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The renewal capacity of regional cities in Finland: an indicator-based assessment and stakeholder perspectives

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ABSTRACT

Smaller cities are likely to follow different development trajectories than large cities. However, empirical research on their ability to generate new growth remains limited. This study investigates the renewal capacity of Finnish regional cities (between 5 000 and 50 000 inhabitants) to establish growth potentials. Evolutionary approaches of regional resilience and endogenous growth frame renewal capacity as an applicable framework of institutional arrangements and territorial capital to analyze adaptive transformation. This capacity is assessed through a set of indicators presenting economic, human and social capitals as well as targeted key-stakeholder interviews. The results of the indicator analysis identify distinct strengths that regional cities possess compared to other municipal groups (particularly large cities) including low outmigration, diversified local economic structures and strong commitment to the promotion of businesses and industry. Interviews highlighted networks within and between regional cities and neighbouring municipalities. Overall, regional cities emerge as urban units sufficiently compact to act with institutional agility yet sufficiently resourced to pursue endogenous development, offering an empirically grounded counterpoint to assumptions that developmental capacity scales monotonically with city size.

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1. Introduction

Current research in urban and regional studies suggests that smaller cities may follow development trajectories that differ from those of large metropolitan centres due to demographic restructuring, institutional constraints and differences in economic bases. However, contra the copious empirical evidence drawn from research focusing on large (global) cities, smaller cities are disproportionately underrepresented in a variety of scientific domains interested in the links between urban areas and socioeconomic development (Hagen 2025; Kumar and Stenberg 2023; Wagner and Growe 2021). In

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the scant literature on smaller cities, a constant concern has been placed on their shrinking populations and declining economies (Peters 2019). Thus, within this context, a perspective combining concepts of regional resilience and endogenous development (Boschma 2015; Kurikka 2022; Martin 2012) offers a way to observe how economic, human and social capital configurations entail strategic adaptation. Thus far, little effort has been placed to study the smaller cities' potential for renewal, i.e. on their ability to find new growth paths (Grossmann and Mallach 2021).

We aim to address this empirical research gap by focusing on the renewal capacity of (smaller) Finnish regional cities (Figure A1) that function as local centres of services and industry providing amenities and jobs to nearby (rural) municipalities. This requires a research design that combines multi-indicator comparison with interview-based content analysis allowing integration of structural and interpretive methods. Therefore, we examine local mechanisms through which smaller urban systems change and cope with change. We apply the concept of renewal capacity as the long-term ability to find a new level of growth and operationalize it via a set of indicators describing economic, human and social capital dynamics in regional cities. Our main research questions can be formulated as follows:

- (1) Do Finnish regional cities exhibit distinct (endogenous) renewal capacities relative to large, fringe and rural municipalities?
- (2) Which dimensions of economic, human and social capital are connected to the size of the municipality?

We address the research questions with a combination of quantitative (drawn from secondary statistical sources) and qualitative (gathered via semi-structured interviews with city representatives and other experts) data.

The remainder of the paper is structured as follows. The next section presents a (brief) review of the most relevant theoretical literature, introduces Finnish regional cities to the reader, and defines the concept of renewal capacity. The third section presents the data-related and methodological choices of the paper, while the fourth section outlines the analysis results. The paper concludes with a summary of the main findings and academic, practical and policy implications, together with a discussion on the limitations of the chosen approach, paving the way for further studies on the topic.

2. Literature review

2.1. Theoretical perspectives on small city dynamics and assets

Smaller regional cities' (Section 2.2) renewal capacity (Section 2.3) is at the intersection of agglomeration economies, endogenous growth, territorial capital and regional resilience. Agglomeration theory maintains that urban productivity advantages arise from 'sharing-matching-learning' mechanisms that reduce transaction costs and accelerate knowledge diffusion (Donovan et al. 2024; Duranton and Puga 2004). As these externalities are often associated with large metropolitan areas, evidence shows their operation differs at intermediate scales, where urban form conditions spill-over intensity and the returns to specialization (Giuliano, Kang, and Yuan 2019). Second-tier or regional cities therefore

do not directly replicate big city dynamics at a smaller scale. Instead, they activate selective externalities through functional specialization, network position and governance quality (Camagni, Capello, and Caragliu 2015).

Endogenous growth theory provides a complementary topical foundation as it links long run urban development to localized innovation, human capital formation and the recombination of ideas within entrepreneurial ecosystems (Acs and Sanders 2021; Grossman and Helpman 1994). Here, renewal capacity reflects a city's ability to convert knowledge inputs into productivity through institutional arrangements that support R&D, firm dynamism and skilled labour attraction. National urban systems matter as the extent of polycentricity and inter-city connectivity shapes interregional diffusion and market access. Earlier research has indicated that polycentric systems are associated with higher performance on average, but without adequate connective properties, innovation and advanced functions remain concentrated in prime (large/capital) cities (Brezzi and Veneri 2015; Turgel and Ulyanova 2023).

Taken together the above discussion highlights the importance of size (population/economy) as an explanatory factor behind the varying growth potentials of cities (Combes et al. 2012; Glaeser 2011). However, there are obviously alternative paths for cities to economic success other than merely 'being big' (Dijkstra, Garcilazo, and McCann 2013). The concept of territorial capital extends the analytical lens from 'hard', factors that often concentrate in larger cities, to the 'soft' infrastructures of development. Such soft factors include trust, norms, governance quality and localized knowledge stocks that make places differentially capable of leveraging agglomeration and endogenous growth mechanisms (Camagni and Capello 2013). In smaller regional cities, these assets often manifest as dense inter-organizational networks, collaborative public-private interfaces and civic associations. These can lower coordination costs and enable collective problem solving. Such meso-institutional features are enablers of renewal, especially when demographic decline and fiscal constraints limit exogenous inter-regional or -urban growth. Our empirics apply both hard and soft categories of development (i.e. economic, human and social capitals) detailing them with a specific indicator set (see section 3.1. and Table 2). Essentially, the social composition of opportunity matters, as human capital (education and migration-driven skills) is repeatedly shown to increase local innovativeness and resulting growth. Similarly, social capital, proxied by generalized trust, participation and associational density, facilitates resource mobilization and risk sharing (Birch and Whittam 2008; Coffé and Geys 2005; Florida, Mellander, and Stolarick 2008).

