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Governance Performance and the Dynamics of Migration Processes in Municipalities: A Local Development Perspective in Poland

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Abstract:

Purpose: *The aim of the article is to assess the long-term diversity and stability of migration patterns in Polish municipalities in the years 2003-2022. The article also presents two research hypotheses: H1: The type of municipality significantly differentiates its migration results, with rural municipalities achieving a positive migration balance at lower ranking positions than urban and urban-rural municipalities.; H2: The migration position of municipalities shows high stability over time.*
Design/Methodology/Approach: *The research was conducted on a data set covering all municipalities in Poland in the years 2003-2022. A multi-stage approach was used: (1) ranking of municipalities according to the value of the migration indicator ZW (registrations-deregistrations); (2) analysis of the indicator distribution in order to assess the structure of inflow and outflow; (3) analysis of quartile transitions, enabling the assessment of the stability of migration positions.*
Findings: *The study results indicate clear and persistent differences between types of municipalities: rural municipalities achieve a positive migration balance at significantly lower rankings than urban and urban-rural municipalities. The indicator's distribution reveals a strong asymmetry—most municipalities record a negative balance, with positive values occurring only in a small fraction of municipalities. Quartile analysis confirms the high stability of migration positions, and large quartile changes are rare. These results indicate that migration is a structurally established and long-term outcome that can serve as a reliable indicator of governance performance.*
Practical Implications: *The persistent variation in migration status between types of municipalities indicates the need to design tailored territorial policies. The persistent negative migration balance in most municipalities suggests the need for long-term support for units systematically losing residents. The stability of quartile positions demonstrates that improving the migration situation requires consistent, multi-year efforts, as significant changes are rare. At the same time, rural municipalities maintaining a positive migration balance can serve as a source of best practices, indicating which solutions foster increased attractiveness for settlement.*
Originality/Value: *This study adds value by presenting a long-term analysis of migration as a behavioral indicator of governance performance. It combines a ranking approach with*

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quartile change paths, offering a multidimensional assessment of the sustainability of municipalities' migration positions. The article fills a research gap regarding the long-term sustainability of migration patterns and demonstrates that migration can serve as a comparable measure of local governance outcomes.

Keywords: *Governance performance, migration, local development, local management effectiveness.*

JEL Code: *R23, R58, H70, O18.*

Paper type: *Research article.*

1. Introduction

Local development is a multidimensional process, dependent on social, economic, institutional, and spatial conditions. Social indicators, especially those related to demographic dynamics, play a special role in diagnosing the level of development of territorial units. Internal migration, as one of the most sensitive indicators, measures the ability of municipalities to attract or retain residents, thus indirectly reflecting the effectiveness of local governance.

Net migration is interpreted in studies as a synthetic measure of settlement attractiveness and quality of life (Champion, 2015). Residents' migration decisions are strongly related to the availability of public services, housing conditions, employment opportunities, and the state of the environment (Tammaru, 2004). Migration is considered one of the so-called soft indicators of local development, which can quickly respond to structural and institutional changes (Churski, 2021).

In the Polish context, internal migration is subject to several clearly defined processes. The Polish local government system features three basic types of municipalities, whose specific characteristics significantly determine migration flows: urban, urban-rural, and rural.

Urban planning studies by Sykała *et al.* (2023) indicate the growing suburbanization of large cities, based on the systematic outflow of population to suburban areas. At the same time, the work of Heffner (2021) confirms the deepening depopulation of rural peripheral areas and small towns, particularly in eastern and northern Poland. Demographic research in the context of local development (Śleszyński, 2023) emphasizes that net migration in municipalities is one of the most sensitive indicators informing about the direction of social change.

Urban municipalities are perceived as having high access to services but are burdened by urban planning problems. High population density, rising housing prices, and transportation pressures can lead to an outflow of residents (Malinowski, 2017). Urban-rural municipalities are considered beneficiaries of suburbanization.

