial means to address critical development needs. This highlights the importance of understanding that financial health carries a different meaning for smaller, resource-constrained municipalities compared to larger ones with broader revenue bases.

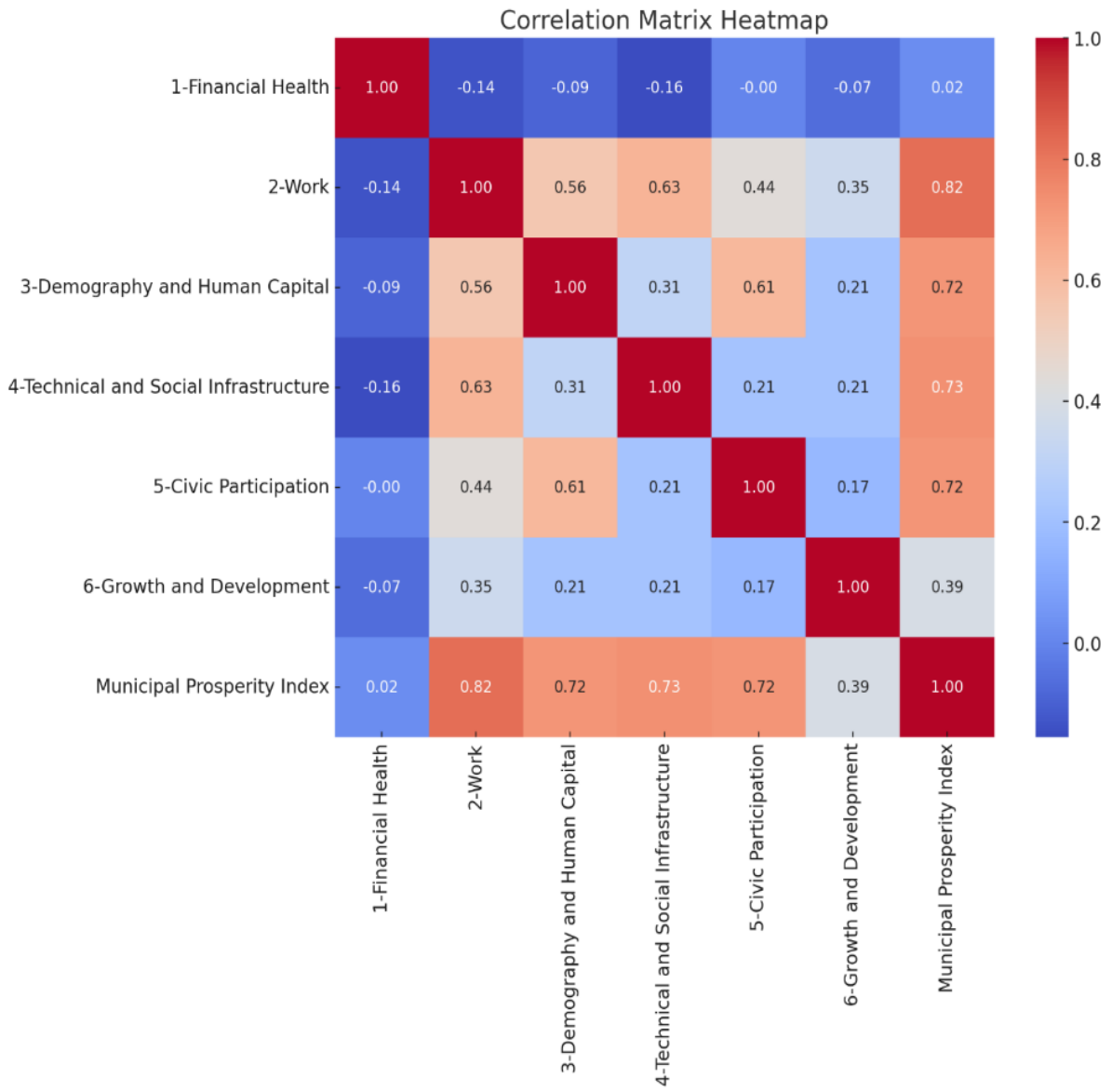


Fig 3. Correlation Matrix of the Six Dimensions and Municipal Prosperity Index. Source: own elaboration

6. Impact of Population and Distance on Prosperity

Various social, economic and geographic factors influence the prosperity of a community. We hypothesize, based on the Municipal Prosperity Index and its spatial representation, that population size and proximity to regional centers play an important role. Larger populations typically provide economies of scale, more diverse labor markets and better infrastructure, which in turn promote economic development. On the other hand, communities closer to regional centers can benefit from better access to resources, governance and economic opportunities, which increases their prosperity. We then examine the combined and individual effects of population size and distance from regional centers on the prosperity index and hypothesize that municipalities with larger populations exhibit higher welfare due to agglomeration effects, and proximity to regional centers has a positive effect. Larger populations can mitigate the negative effects of greater distance from regional centers.