2.2. Regional cities

The Finnish urban system generally follows the rank-size rule, i.e. Zipf's law (Giesen and Südekum 2011; Zipf 1949). The largest Finnish city, Helsinki (the national capital), is followed by a number of mid-sized cities (mostly provincial capitals together with cities neighbouring Helsinki). This group of cities is often dubbed as the C21 (City of Helsinki 2025) to demarcate their size and position in the Finnish city system as major regional service centres (Capello, Caragliu, and Gerritse 2022; Christaller 1933). The 57 regional cities (Association of Finnish Cities and Municipalities 2026a) occupy a position below the C21 with their smaller populations and smaller regional service areas catering

adjacent rural municipalities. That is, regional cities are centres of services and industry, but not administrative centres of provinces, providing services and jobs to nearby municipalities. Their population varies from around 5,000 to over 50,000 totalling up to ca. 900,000 inhabitants (roughly 15 per cent of the total population of Finland). There are around 107,000 companies operating in regional cities that provide ca. 345,000 jobs (Ministry of Economic Affairs and Employment 2024).

As in many other countries (Gray 2021), the Finnish regional cities struggle to keep up with the rest of the urban system in terms of population and economic growth. For a long time, this growth has been concentrating in the largest cities, while the rest of Finland is shrinking (Makkonen, Inkinen, and Rautiainen 2022). The situation has been worsened by financial austerity (Alaja 2025; Wallin 2025), caused by the recent crises including the financial crisis, COVID-19 pandemic, the attack by the Russian Federation against Ukraine, and the resultant energy crisis in Finland. Shrinkage naturally causes a number of challenges for the remaining population and city governments to upkeep existing services, infrastructure and urban environments (Augis 2022; Martinez-Fernandez et al. 2012). As such, recent policy discussions in Finland have consistently called for the need for ‘smart shrinkage’ in places that are unlikely to grow in the future (Makkonen and Kahila 2025). The concept of smart shrinkage postulates that rather than aiming for growth, shrinking regional cities should proactively ‘right-size’ their operations and infrastructure to cater for the needs of smaller populations to economize resources (Hartt 2020). These dominant demographic, economic and policy development patterns raise a question of the capacity of regional cities to renew themselves in order to tackle shrinkage, discussed in greater detail in the next section.

2.3. What is renewal capacity?

While there are naturally related concepts – such as vitality (Makkonen and Kahila 2021) and competitiveness (Huggins 2003) – here we focus on the concept of renewal capacity¹ to address the development potential of regional cities. As a distinction to the concepts of vitality and competitiveness as ‘collections’ of existing resources related to the regional economic base and growth, the definition of renewal capacity is derived from regional economic resilience research (Boschma 2015; Martin 2012): we refer to renewal capacity as the long-term ability to find a new level of growth. Whereas resilience most often connects to the ability to survive and recover from crises, the concept of renewal capacity focuses on the effort to actively seek new opportunities, rather than to merely strengthen old development paths. The region must therefore have resources and actors that enable them to generate new thinking, transform it into business and create a favourable operating environment for the above (Kurikka 2022). Renewal capacity is, therefore, strongly related to endogenous strengths, rather than to exogenous factors coming from outside the region.

It needs to be stressed that it is not the intention here to overstate the conceptual novelty of renewal capacity as it strongly builds on previous concepts. Rather, the aim is to reconcile an analytical tool that would combine these perspectives. At the same time, renewal capacity aims at expanding the previous concepts – at least from an analytical standpoint – by underlining the importance of (long-term) regional economic transformation capacity (Table 1). Regions need to transform their economies in a changing

Table 1. Conceptual comparison between regional competitiveness, vitality, economic resilience and renewal capacity.

Concept	Analytical focus	Theoretical assumptions (definition)	Typical indicators
Regional competitiveness	Economic growth	The ability of a region to attract and maintain firms with stable or rising market shares in an activity while maintaining or increasing standards of living for those who participate in it (Storper 1997)	Firm density; GDP; Earnings; Unemployment
Regional vitality	Combatting economic decline	The ability of a region to retain its vitality is based on the competitiveness of local firms and its attractiveness as a living environment including communality and the wellbeing of the local population (Makkonen and Kahila 2021)	Employment; Housing stock; Demographic variables
Regional economic resilience	Economic recovery	The ability of a region to resist and adapt to or transform in the face of shocks and subsequently recover to maintain or improve its pre-shock economic performance (e.g. Sutton et al. 2023)	GDP growth; Employment growth
Renewal capacity	Economic transformation	The long-term ability of a region to find a new level of growth is based on resources and actors that enable it to generate new thinking, transform it into business and create a favourable operating environment for the above	See Table 2

operating environment (Laasonen 2023). They are in a constant state of turbulence and, thus, their positions within the national hierarchy are not fixed indefinitely. Therefore, regions need to continuously renew themselves to retain their competitiveness/vitality and to remain resilient against the next crisis. However, the need and opportunities to transform regional economies do not just arise from crises (Trippel, Fastenrath, and Isaksen 2024), but should be an inherent quality of (successful) regional economies in the competition for investments, firms and skilled workers. A further important distinction between renewal capacity and the other concepts comes from their measurements. Instead of focusing on output (population and economic) growth, decline or recovery, renewal capacity aims at indicating strengths that can build a basis for transformation.

International literature has identified factors that strengthen the renewal capacity of regions (Frassine, Pontarollo, and Serpieri 2024; Pontarollo and Serpieri 2020; 2021): the diversity of the regional economy, investments taking place in the region/directed to the region, the level of education of the population, the innovativeness of the region's companies and the ability of local actors (including local government) to attract, create, maintain and develop resources and mobilize other actors to utilize these resources (see also Sotarauta 2005). In Finland, previous studies (e.g. MDI 2025; Rantakokko 2017; Vaattovaara and Airaksinen 2024; WSP 2025) on the development state of municipalities (including regional cities) have largely focused on demographic (population change) and economic factors (employment/unemployment). While these studies offer valuable benchmarks for our indicator selection, they largely focus on outcome indicators (e.g. population and job growth/loss) and as a result, fail to take into account the endogenous capacities, or the lack thereof, of regional cities. That is, they do not measure the capacity (including particularly governance quality) of regional cities to influence their development. Here, the individual indicators chosen for the

Table 2. The chosen indicators, their definition and the justification behind the selection.