Their functional profile favors population inflow and a positive net migration rate (Grochowski, 2023). Rural municipalities are the most diverse; some are developing dynamically thanks to their proximity to large cities, while others are subject to permanent marginalization (Stanny and Rosner, 2023).

Despite numerous analyses of internal migration in Poland, the literature still lacks long-term studies that treat net migration as one of the indicators of governance performance, rather than solely as a demographic outcome. Addressing this research gap, this article analyzes net migration as an indicator of local development in Polish municipalities between 2002 and 2022.

Its aim is to assess the diversity and sustainability of net migration results in Polish municipalities between 2003 and 2022 and to identify the relationship between individuals' migration profiles and their governance performance, understood as the behavioral effect of local government actions. To achieve this goal, two hypotheses were formulated, relating to the key mechanisms identified in the ranking and quartile analyses. The research hypotheses are as follows:

(H1) The type of municipality significantly differentiates its migration results, with rural municipalities achieving a positive migration balance at lower ranking positions than urban and urban-rural municipalities.
(H2) The migration position of municipalities shows high stability over time.

2. Literature Review

Demographic processes constitute one of the key dimensions of local development and a significant component of the strategic diagnosis conducted by local government units. Regional development theories emphasize that demographic processes reflect the adaptability of territorial units to changing social, economic, and environmental conditions (Camagni and Capello, 2013).

From the perspective of public management theory, demography is a key measure of the effectiveness of local policies. Demographic changes represent the materialization of residents' "responses" to the quality of public services, housing conditions, job availability, and the municipal institutional environment.

In this sense, demographic indicators can be interpreted as an effect of governance performance, they indicate whether residents perceive the local environment as conducive to meeting their needs. Local governments that utilize demographic

monitoring tools better adapt their policies to the needs of residents and respond preventively to threats related to depopulation or suburbanization.

Among the entire spectrum of demographic indicators, internal migration is identified in the literature as the most dynamic and the most sensitive measure of social change occurring at the local level. Migration treated as an expression of voluntary household decisions regarding where to live is considered a synthetic test of a given territory's attractiveness (Champion, 2015).

Demographic indicators such as population size, age structure, fertility rate, natural increase, migration balance, and demographic dependency ratios constitute a fundamental set of information used in municipal management. Reports from the Central Statistical Office and the Government Population Council emphasize that without systematic consideration of demographic trends, local governments are unable to pursue rational investment and social policies.

Governance performance is a multidimensional phenomenon, encompassing administrative efficiency, institutional quality, transparency, and the impact of public policies (Rhodes, 2007). Synthetic indicators for assessing governance quality are commonly used in international studies, such as the Local Governance Performance Index (LGPI) used by the World Bank Group (World Bank Group, 2016) and the Migration Governance Indicators (MGI) developed by the International Organization for Migration (IOM, 2019).

These indicators measure, among other things, transparency, participation, accountability of local institutions, the quality of administrative services, and the ability to adapt to socio-economic changes. In the literature on urban policies, governance performance is also linked to so-called development outcomes, such as quality of life, investment attractiveness, and demographic dynamics (Camagni, Capello and Caragilu, 2015). These outcomes are interpreted as the real consequences of local government actions and reflect the institutional efficiency of units. Migration is one of the most sensitive indicators of governance performance, as it reflects residents' actual assessment of local government actions.

3. Research Methodology

The study is based on data covering all municipalities in Poland from 2003-2022 published by Statistics Poland (GUS) and The Government Population Council (GPC).

The data were obtained from public statistics on the number of registrations and deregistrations, which served as the basis for constructing the ZW (Registration-Deregistration) net migration index. This index is interpreted as a behavioral measure of governance performance, consistent with an approach in which population inflows

and outflows reflect the attractiveness of local government units and the effects of local government actions in shaping living conditions.

In the first stage, a ranking analysis was conducted, ranking all municipalities according to the indicator's value in subsequent years. This allowed us to determine the point of intersection with the zero-value depending on the type of municipality (urban, urban-rural, rural) and indicate which municipalities achieve a positive balance regardless of changes in external conditions. This analysis allows us to identify structural differences between municipal categories and assess whether there is a persistent spatial and institutional structure influencing migration flows.