The grouped analysis is employed (Bivand, Pebesma & Gomez-Rubio, 2008) to divide municipalities into quantiles based on their population size and distance from the nearest regional center.

- Population quantiles: municipalities are divided into five quantiles (Q1 to Q5) from smallest to largest population.

- Distance quantiles: municipalities are grouped into four categories (Q1 to Q4), from closest to farthest distance from regional centers.

This method allows for a balanced representation of each group and facilitates a detailed comparison of the Prosperity Index across different combinations of population and distance. The results are visualized to reveal patterns and interactions (Figure 4).

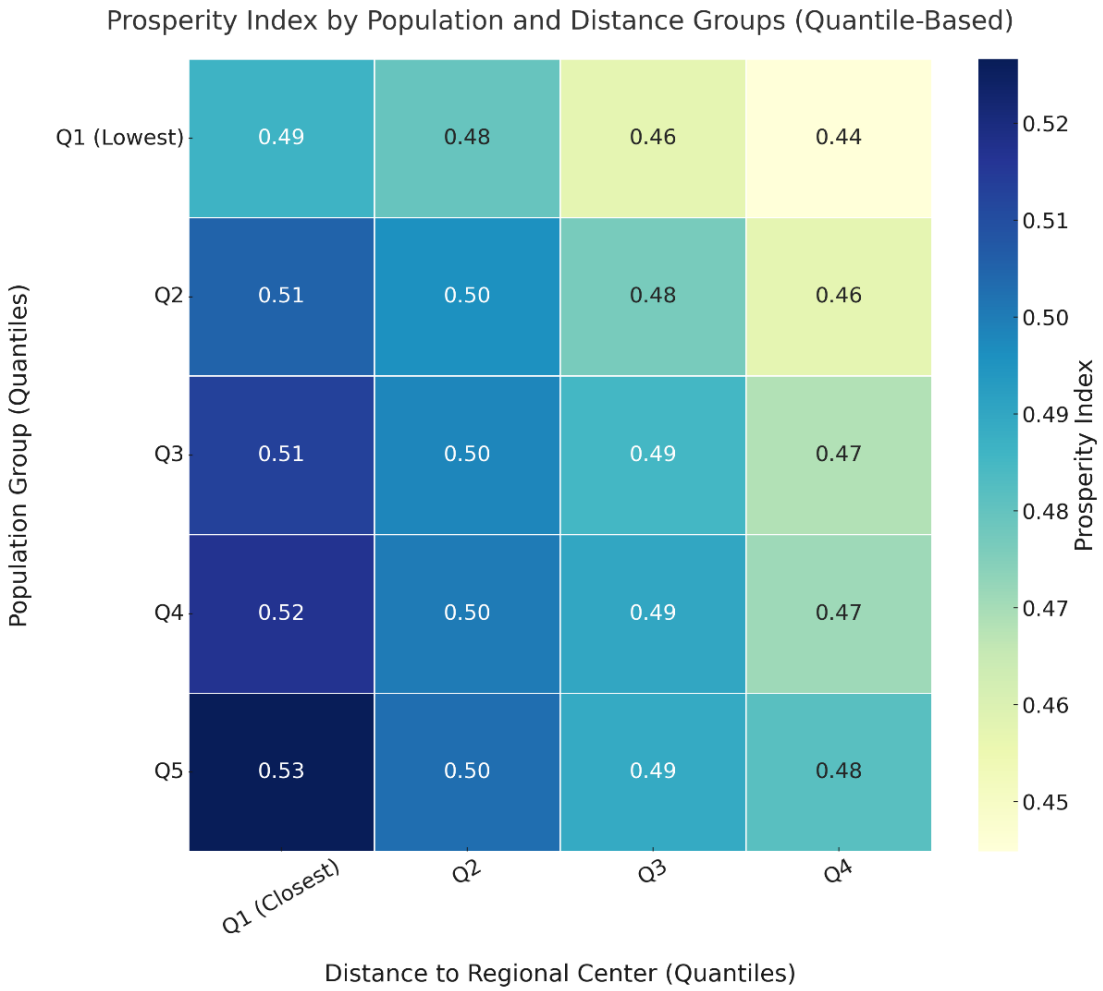


Fig 4. Grouped Analysis of the impact of population and distance to nearest regional center. Source: own elaboration

The results confirm that both population size and distance to regional centers significantly influence prosperity. Larger populations contribute to higher prosperity, due to enhanced infrastructure and economic opportunities. Proximity to regional centers amplifies these benefits. Geography and suburbanization further shape prosperity patterns. Regions closer to the capital city, Bratislava, tend to exhibit higher prosperity levels, driven by the capital's economic dominance and access to opportunities. Suburban municipalities around Bratislava show particularly strong prosperity, benefiting from the suburbanization process. This reflects the spillover effect, where economic activity and services concentrated in the capital extend to surrounding areas. These municipalities often serve as commuter hubs, blending the advantages of urban proximity with lower living costs, making them attractive for residents and businesses alike. Conversely, regions farther from the capital are highlighting geographical disparities.

Furthermore, the interaction between population size and distance suggests that larger municipalities can better withstand the challenges of remoteness, maintaining stable prosperity levels even at greater distances. This resilience underscores the importance of local economic resources in mitigating geographical disadvantages. The findings emphasize the need for targeted place-based policies to reduce

geographic disparities. For smaller and more remote municipalities, investments in transportation infrastructure and local economic development are critical to bridging the gap. Additionally, fostering regional hubs beyond the capital city could distribute economic opportunities more evenly across the country.

The most and least prosperous municipalities