Indicator	Definition (source of data)	Justification (example source)
(1) Research, development and innovation (RDI)	RDI funding granted by Business Finland (€)/Company stock (Business Finland 2025)	RDI activities support both the renewal of businesses and the society (Morgan 1997)
(2) New business formation (NBF)	New businesses – Business closures/ Company stock (Statistics Finland 2025)	New business formation indicates the capacity of local economies to grow and renew themselves (Davidsson, Lindmark, and Olofsson 1994)
(3) Entrepreneurship (ENT)	The number of entrepreneurs working in the region/All persons working in the region (Statistics Finland 2025)	Entrepreneurs renew local economies by combining labour and capital in new, innovative ways (Schumpeter 1934)
(4) Herfindahl-Hirschman index (HHI)	An index (see main text) that measures the diversity vs. one-sidedness of local economic structures (Statistics Finland 2025)	The diversity of local economic structures generates ‘cross-fertilization’ of ideas that enables renewal (Jacobs 1969)
(5) Fixed broadband coverage (FBC)	The percentage of households with access to fast, fixed broadband (≥ 100 Mbit/s) (Finnish Transport and Communications Agency 2025)	Good broadband coverage facilitates renewal by significantly reducing the disadvantages of geographical distances for business activities and enabling location-independent work and services provision (Grubestic and Mack 2015)
(6) The promotion of businesses and industry (PBI)	Municipalities’ net operating costs of service production related to the promotion of businesses and industry (€) per inhabitant (Association of Finnish Cities and Municipalities 2025)	The service production costs related to the promotion of businesses and industry indicate the municipality’s commitment towards working to improve the renewal capacity of local businesses (Gabe and Bell 2004)
(7) Income level (INC)	Disposable income (€) per household, median (Statistics Finland 2025)	Income levels affect, among other things, the population’s ability to invest in their place of residence (Vaattovaara and Airaksinen 2024)
(8) Education level (EDU)	Share of people with at least a lower university degree in the 30–39-year-old age group (Statistics Finland 2025)	Educational attainment provides the foundation for innovations that transform businesses and the society (Makkonen and Inkinen 2013)
(9) Immigrants (IMM)	Share of foreign-speaking population (Statistics Finland 2025)	Immigrant labour supports the innovativeness and renewal of local industries (Poot 2008)
(10) Out-migration (OUT)	Out-migration per thousand inhabitants (Statistics Finland 2025)	Low out-migration indicates satisfaction on local amenities, services and the urban environment (Dustmann and Okatenko 2014)
(11) Voting percentage (VOT)	Voting percentage in municipal elections (Statistics Finland 2025)	Voting is among the most common form of political participation (Armingeon 2007)
(12) Third sector activity (TSA)	Number of associations per thousand inhabitants (Finnish Patent and Registration Office 2025)	The third sector contributes to the regional development of social capital (Birch and Whittam 2008)
(13) Crime rate (CRI)	Offences recorded per thousand inhabitants (Statistics Finland 2025)	Crime rate is regarded as a proxy indicator for the level of generalized trust (Coffé and Geys 2005)
Population (POP)	Number of inhabitants (Statistics Finland 2025)	Indicates the size of the municipality
Workplaces (WOR)	Number of workplaces (Statistics Finland 2025)	Indicates the size of the local economy

analysis, discussed in greater detail in the next section, are such that regional cities have the opportunity to influence them at least indirectly.

To summarize, framing renewal capacity through regional resilience clarifies its distinction from vitality or competitiveness indices. Resilience emphasizes the ability to

absorb and recover from shocks and renewal capacity extends this to purposeful reorientation and the discovery of new growth paths. Strategic foresight and institutional adaptability are the essentials (Boschma 2015; Kurikka 2022; Martin 2012). In practice, renewal capacity is observable in indicator studies capturing economic capital (innovation intensity, entrepreneurial profile, industrial diversity and digital infrastructure), human capital (educational attainment and migration dynamics) and social capital (generalized trust, political participation and third sector density). Theoretically, these intertwinements operationalize the channels, through which ideas are generated, recombined and scaled into new trajectories in cities that are small enough to be agile, large enough to execute (Kalafsky and Graves 2020; Parkinson, Meegan, and Karecha 2015).

3. Data and methods

3.1. Indicator selection, statistical sources and analysis

We measure the renewal capacity of regional cities with thirteen indicators. These indicators comprehensively capture the three forms of capital that can be considered as critical for renewal capacity: (1) economic, (2) human and (3) social capital. The indicators, their exact definitions (and data sources) and justifications behind their selection are summarized in Table 2 (for descriptive statistics, see Table A1). The data were collected for all municipalities in mainland Finland ($N=292$, with some missing data in individual indicators) for the most recent year available, the year preceding it, and for 2019 (i.e. the year before the COVID-19 pandemic). The municipalities were divided into four groups: (1) regional cities, (2) large cities (C21²), (3) fringe municipalities³ (Association of Finnish Cities and Municipalities 2026b) that are located next to and are part of the functional areas of major cities and (4) rural municipalities. The potential statistically significant differences between these groups of municipalities in the chosen indicators were analysed with non-parametric Spearman correlation and Kruskal-Wallis tests with Dunn's post hoc tests for pairwise comparisons. The latter is as an extension to the Mann-Whitney U test for comparing more than two groups. We also collected data on population and the number of workplaces to determine whether the chosen indicators correlate with municipal size/the size of the local economy and produced a set of composite indicators with the help of principal component analysis (PCA) and principal component (PC) scores with standard suitability test (Nardo et al. 2005).

The first set of indicators is tied to economic capital, to which we refer – loosely following Bourdieu (1986) – as resources that facilitate economic growth (Kiuru and Inkinen 2019). Such resources enabling renewal include the following seven indicators: innovation (proxied here through research, development and innovation (RDI) funding), new businesses, entrepreneurs, the diversity of economic structures, broadband coverage, municipal expenditure on business and industry promotion and income levels. RDI is a well-known adjunct of economic and social renewal (Morgan 1997). Similarly, the importance of new business and entrepreneurs as drivers of economic and societal change has been recognized since the works of Schumpeter (1934). While under some debate (Beaudry & Schifffauerova 2009; Caragliu et al. 2016), the diversity of local economic structures is often considered to support innovation and economic growth (Jacobs

1969). Indeed, as stated by Desrochers (2001, 369), ‘problems are solved (or as in our case innovations emerge) through the combination of previously unrelated things’, that is, due to diversity. This diversity is measured here with the Herfindahl-Hirschman Index (HHI) at the level of two-digit industry codes. The index is calculated as $HHI = \sum (s_{ij})^2$, where s is the share of employees in industry j out of all employed persons in region i and n is the total number of industries (see e.g. Henderson, Kuncoro, and Turner 1995). Low values indicate higher diversification. Following Merisalo (2016), we consider electronic capital, proxied here with broadband coverage, as an important means to produce economic capital. Municipal expenditure on business and industry promotion is used here to indicate the commitment of the city government to improve the renewal capacity of local businesses (Gabe and Bell 2004). Finally, median income levels of the local population (indicating their means to gain access to goods and services) is used as a measure of economic capital of the local population (Bourdieu 1986).