In the second stage, the distribution of the ZW index values for the entire population of municipalities was analyzed. A histogram with equal class intervals (bin=1.6) was used to assess the overall migration characteristics of the country. This analysis provides a basic context for interpreting migration as an indicator of managerial effectiveness, indicating the proportion of municipalities in which residents choose migration as a response to local conditions.

A key element of the study was a quartile analysis, conducted over a full-time span (2003-2022) for rural municipalities. This analysis enabled us to assess the sustainability of the migration position of individual units and the scale of their shifts between quartiles, treated as a measure of the dynamics of changes in governance performance.

The selection of rural municipalities for the quartile analysis was justified by their largest population, broad migration diversity, and the clarity of changes in quartile positions within this category of units. Each municipality was located within a quartile grid, comparing its historical position (2003, 2012, 2021) with its position in 2022, with differences recorded as values ranging from -3 to +3, denoting quartile change.

The methodological approach employed allows for a assessment of the mechanisms determining migration in Poland over the long term and for an analysis of their interpretation in terms of governance performance. Ranking analysis reveals structural differences between municipalities, value distribution analysis allows for an assessment of the nature of migration nationwide, and quartile analysis enables the identification of the sustainability of governance outcomes. Combining these three approaches provides a multifaceted assessment of migration phenomena and their relationship with local government effectiveness.

4. Research Results

Migration over the years 2003, 2012, 2019, and 2022 was examined for each type of municipality. The graphs (Figure 1, Figure 2, Figure 3, Figure 4) present the average ZW index (registrations minus deregistrations) for the following types of municipalities: (w) rural municipalities, (mw) urban-rural municipalities, and (m)

urban municipalities, calculated on the basis of data from the Central Statistical Office (GUS) and the Government Population Council (RRL). The X-axis represents the normalized ranking position (value 0-1), while the Y-axis represents the ZW index value, which includes both negative and positive values.

The central element of the graphical analysis is the intersection of the curve with the ZW = 0 line, which marks the transition from negative values (net outflow) to positive values (net inflow). The location of this point indicates the ranking position at which individual types of municipalities achieve positive index values.

Figure 1, 2, 3, 4. *The dependence of ZW index on normalized rank in the years: 2003 (Fig. 1), 2012 (Fig.2), 2019 (Fig 3.), 2022 (Fig.4) for (w) rural municipalities, (mw) urban-rural municipalities, (m) urban municipalities*

Figure 1.

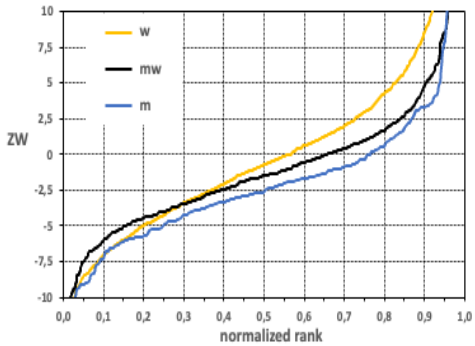


Figure 2.

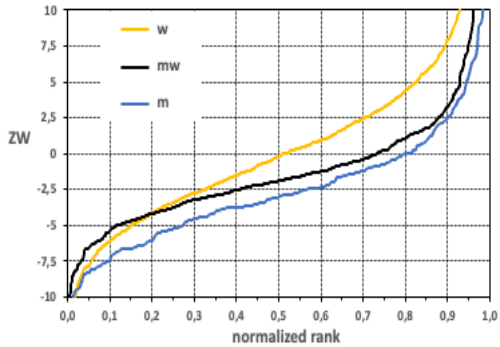


Figure 3.