While the main interest was not to establish a ranking, the existence of discernible patterns in municipal prosperity invites a meaningful comparison between the most and least prosperous municipalities. The choice of analyzing the top 25 and the least prosperous 25 municipalities is both reasonable and purposeful. This number strikes a balance between comprehensiveness and clarity, offering a satisfactory sample size for meaningful comparisons. Spider charts (Figure 5) allow for a simultaneous view of all key dimensions, offering a holistic perspective on the strengths and weaknesses of municipalities. Each axis represents a dimension (6 dimensions of MPI, Population, Population change 2021/2011 and distance to its regional center), and the overall shape of the chart reflects the municipality's performance across all dimensions. In the spider charts for the top 25 most prosperous municipalities and the least prosperous 25 municipalities, each municipality is represented by an individual line within the chart. This approach ensures that the diversity and variability within each group are clearly visualized.

The top municipalities thrive largely due to their proximity to regional centers, particularly in areas like the Bratislava region, which benefits from the economic and infrastructural pull of Bratislava. This proximity grants them superior infrastructure, abundant work opportunities, and larger populations. Their location provides access to well-developed transport, health and education networks, while attracting businesses and residents through economic and logistical advantages. These communities naturally accumulate higher populations and benefit from economies of scale that further enhance their prosperity. While strong financial health and favorable demographics are evident in these areas, they are a consequence rather than a primary driver, reflecting success resulting from their strategic location and resource advantages.

The least prosperous municipalities face significant challenges due to their remote locations, particularly in Banská Bystrica and Prešov regions, where many are far from regional centers. Geographic isolation restricts access to infrastructure, work opportunities, and population growth. This remoteness often results in underdeveloped transport networks and social services, rendering these areas less attractive for residents and businesses. Consequently, smaller and shrinking populations further impede economic activity and constrain municipal revenues, perpetuating a cycle of stagnation. Interestingly, the relatively higher financial health of these municipalities is largely fictitious, reflecting limited economic activity and constrained revenues that can appear favorable in relative comparison due to lower baseline expectations.