Our second set of indicators focuses on human capital (Becker 1964). The concept of human capital (i.e. the presence of an educated, skilled or creative workforce) is linked to the renewal capacity of regional cities in two important ways: it is widely considered that human capital is the cornerstone of regional development as it (1) facilitates innovativeness and (2) creates greater economic activity (Crescenzi 2005; Faggian, Modrego, and McCann 2019; Florida, Mellander, and Stolarick 2008). We measure the concept via three indicators: educational levels, immigration and out-migration. The first of the indicators is a very commonly used proxy for measuring human capital (Faggian, Partridge, and Malecki 2017). Similarly, while their impact is naturally mediated through the educational backgrounds and skill levels (Bratti and Conti 2018; Ozgen, Nijkamp, and Poot 2012), the positive impacts of immigration on innovativeness and economic development are also widely accepted (Bodvarsson and van den Berg 2009; Hunt and Gauthier-Loiselle 2010). Finally, we use (low levels of) out-migration to proxy the capacity of regional cities to retain their human capital (Whisler et al. 2008). In other words, out-migration measures whether the level of population turnover is low in regional towns, signalling commitment of the local population towards their place of residence as suggested by Vaattovaara and Airaksinen (2024). Low out-migration values would be a potential strength as a high loyalty of the workforce towards their home region can counterbalance low in-migration (Eder and Trippl 2019).

A third set of indicators concentrates on social capital defined as the ‘features of social organization, such as trust, norms and networks, that can improve the efficiency of society by facilitating coordinated actions’ (Putnam 1993, 167). The concept is notoriously difficult to measure empirically (Engbers, Thompson, and Slaper 2017). Therefore, since social capital eludes direct measurement with secondary data, we follow Coffé and Geys (2005) and proxy it with three indicators measuring citizen participation and trust: voting percentage, third sector activity and crime rates. The rationale behind this selection stems from the connections between participation and the feeling of belonging to a community and society, which (a) is a correlate of social capital (Pooley, Cohen, and Pike 2005) and (b) are created through third sector activities and political efficacy. Indeed, as stated by Birch and Whittam (2008), third sector activities create social capital beneficial to regional development and renewal, while Basile (2023) underlines how economic

development generates more voter turnout in regions with high social capital than in those with low social capital. Finally, as suggested by Coffé and Geys (2005), crime rate can be regarded as a proxy indicator for the level of generalized trust within a municipality.

There are naturally limitations to the chosen indicators. Regarding the chosen RDI indicator, while Business Finland is the main source for government RDI funding in Finland, businesses' own research and development (R&D) expenditure would better describe the scale of local RDI activities. Unfortunately, Statistics Finland does not provide these statistics by municipality. Furthermore, for multi-site businesses, innovation metrics are always subject to a certain 'headquarters bias' as RDI activities are often reported to the head office and not to the location where they are actually implemented. In relation to entrepreneurship and HHI, the figures are relative. Thus, the share of entrepreneurs increases when new entrepreneurs start up in the area, but also when public or private sector employers close down or reduce jobs. In this case, the relative share of entrepreneurship among jobs increases 'automatically', while the arrival of a new larger employer in the area reduces the relative share of entrepreneurship. The same applies to HHI: the industry structure of a region can 'diversify' when new operators enter, but also when a large employer ceases its operations in the region. Contrarily, the one-sidedness of the local industry structure can grow if a new, larger operator enters the region.

For broadband coverage, it should be noted that there are some retrospective corrections to the data for individual municipalities. This means that there are some illogical developments (e.g. broadband availability first increases and then decreases in certain municipalities). When it comes to the promotion of business and industry, the accounting practices vary from municipality to municipality.⁴ The out-migration indicator does not consider how well high out-migration is compensated by high in-migration. That is, it does not take into account the high frequency (dynamics) of migration between larger cities. As already mentioned above, measuring social capital is challenging. Thus, it is important to keep in mind that voting activity indicates political participation, not directly social capital. Similarly, the mere existence of a third sector association does not tell us anything about its membership or activity. Moreover, their location does not tell us much about their areas of operation (some are very local, while others may cover the whole of Finland or have even broader international activities). Finally, population changes affect the development described by the indicator: e.g. if the population decreases while the number of third sector associations remains the same, their 'share' per thousand inhabitants increases. Proxying generalized trust with crime rates also has its own limitations, such as the omitted variable and endogeneity problems (Lederman, Loayza, and Menendez 2002).

3.2. Interviews and analysis

For gaining a comprehensive picture of the factors that affect the renewal capacity of regional cities, we interviewed a total of 20 experts representing regional cities, ministries, the Association of Finnish Cities and Municipalities and other relevant stakeholders (Table 3). The interviewees (senior experts or mayors of regional cities) were selected due to their expertise and familiarity with the context of regional cities and related

Table 3. List of the interviewed organizations.

Institutional affiliation	Number of interviewed persons
Association of Finnish Cities and Municipalities	3
Foundation for Municipal Development	1
Ministry of Agriculture and Forestry in Finland	1
Ministry of Economic Affairs and Employment in Finland	1
Ministry of Education and Culture in Finland	1
Ministry of Finance in Finland	1
Ministry of Social Affairs and Health in Finland	1
Ministry of the Environment in Finland	1
Ministry of Transport and Communications in Finland	1
Regional cities	8
VTT Technical Research Centre of Finland	1

development concepts. In the case of the representatives of regional cities, geographical coverage was also considered: the interviewees represent regional cities located across Finnish regions (West Finland, South Finland, East and North Finland). All interviews lasted between 45 and 60 min, were conducted online and transcribed.

The semi-structured interviews were arranged around three main themes: (1) the conceptual understanding of renewal capacity (how the interviewees understand/define renewal capacity), (2) factors that facilitate and hinder renewal capacity (according to the interviewees, what drives or hampers renewal capacity) and (3) policy measures needed at the national and city levels (according to the interviewees, how renewal capacity should be supported by the national government and the regional cities themselves). The qualitative interview analysis commenced with the development of a coding framework, which provided a systematic structure for identifying recurring themes, concepts and patterns within the transcribed material. The framework facilitated the categorization of raw data into logical segments – the concept of renewal capacity, factors contributing to or hindering it (i.e. economic, human, social capital indices) and policy suggestions – thereby streamlining the interpretative process. The segments of transcribed material were then analysed via directed content analysis using a theory-informed coding framed around the concept and drivers of renewal capacity, enabling pattern verification and identification of complementary qualitative drivers that cannot be easily quantified into undebatable metrics.