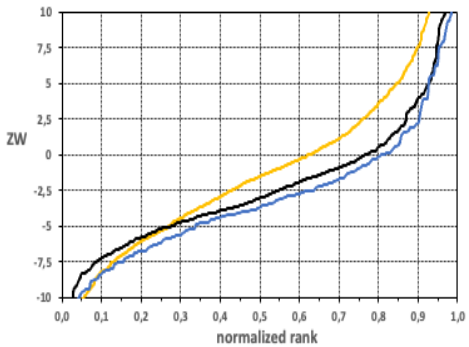
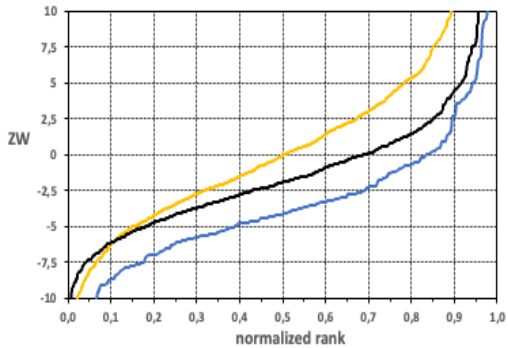


Figure 4.



Source: *Authors' own research.*

In all analyzed years, the curve for rural municipalities (w) is highest in the upper part of the graph, and its intersection with the ZW=0 line occurs earliest, in the range X~0.45-0.55, depending on the year. The curve for urban-rural municipalities remains stable over time, and the intersection with the 0 line occurs regularly around X~0.58-0.60. Urban-rural municipalities achieve positive values of the ZW index in the higher part of the ranking than rural municipalities.

The curve's shape is intermediate between the other types of municipalities throughout the entire period. For urban municipalities, the ZW curve is the lowest of the three types, and the intersection with the ZW=0 line occurs latest, often in the range X~0.68-0.72.

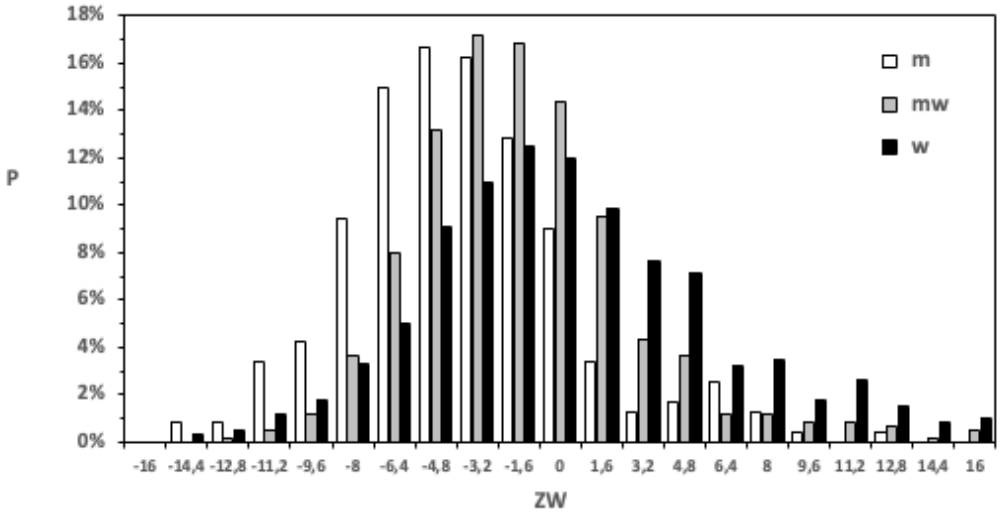
Urban municipalities achieve positive values of the index only when their position in the ranking is in its upper part. In 2022, the point of intersection of the curve is farthest to the right of all analyzed years. In each year, the curve for rural municipalities is at the highest point, followed by the urban-rural municipalities at the intermediate point, and the lowest point for urban municipalities.

Over the years studied, the vertical distances between the curves have been increasing, indicating growing differences in the ZW values between municipal types. A growing gap is visible between the ranking positions at which individual municipal types achieve a ZW value of 0. Rural municipalities have a significantly larger number of units with positive migration.

Inflows are increasing or stable for many rural areas. In urban municipalities, the majority of municipalities experience a predominance of outflows, with only a few towns achieving a positive balance. Urban-rural municipalities fall between these two groups. The difference between urban and rural migration processes is becoming more pronounced, and the migration structure is becoming more polarized.