The most prosperous municipalities in the table are predominantly clustered around regional centers, such as Bratislava, and their prosperity is heavily influenced by suburbanization. These municipalities, including Chorvátsky Grob, Slovenský Grob, and Rovinka, benefit from their strategic locations near urban hubs, which provide access to superior infrastructure, economic opportunities, and population growth driven by suburban migration. The notable exception is Demänovská Dolina, which is not suburban but rather a well-known tourist destination in the Žilina region. Its prosperity is derived from its role as a hub for tourism and recreation in the Low Tatras, attracting economic activity and investments unrelated to suburban development. This highlights that while suburbanization is a major driver of prosperity for most top municipalities, other specialized factors, such as tourism, can also play a significant role in fostering municipal success.

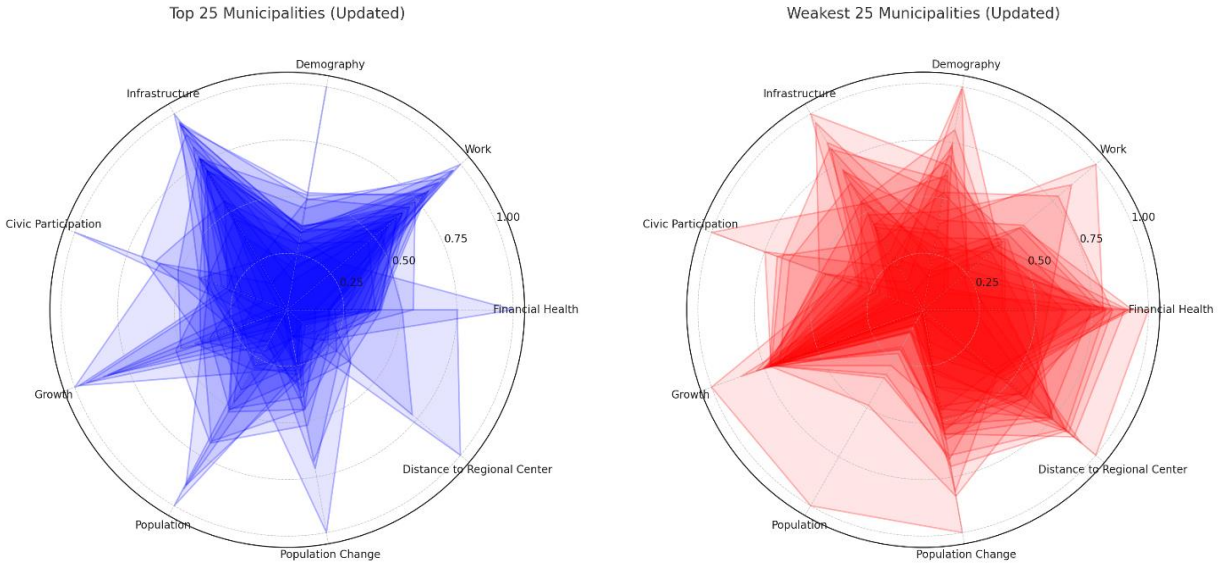


Fig 5. Comparison of Most and Least Prosperous Municipalities Across Key Dimensions. Source: own elaboration

The least prosperous municipalities are largely found in remote areas far from regional centers, where their challenges are compounded by geographic isolation and lack of connectivity. Unlike their prosperous counterparts, these municipalities do not benefit from suburbanization or proximity to economic hubs. Instead, they are typically small rural settlements located in the Banská Bystrica, Prešov, and Košice regions, such as Sudince, Radnovce, and Kaloša, which are isolated within southern-central Slovakia.

In the northeastern subregions of Svidník, Snina or Bardejov within the Prešov region, municipalities such as Krajná Bystrá and Kolbasov face similar challenges. These areas are geographically isolated, with rugged terrain limiting access to larger markets and economic hubs. Unlike the more prosperous municipalities near regional centers, these subregions have not benefited from significant infrastructure development or suburbanization. Instead, they face demographic decline, underinvestment, and limited local economic opportunities, which perpetuate their low levels of prosperity.