The thematic segments, related to the concept and drivers of renewal capacity, were synthesized with quantitative results to enhance the validity of the findings (by triangulating the indicator results and by probing the mechanisms behind observed numbers). Importantly, the analysis uncovers whether the interviewees have a shared understanding of what the concept of renewal capacity stands for and subsequently whether they agree with the chosen metrics (described above) and what additional quantitatively unobservable drivers they highlight as important facilitators/barriers to renewal capacity. As lacking a quantitative reference point, the observations pertaining to policy recommendations were analysed independently.

The interviews and their analysis were conducted by the third and fourth author. The derived interpretations were discussed and agreed to in meetings amongst the researchers and by an external steering group. Additionally, the resulting policy recommendations were subsequently validated through stakeholder engagement in an onsite/hybrid validation workshop with policymakers and representatives of regional cities.

4. Results

4.1. *The renewal capacity of regional cities: strengths and challenges*

When compared to the (means of the) other municipal groups, Finnish regional cities occupy mediocre positions (ranks 2–3) in most of the chosen indicators depicting renewal capacity (Table 4). Regional cities do show exceptionally good performance in terms of (low) outmigration (indicating high ‘population loyalty’) but their scores are the lowest among the investigated municipal groups in terms of education and income. However, their performance in the latter two indicators is not significantly lower than that of rural municipalities who rank the second lowest. In terms of outmigration, regional cities clearly rank in the top, as the differences between them and the other municipal groups are all statistically significant (Table 5). The large cities have the comparative advantage in most of the chosen indicators, except for entrepreneurship, promotion of business and industry, as well as the proxies measuring social capital (voting, third sector activity and crime rates), where rural municipalities have the best scores, and in terms of income, where fringe municipalities top the ranking. There are two additional indicators where regional cities showcase relatively good performance. First, in terms of the diversity of the local economic structure (HHI), the difference between regional (rank 2) and large (rank 1) cities is very small and statistically non-significant. Second, the same applies to the difference between regional cities (rank 2) and rural municipalities (rank 1) in the promotion of businesses and industry (Tables 4 and 5).

The developments in the chosen indicators depicting renewal capacity are relatively similar across the different municipal groups when comparing the most recent year to 2019 (pre-COVID-19) and to the previous year (Table 6). For regional cities, the development of entrepreneurship (compared to the previous year), fixed broadband coverage, promotion of businesses and industry, immigration and crime rates have been positive (as in most of the other municipal groups). Contrarily, their development in new business formation, income, education, voting and third sector activity have been negative (again, as in most of the other municipal groups). Exceptionally, regional cities are the only municipal group that has been able to improve their performance in RDI and HHI compared to the previous year. In terms of outmigration, regional and large cities, and in terms of crime rates, regional cities and rural municipalities are the only municipal groups experiencing positive development compared to the previous year.

Except for outmigration, all the other chosen indicators are closely tied to municipal size/size of the local economy (Table 7). The correlations are not, however, of the same direction, as there are indicators where (generally) better performance is connected to lower numbers of inhabitants and workplaces. Such indicators include entrepreneurship, promotion of businesses and industry and the proxies for social capital (voting, third sector activity and crime rates). This comes to show that larger municipalities do not automatically perform better in all aspects of renewal capacity.

Based on the correlation analyses, we conducted two separate PCAs for sets of indicators depending on their association (negative/positive) between population and workplaces. The variables were min–max normalized (to a scale from 0 to 100) and, in a few cases, reversed to match a positive connotation (as low rather than high outmigration, HHI and crime rates are desirable). Outmigration was dropped from the analysis due

Table 4. Means, standard deviations (SD) and ranks (R) of municipality groups in the chosen indicators (the most recent year available – see Table A1).

Indicator	Regional cities			Large cities			Fringe municipalities			Rural municipalities		
	Mean	SD	R	Mean	SD	R	Mean	SD	R	Mean	SD	R
RDI	509	1 895	2	1 554	1 854	1	351	525	3	182	902	4
NBF	−0,0162	0,0152	3	−0,0001	0,0148	1	−0,0134	0,0142	2	−0,0164	0,0220	4
ENT	0,14	0,04	3	0,08	0,02	4	0,16	0,05	2	0,22	0,06	1
HHI	506	110	2	466	113	1	522	104	3	698	234	4
FBC	0,66	0,21	2	0,83	0,11	1	0,65	0,19	3	0,54	0,29	4
PBI	76	39	2	64	33	3	43	29	4	96	73	1
INC	27 628	1 321	4	29 746	4 511	2	30 697	2 097	1	27 667	1 833	3
EDU	0,25	0,05	4	0,42	0,08	1	0,37	0,08	2	0,26	0,07	3
IMM	0,06	0,03	2	0,11	0,06	1	0,05	0,04	3	0,04	0,03	4
OUT	44,90	5,07	1	55,10	14,06	3	57,02	8,87	4	50,09	11,93	2
VOT	0,54	0,04	3	0,52	0,06	4	0,55	0,04	2	0,59	0,06	1
TSA	23,94	4,77	2	18,23	3,98	3	14,91	4,20	4	31,93	10,34	1
CRI	79,17	19,90	3	97,68	18,56	4	73,61	21,67	2	68,88	25,05	1

Table 5. Pairwise comparisons between municipal groups (the most recent year available – see Table A1).

Indicator	Regional cities – Large cities	Regional cities – Fringe municipalities	Regional cities – Rural municipalities
RDI	–74,320**	–10,445	63,864***
NBF	–74,453**	–13,267	–3,206
ENT	63,47*	–29,783	–100,590***
HHI	35,059	–14,518	–99,840***
FBC	–63,838*	–0,646	38,582*
PBI	21,56	73,581***	–43,876
INC	–55,887*	–107,984***	2,378
EDU	–143,744***	–111,487***	–7,801
IMM	–71,903**	48,315*	62,716***
OUT	–78,291**	–107,176***	–43,051**
VOT	20,835	–35,548	–84,243***
TSA	60,695*	89,414***	–60,078***
CRI	–66,949**	25,157	43,494**

Notes: Kruskal-Wallis tests indicated differences between at least two groups. Thus, Dunn's post hoc tests for pairwise comparisons were carried out and are reported in this table. Significance values have been adjusted by the Bonferroni correction for multiple tests. Significant at the level of *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

Table 6. Direction of change in the chosen indicators (the most recent year available – see Table A1) from 2019 and previous year.

Municipal group	Change from 2019/previous year												
	RDI	NBC	ENT	HHI	FBC	PBI	INC	EDU	IMM	OUT	VOT	TSA	CRI
Regional cities	– +	– –	– +	– +	++	++	– –	– –	++	– +	– –	– –	++
Large cities	+ –	– –	++	– –	++	– –	– –	– +	++	– +	– –	– –	+ –
Fringe municipalities	– –	– –	++	– –	++	– +	– –	++	++	– –	– –	– –	+ –
Rural municipalities	– –	– –	– +	– –	++	++	– –	– –	++	– –	– –	– –	++

Notes: Plus signs (+) indicate positive and minus signs (–) negative development.