To complement the ranking analysis, an assessment of the distribution of the ZW index values for all municipalities combined was also conducted (Figure 5).

Figure 5. *The distribution of ZW index for (w) rural municipalities, (mw) urban-rural municipalities, (m) urban municipalities*



Source: *Authors' own research.*

The graph (Figure 5) presents a histogram with a range width of 1.6. The X-axis represents the ZW index value ranges, while the Y-axis represents the probability of a given value occurring. The distribution is asymmetric, with a significantly higher concentration of units in the negative range; most municipalities are characterized by a negative migration balance. As the index value increases, the height of the histogram bars decreases, indicating a smaller number of units achieving positive ZW values. The median of the distribution is located in the middle of the graph.

The distribution of the ZW indicator indicates that most municipalities achieve a negative migration balance, while a positive migration balance occurs only in a limited number of units. In the context of governance performance, this means that the effects of local government actions on attracting and retaining residents are highly diversified, with positive results concentrated in a relatively small group of municipalities.

The asymmetric nature of the distribution indicates that the predominance of population outflow is a typical outcome of many municipalities, which is an important signal regarding the spatial differentiation of governance performance.

The research is supplemented by a quartile analysis of the ZW index values exclusively for rural municipalities, as rural municipalities constitute the largest category of local government units in Poland, providing a sufficiently large set of observations for the analysis of interquartile changes.

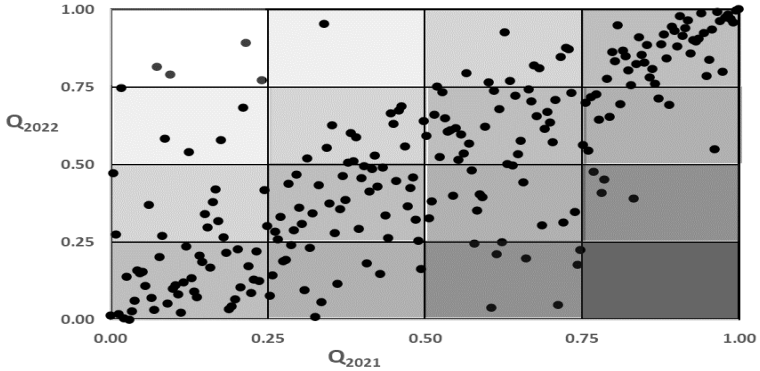
Rural municipalities experience the highest positive net migration dynamics, as confirmed by the previous ranking charts. The quartile analysis of rural municipalities demonstrates the full dynamics of change in the largest group, allowing for a general understanding of the direction of migration changes in local Poland.

Figures 6, 7, and 8 show the relationship between the ZW index value for rural municipalities in 2022 and the value of this indicator in 2003, 2012, and 2021. The graph axes are divided into four quartiles, which illustrate the quartile changes in each municipality over time and their color from black to white corresponds to the change in the quartile value from -3 to 3, respectively.

Most municipalities maintained the same quartile position throughout the years 2003-2021. From a migration perspective, this means that the migration balance is persistent, and the patterns of inflow and outflow in rural municipalities are relatively stable. Most units change position by only one quartile, up or down.

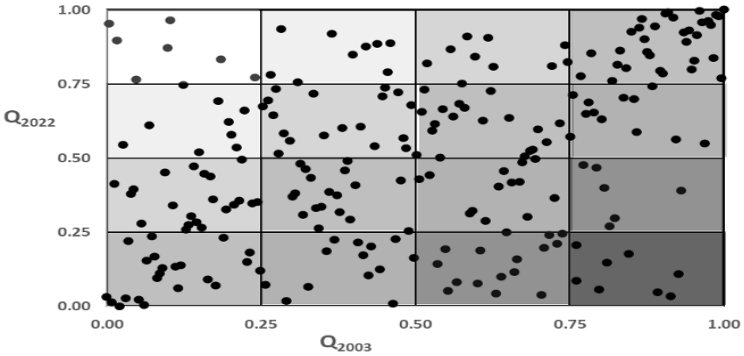
This means that changes in the attraction or loss of residents by municipalities are moderate. Changes by 2-3 quartiles are rare, so large changes in the migration balance are rare.