Tab 1. Comparison of the Most and Least Prosperous Municipalities Based on the Municipal Prosperity Index (MPI). Source: own elaboration

The most 25 prosperous				**The least 25 prosperous**			
Municipality	Region	District	MPI	Municipality	Region	District	MPI
Chorvátsky Grob	BR	Senec	0.616	Sudince	BBR	Krupina	0.369
Slovenský Grob	BR	Pezinok	0.611	Radnovce	BBR	Rimavská Sobota	0.368
Dulova Ves	PR	Prešov	0.609	Kaloša	BBR	Rimavská Sobota	0.368
Rovinka	BR	Senec	0.604	Švedlár	KR	Gelnica	0.364
Most pri Bratislave	BR	Senec	0.603	Janice	BBR	Rimavská Sobota	0.364
Kvetoslavov	TRR	Dunajská Streda	0.603	Roztoky	PR	Svidník	0.364
Hviezdoslavov	TRR	Dunajská Streda	0.603	Hačava	KR	Košice - okolie	0.363
Dolný Kalník	ŽR	Martin	0.600	Gortva	BBR	Rimavská Sobota	0.362
Veľká Lúka	BBR	Zvolen	0.600	Brezovec	PR	Snina	0.361
Zálesie	BR	Senec	0.599	Krajná Bystrá	PR	Svidník	0.360
Malý Lapáš	NR	Nitra	0.597	Pašková	KR	Rožňava	0.357

The most 25 prosperous				The least 25 prosperous			
Ľubotice	PR	Prešov	0.597	Varadka	PR	Bardejov	0.356
Nová Dedinka	BR	Senec	0.596	Jelšovec	BBR	Lučenec	0.356
Miloslavov	BR	Senec	0.595	Šalov	NR	Levice	0.354
Malinovo	BR	Senec	0.594	Uzovská Panica	BBR	Rimavská Sobota	0.352
Malá Ida	KR	Košice - okolie	0.593	Trenč	BBR	Lučenec	0.350
Baška	KR	Košice - okolie	0.592	Sútor	BBR	Rimavská Sobota	0.350
Ivanka pri Dunaji	BR	Senec	0.591	Dražice	BBR	Rimavská Sobota	0.348
Marianka	BR	Malacky	0.588	Barca	BBR	Rimavská Sobota	0.344
Hrubá Borša	BR	Senec	0.585	Stráne pod Tatrami	PR	Kežmarok	0.343
Boldog	BR	Senec	0.584	Chminianske Jakubovany	PR	Prešov	0.340
Dunajská Lužná	BR	Senec	0.584	Lentvora	BBR	Lučenec	0.335
Biely Kostol	TR	Trnava	0.583	Cigeľka	PR	Bardejov	0.333
Demänovská Dolina	ŽR	Liptovský Mikuláš	0.583	Kolbasov	PR	Snina	0.330
Kováčová	BBR	Zvolen	0.5801	Jurské	PR	Kežmarok	0.328

7. Conclusions

The analysis of the study covers a wide range of municipalities that do not possess the status of a city, from several thousand large villages to small micro-sized settlements with a few dozen inhabitants, which illustrates the highly fragmented territorial structure of Slovakia. This fragmentation has long been recognized as a structural weakness, influencing regional disparities and governance efficiency, with long-term inequalities persisting despite policy interventions over the past 30 years (Halás et al., 2017; Rusnák et al., 2023; Plešivčák et al., 2022). By developing and applying the Municipal Prosperity Index (MPI) to Slovakia's fragmented territorial structure, the research illustrates how municipalities near regional centers benefit from enhanced infrastructure, economic opportunities, and population growth. This aligns with previous findings that emphasize the role of proximity in reducing socio-economic inequalities (Ondoš, Sinčáková, & Hudec, 2024; Rusnák et al., 2023). The MPI combines different dimensions into a universal composite index that can reveal different aspects of Slovak municipalities, especially in rural areas, which have been historically disadvantaged due to limited endogenous development potential. This aligns with district-level cluster analyses, highlighting regional differentiation within Slovakia's fragmented municipal structure (Ďurček, Fitalová, & Vizváry, 2024). This approach helps to highlight the diverse strengths that underlie prosperity and fosters a deeper understanding of the dynamics of rural development. The findings underscore the significant role of proximity to capital cities or regional centers in shaping municipal prosperity. In contrast, peripheral municipalities grapple with geographic isolation, demographic decline, and limited resources, though many citizens, including weekend commuters, prefer to keep their quiet character (Vaishar, Kallabová, & Zapletalová, 2003). Peripheral municipalities can be described as "lonely spaces," reflecting their isolation and vulnerability to prolonged economic and social stagnation, which disproportionally affects Roma communities (European Commission, 2022; Horňák et al., 2023).