Table 7. Summary of the Spearman's correlation test results between the chosen indicators (the most recent year available – see Table A1) and the size of the municipality.

Indicator	POP	WOR
RDI	0,573***	0,587***
NBF	0,131*	0,153**
ENT	–0,717***	–0,775***
HHI	–0,690***	–0,677***
FBC	0,336***	0,360***
PBI	–0,375***	–0,347***
INC	0,438***	0,393***
EDU	0,473***	0,429***
IMM	0,465***	0,492***
OUT	–0,004	–0,012
VOT	–0,538***	–0,535***
TSA	–0,730***	–0,670***
CRI	0,440***	0,406***

Notes: Significant at the level of *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

to low correlation with the other variables, while RDI was dropped from the analysis for its highly uneven distribution (mean 2.7 on a scale from 0 to 100). The analyses met the minimum requirements for an acceptable solution and produced four distinct PCs. The first two group together economic and human capital indicators, while the latter two comprise social capital indicators as well as entrepreneurship and promotion of businesses and industry (Table A2). As in the case of the individual indicators, naturally,

the PC scores also vary systematically between the municipal groups investigated: large cities have the advantage in the economic/human capital indexes, rural municipalities excel in social capital-focused indexes, while regional cities occupy middling positions (Table A3). The connections between the PCs (Table 8) and the size of the municipality follow the results of Table 7. That is, large municipalities (in terms of population and workplaces) have the advantage in terms of economic and human capital, while smaller municipalities excel in terms of social capital dimensions.

In summary, the strengths of regional cities lie in their low outmigration and relatively good performance in terms of the diversity of their local economic structures (HHI) as well as in their high commitment to the promotion of businesses and industry. Further, regional cities have experienced exceptional (recent) positive development in the former two indicators as well as in terms of RDI. Contrarily, the low scores in education and income indicators are a particular cause for concern for the renewal capacity of regional cities. The development of these two indicators has been negative both in regional cities and in most of the other municipal groups. Moreover, the declining new business formation rates⁵ and social capital (in terms of voting and third sector activity) are a concern for all municipal groups. Finally, the correlation analysis further reveals that good performance in renewal capacity is not automatically connected to large municipal size/size of the local economy.

4.2. Stakeholder perspectives on the renewal capacity of regional cities

Conceptually, the interviewees considered that the renewal capacity of regional cities is closely tied to the concepts of vitality and competitiveness. However, as a point of departure, the interviewees considered that renewal capacity – beyond the more resource-focused view of the vitality and competitiveness concepts (see Section 2.3) – is closely linked to the endogenous ability to proactively adapt to a changing operating environment, utilize strategic foresight (particularly in relation to informed decision-making and risk management) and mobilize internal resources. As stated by an interviewed senior expert: ‘Renewal capacity cannot be imposed upon a region from the outside’. The conceptual understanding of the representatives of regional cities and other experts, thus, follow the definition of renewal capacity derived here based on the literature on regional resilience.

According to the interviewees, the most important challenges affecting the renewal capacity of regional cities are related to negative demographic development, geopolitical turbulence and tightening public finances. These are prevalent contemporary concerns throughout Finland (see Section 2.2). Such worries are tied to the economic (e.g.

Table 8. Summary of the Spearman’s correlation test results between the principal component scores (see Table A2) and the size of the municipality.

Principal component (PC)	POP	WOR
PC 1.1 (INC, EDU & IMM)	0,527***	0,483***
PC 1.2 (NBF, HHI & FBC)	0,426***	0,454***
PC 2.1 (VOT, CRI & ENT)	−0,622***	−0,662***
PC 2.2 (PBI & TSA)	−0,555***	−0,503***

Notes: All significant at the level of *** $p < 0.001$.

income levels) and human capital (e.g. educational levels) approaches to regional development but neglect the importance of social capital (see Sections 3.1 and 4.1). The concerns about the demographic development highlighted by the interviewees outweigh the good performance of regional cities in terms of low outmigration – a perspective that should, thus, be more clearly brought to the fore as one of their potential development strengths. Indeed, as stressed by a senior expert: ‘Renewal capacity is not synonymous with significant population growth – we have numerous examples of regional cities that perform quite reasonably even in the absence of growth’. A further challenge voiced by the interviewees relates to administrative and political rigidity. The interviewees particularly highlighted problems caused by the often place-blind nature of national regulations, which do not consider city size-specific issues in Finland.

The interviewees consider regional cities as small enough to be agile in decision-making but large enough to carry out development activities underlining their endogenous strengths in renewal. As underlined by a regional city mayor: ‘We are, however, relatively agile in terms of decision-making and the organization of services’. This view strengthens our results regarding the variegated connections between renewal capacity and municipal size/size of the economy (see Section 4.1): bigger is not always better. Achieving renewal requires both financial and expertise-related resources (or ‘future thinking’, ‘knowledge-based leadership’ and ‘a climate of leadership’ as expressed by the interviewees) as well as innovative approaches both within the city governance and local businesses. As stated by a senior expert: ‘A central element is proactivity – the ability to be forward-leaning and engage in renewal before it becomes a necessity or a crisis is at hand’.

From this perspective, it was regarded that the renewal capacity of regional cities could be promoted by cooperation between local key actors. The capacity for renewal was also analysed in relation to the role of regional cities in the provision of public and private services for the surrounding municipalities. The strong commitment of regional cities to the promotion of businesses and industry, their diversified local economic structures (facilitating innovation) and recent positive developments in RDI (see Section 4.1) support these views. Furthermore, the strength of regional cities in terms of renewal capacity was also considered to lie in the effective networking and cooperation. This occurs between regional cities themselves (which also means that they have substantial combined power in terms of advocacy towards national-level policymakers) as well as with other surrounding and otherwise thematically or internationally connected municipalities. In other words, the interviewees strongly believed that regional cities could strengthen their renewal capacity both individually (endogenously) and as a network. Furthermore, as brought forth by a regional city mayor: ‘The renewal capacity of regional cities is a national issue, not merely a local challenge’. Thus, national-level policies should be devised in a way that they do not undermine the renewal capacity of regional cities.