Figure 6. *The relationship between the ZW index value for rural municipalities in 2022 and the value of this indicator in 2003*



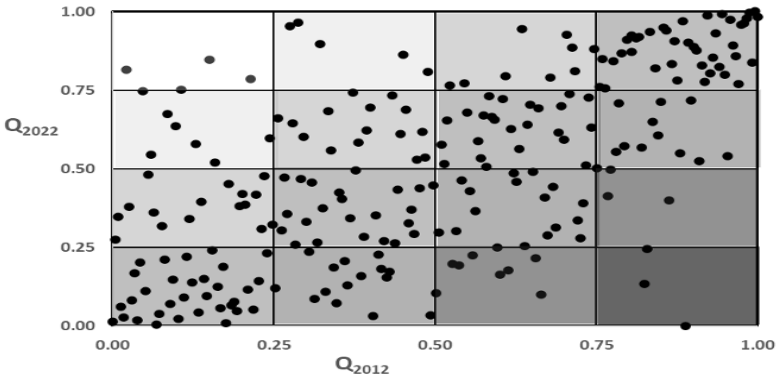
Source: *Authors' own research.*

Figure 7. *The relationship between the ZW index value for rural municipalities in 2022 and the value of this indicator in 2012*



Source: *Authors' own research.*

Figure 8. *The relationship between the ZW index value for rural municipalities in 2022 and the value of this indicator in 2021*



Source: *Authors' own research.*

The number of municipalities in the extreme quartiles is small, and rural municipalities rarely experience a sudden inflow or outflow. Changes in net migration are incremental, not abrupt. The stability of quartiles suggests the stability of governance outcomes. Municipalities maintaining their quartile position for 20 years demonstrate persistent governance patterns, both favorable and unfavorable. Changes of +/- 3 quartiles are rare, so radical improvements or deteriorations in governance outcomes rarely occur.

5. Conclusions

The results of the conducted analysis allow us to place the observed migration phenomena within the broader context of research on local development and the effectiveness of public governance. The overall findings are consistent with existing literature while also contributing new, elements through the use of long-term ranking and quartile analysis covering the entire population of municipalities.

The interpretation of migration as a behavioral indicator of local governance outcomes is directly supported by the obtained results. Municipalities' governance performance is more sustainable than short-term changes in the intensity of population inflow or outflow. In the long term, migration reflects the structural characteristics of local government units and the consequences of their management actions.

The study fills a gap related to the lack of systematic analyses of the stability of local government units' migration positions and demonstrates that migration is a sustainable, multidimensional, and time-comparable indicator for assessing the effects of local governance.

The results confirmed the first hypothesis, according to which the type of municipality differentiates its migration position in a lasting and systematic manner. Rural municipalities achieved a positive migration balance at lower rankings than urban and urban-rural municipalities, indicating a higher relative settlement attractiveness of this category of units throughout the analyzed period.

The second hypothesis was also confirmed, assuming high stability of the communes' migration position over time. Quartile analysis showed that most municipalities maintain the same or a close quartile position, regardless of the years compared. Large-scale transitions are exceptionally rare, confirming the structural stability of migration patterns.

From the perspective of local government practice, the obtained results emphasize the need for a differentiated approach to local policies. The long-term dominance of rural municipalities in migration rankings suggests that some maintain an effective governance model, while many urban and urban-rural municipalities experience persistent migration deficits. Quartile analysis indicates that improving migration status requires long-term, consistent action.

The results confirm that both the diversity between municipalities and the stability of migration patterns over time are enduring characteristics of the local government system. The study demonstrates that migration constitutes an important, stable, and multifaceted indicator for assessing governance performance, confirming the value of migration as an analytical and diagnostic tool in research on the effectiveness of local governance.

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