Suburbanization over the past 30 years has driven the emergence of prosperous municipalities around Bratislava and, to a lesser extent, other regional centers. However, rather than being a primary driver of prosperity, suburbanization is largely a consequence of agglomeration economies and economies of scale, which are enabled by proximity to strong economic hubs (Šveda & Šuška, 2014). These are not traditional, tranquil villages in picturesque valleys but dynamic, rapidly developing suburban areas. They combine

high-quality housing, modern infrastructure, and proximity to urban employment opportunities, attracting a population seeking both prosperity and convenience. This transformation reflects the growing integration of suburban municipalities into the economic and social fabric of urban regions, creating hubs of high-quality living and economic vitality. However, as noted by Halás et al. (2017), the rapid expansion of these suburban areas raises concerns about governance, infrastructure strain, and social polarization.

In contrast, less prosperous municipalities are located in geographically isolated areas, often far from regional centers. These municipalities are disproportionately affected by out-migration, especially of younger, economically active people, leading to depopulation, aging, and economic stagnation, particularly affecting previously economically sound industrial municipalities and leading to regional inequalities (Horňák et al., 2023). The lack of adequate transport infrastructure and accessibility further reinforces spatial exclusion, contributing to a cycle of marginalization (Halás et al., 2017). Diminished local revenues, reduced public service quality, and limited capacity for economic investment make them increasingly susceptible to prolonged stagnation and decline. The grouped analysis explicitly identifies two key factors influencing low prosperity with a negative outlook: small population size and greater distance from the nearest regional center. Smaller populations struggle to sustain local economies and services, while greater distances deepen isolation and limit access to opportunities and connectivity (Ondoš, Sinčáková, & Hudec, 2024). Depopulation, coupled with declining local capacities and weak electoral competition in small municipalities, necessitates a comprehensive municipal reform to integrate resources, consolidate administrative functions, and ensure the long-term prosperity of local communities (Plešivčák et al., 2022).

The study generalizes beyond Slovakia, offering a framework that can be adapted to analyze municipal disparities in other countries with similar geographic and socio-economic fragmentation. This approach expands on existing theories of rural development by emphasizing the interaction between spatial proximity, resource availability, and systemic governance, rather than solely focusing on economic indicators. In line with critical realism approaches, the findings underscore the importance of context-driven, place-sensitive policies for addressing spatial inequalities (Rusnák et al., 2023). Suburbanization remains a dominant force shaping the prosperity of areas near urban centers, gradually transforming these areas into semi-rural spaces. Tourism can contribute to increasing municipal prosperity; however, its impact varies across contexts, as seen in Demänovská Dolina, where it has driven localized economic growth but also introduced new socio-economic and environmental challenges. Higher prosperity does not always improve the quality of life, especially in rural areas (Vaishar, Vidovićová, & Figueiredo, 2018).

The future of communities, as the analysis shows, will be shaped by diverging developmental trajectories, where structural factors such as demographic stability, economic diversification, and spatial integration determine long-term sustainability. Communities near urban centers, benefiting from suburbanization, are likely to maintain their prosperity through continued integration with urban economies and become hybrid semi-urban spaces, but this transformation may introduce new governance challenges, including infrastructure strain, social fragmentation, and loss of local identity. At the same time, for isolated and less populous communities, a trajectory of path dependency, where historical disadvantages reinforce long-term stagnation, risks accelerating demographic and economic decline, unless counterbalanced by targeted endogenous development strategies (Ďurček et al., 2024; Plešivčák et al., 2022).

The Municipal Prosperity Index and grouped analysis highlight that smaller, remote municipalities are disproportionately vulnerable due to limited resilience to out-migration and a lack of economic diversification, underscoring the broader issue of spatial inequality in regional development. In this context, municipal reform is not merely a technical adjustment but a systemic intervention aimed at ensuring the viability of local governance structures, enabling municipalities to pool resources, coordinate economic strategies, and enhance regional connectivity. Without such reforms, many municipalities risk entering a self-reinforcing cycle of decline, where limited administrative capacity, shrinking tax bases, and governance inefficiencies further exacerbate territorial disparities. As demonstrated in other European contexts, sustainable rural development requires not just spatial redistribution of economic activity, but also adaptive governance models that balance territorial cohesion with localized autonomy (Slavík, Grác, & Klobučník, 2011).

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