Finally, the recent discussions on the potential of green growth to support both sustainable development at national and global levels as well as the revitalization of the economic landscapes of ‘non-core’ areas (Lin and Wang 2023) seem to have resonated with the representatives of regional cities. As such, they lay huge hopes on the economic opportunities provided by green transition and renewable energy investments. While not directly measured here (due to a lack of reliable statistical data that would comprehensively cover the topic), there are indeed some tentative evidence – based on the Green

Investments in Finland -dashboard – that small towns do receive high amounts (in € per capita) of green investments (WSP 2025).

5. Conclusions and implications

This study examined the renewal capacity of Finnish regional cities and identified their core strengths i.e. low outmigration (indicating ‘population loyalty’), diversified economic structures, strong municipal commitment to business promotion and recent improvements in RDI. Indicator analysis identified key weaknesses to include education, income and new business formation. Interview evidence confirmed these findings and highlighted effective cooperation networks as well as emerging opportunities in the green transition. Together, these results show that, although regional cities face demographic and fiscal pressures, they possess endogenous levers enabling strategic adaptation. These results should be transferable to all countries with similar (or close) welfare society arrangements. Easy comparisons are the other Nordic countries, but also other countries with a large number of municipalities and relatively large public sectors aiming for balanced regional development.

Theoretically, the study proposes a universal (generalizable) result that renewal capacity provides a framework for understanding how small cities mobilize selective agglomeration effects, territorial capital and resilience--based mechanisms under size-specific constraints.- Regional cities do not, nor should they, replicate metropolitan solutions but rely on their own institutional strengths, i.e. dense networks, trust-based cooperation and governance agility.- The interplay of human, economic and social capital applied here reinforces the view that institutional adaptability and locally embedded networks mediate how cities reorient towards new growth paths. This positions renewal capacity as a multidimensional, place-sensitive concept explaining why smaller (or second-tier) cities can be agile enough to adapt and sizable enough to act (Kalafsky and Graves 2020; Parkinson, Meegan, and Karecha 2015).

The results refine assumptions regarding urban population (size) factor. As shown here, several renewal-relevant indicators (entrepreneurship, business-promotion spending -and social capital proxies) are associated with smaller, not larger, municipalities. Thus, scale is neither a guarantee nor a precondition for renewal in our data. Simultaneously, the weaknesses in human-capital formation and entrepreneurial dynamics caution that selective advantages cannot fully offset structural constraints. The interviews echo these tensions, citing demographic decline, geopolitical turbulence and public-finance tightening as key challenges but also highlighting the importance of inter-city cooperation and the emerging role of green investments. -It is, however, recognized that these results are context-dependent and reflect the case of Finland without a comparative approach e.g. -from other Nordic states.

The results of this study suggest a number of policy and practical recommendations that we consider to be universal, at least in the global North. First, as managing the renewal capacity of a regional city requires a future-oriented and knowledge-based attitude towards development and the ability to create new relationships with key stakeholders, the decision-making culture and leadership conditions within regional cities should be strengthened. Second, in addition to the currently well-functioning cooperation between regional cities, it would be good to utilize the presented indicators

as a tool for further cooperation and national urban policy. In practice, this agenda should include tracking the development of the renewal capacity of regional cities annually or at least bi-annually and devising cooperation and policy measures based on potential (abrupt) changes. Third, the regional cities are advised to use a similar approach (strengthened with forecasting and/or futures studies approaches) to identify key development challenges to smartly allocate financial and expertise resources to strengthen their renewal capacity.

Finally, it is important to note the limitations of our chosen approach. The interviewees come from the public sector and, thus, our sample lacks the views of business owners, third sector representatives and ordinary residents. The sample structure may introduce systematic bias, i.e. an overly positive assessment by the representatives of public sector actors' concerning their own actions. Further, while the conducted interviews did verify and enrich our quantitative interpretations, the results of the indicator analysis remain at a rather general level, as statistics go only so far in terms of understanding context. Particularly, while crime rates together with third sector and voting activity do provide some clues on regional social capital, admittedly our measurement remains incomplete regarding trust, norms and networks. However, the set of indicators depicting economic, human and social capital was chosen foremost to open up new perspectives on the multidimensional nature of renewal capacity (in contrast to the dominant vitality and competitiveness debate) and to shed light on the profile of regional cities in relation to the other investigated municipal groups. In other words, instead of providing answers to why (individual) regional cities are performing well/badly, the chosen indicators are foremost intended to offer regional cities a way to reflect on their current situation and recent developments. In this work the direction of change is at least as important a metric as the current level of individual indicators. By knowing the individual regional city contexts, it could be determined: whether the direction of change has been desirable and actively sought for; what the (main) reasons behind the change were; whether certain changes can be deemed more important than others; and how these changes affect local firms, third sector associations and ordinary residents? In-depth case studies including the perspectives of private and third sector actors and the general public would provide an opportune approach to disentangling these important future research questions.

Notes

1. To be clear our use of the concept of renewal differs from that of "urban renewal" commonly defined as the process of slum clearance and physical redevelopment of urban environments (Zheng, Shen, and Wang 2014).
2. Excluding Salo which also belongs to the group of regional cities but including Kajaani, the provincial capital of Kainuu region, and Kauniainen, which is located inside the capital region of Helsinki.
3. Excluding Heinola which also belongs to the group of regional cities.
4. Economies of scale might also be a factor explaining some of the observed variation between municipalities, but a recent meta-analysis did not find any strong evidence that larger city size would (automatically) allow reducing the average costs of service production (Gómez-Reino, Lago-Peñas, and Martínez-Vazquez 2023)
5. The result reflects the prolonged economic stagnation of the Finnish economy (Ali-Yrkkö et al. 2025).

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Credit statement

Teemu Makkonen: Conceptualization; Data curation; Formal analysis; Methodology; Writing – original draft. Tommi Inkinen: Writing – original draft. Sinikukka Pyykkönen: Investigation; Methodology; Funding acquisition; Project administration; Writing – review & editing. Noora Koski: Investigation; Methodology; Writing – review & editing.

Data availability statement

The quantitative data are available upon request from the first author.

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Appendix

Regional cities

1. Akaa
2. Alajärvi
3. Alavus
4. Forssa
5. Hamina
6. Heinola
7. Huittinen
8. Iisalmi
9. Ikaalinen
10. Imatra
11. Jämsä
12. Kalajoki
13. Kankaanpää
14. Kannus
15. Kauhajoki
16. Kauhava
17. Kemi
18. Kemijärvi
19. Keuruu
20. Kitee
21. Kokemäki
22. Kristiinankaupunki
23. Kurikka
24. Kuusamo
25. Laitila
26. Lapua
27. Lieksa
28. Lohja
29. Loimaa
30. Loviisa

31. Mänttä-Vilppula
32. Nivala
33. Nurmes
34. Oulainen
35. Paimio
36. Parainen
37. Parkano
38. Pieksämäki
39. Pietarsaari
40. Raahе
41. Raasepori
42. Rauma
43. Riihimäki
44. Saarijärvi
45. Salo
46. Sastamala
47. Savonlinna
48. Somero
49. Suonenjoki
50. Tornio
51. Uusikaupunki
52. Valkeakoski
53. Varkaus
54. Viitasaari
55. Ylivieska
56. Ähtäri
57. Äänekoski

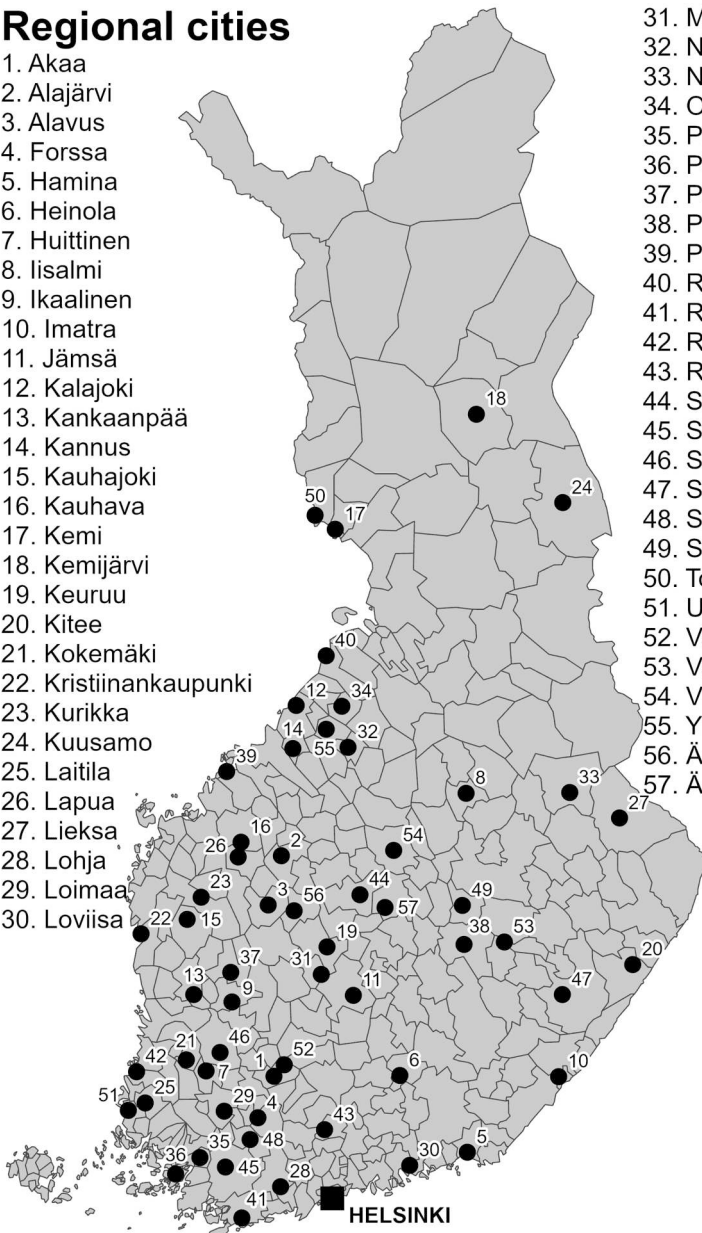


Figure A1. The location of Finnish regional cities.

Table A1. Descriptive statistics.

Variable	Year	N	Minimum	Maximum	Mean	Std. Deviation
RDI (€ per company stock)	2024	292	0,00	14 133	374	1 258
NBF (per company stock)	2024	292	−0,077	0,045	−0,015	0,020
INC (€ per household)	2023	292	23 970	47 774	28 262	2 391
EDU (% of 30–39 age-group)	2023	292	9,6	63,1	28,8	8,6
FBC (% of households)	2024	290	2,0	100	64,8	24,5
PBI (€ per inhabitant)	2024	289	8,46	717,95	81,52	62,88
ENT (% of workforce)	2023	292	5,1	39,5	18,2	6,9
HHI (index)	2023	292	348,44	1 822,39	616,87	213,97
IMM (% of population)	2024	292	0,4	28,70	4,9	3,7
OUT (per thousand inhabitants)	2024	292	28,14	100,92	50,48	11,29
TSA (per thousand inhabitants)	2024	292	6,46	66,97	26,42	10,48
VOT (% of voting-age population)	2025	292	45,4	77,8	56,7	5,5
CRI (per thousand inhabitants)	2024	292	23,79	215,55	73,76	24,42
POP (total)	2024	292	665	684 018	19 196	53 678
WOR (total)	2023	292	147	430 886	8 224	30 373

Table A2. Principal component analysis (PCA) results.

PCA 1					
Kaiser-Meyer-Olkin	0,604	Indicator	Eigenvalue: Communalities	PC 1.1	PC 1.2
Bartlett's Test	<0,001			2,21	1,08
		INC	0,840	Loadings	Loadings
		EDU	0,763	0,917	
		IMM	0,334	0,842	
		NBF	0,657	0,438	
		HHI	0,368		0,801
		FBC	0,320		0,562
					0,502
PCA 2					
Kaiser-Meyer-Olkin	0,604	Indicator	Eigenvalue: Communalities	PC 2.1	PC 2.2
Bartlett's Test	<0,001			2,24	1,21
		VOT	0,643	Loadings	Loadings
		CRI	0,613	0,780	
		ENT	0,618	0,779	
		PBI	0,779	0,747	
		TSA	0,798		0,882
					0,849

Notes: Varimax with Kaiser normalization was used as the rotation method.

Table A3. Means, standard deviations (SD) and ranks (R) of municipality groups in the produced principal components (see [Table A2](#)).

Principal component (PC)	Regional cities			Large cities			Fringe municipalities			Rural municipalities		
	Mean	SD	R	Mean	SD	R	Mean	SD	R	Mean	SD	R
PC 1.1 (INC, EDU & IMM)	−0,245	0,598	3	1,198	1,427	1	0,978	0,877	2	−0,324	0,774	4
PC 1.2 (NBF, HHI & FBC)	0,336	0,641	2	1,280	0,929	1	0,096	0,617	3	−0,306	1,018	4
PC 2.1 (VOT, CRI & ENT)	−0,604	0,732	3	−1,337	0,840	4	−0,138	0,696	2	0,401	0,906	1
PC 2.2 (PBI & TSA)	−0,181	0,474	2	−0,421	0,461	3	−0,977	0,493	4	0,361	1,071	1