

Article

Two Decades of Free Movement: Assessing the Socio-Economic Factors of Emigration in Latvia

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Abstract

Emigration remains an important socio-economic challenge for Latvia, affecting labour market development, human capital availability, and long-term economic growth prospects. This study aims to quantitatively assess the relative importance of selected socio-economic factors influencing emigration in Latvia over the period 2004–2024 using an integrated index method. This research is based on an integrated index method, combining selected socio-economic, demographic, and labour market indicators into multidimensional and integral indices. The empirical analysis applies normalisation, weighting, and correlation analyses_ to identify the intensity of influence between groups of emigration-influencing factors and the emigration coefficient (number of emigrants per inhabitant). The results show that the selected factor groups are associated with emigration dynamics in Latvia. Among the analysed dimensions, labour market factors demonstrate the strongest influence intensity, indicating that employment opportunities, wage levels and labour market quality are among the key conditions affecting emigration. The findings also suggest that emigration should be interpreted not only as a response to socio-economic disparities, but also as a factor influencing economic growth potential through changes in human capital, demographic structure, and labour market capacity. This research contributes to the empirical literature by providing an integrated assessment framework for analysing emigration-related factors in a small open economy.

Keywords: emigration; labour market quality; economic growth; human capital; integrated index; socio-economic factors; Latvia; emigration determinants



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1. Introduction

1.1. Research Background and Relevance

Economic growth and migration theories have traditionally developed as separate research streams. Classical and endogenous growth studies mainly explain long-term economic development through capital accumulation, technological progress, human capital and productivity, without placing migration at the centre of the analytical framework (Lucas, 1988; Romer, 1990). In contrast, migration theories primarily focus on the determinants of population movement, including push–pull factors, individual characteristics, labour demand, wage differences and migration networks, without systematically integrating these mechanisms into economic growth models (Lee, 1966; Massey et al., 1993). However, in the context of contemporary economic development, their integration has

become conceptually necessary. Emigration is not only a demographic process but also an important socio-economic phenomenon that affects labour supply, human capital formation, demographic structure, and long-term economic growth potential (Atoyan et al., 2016; Docquier & Rapoport, 2012; Di Maria & Lazarova, 2012; Elsner, 2013). This issue is particularly relevant for small, medium- and high-income open economies in the EU with a negative natural growth rate and negative migration balance, such as Latvia, where emigration, together with negative natural population growth, has contributed to population decline, labour force shortages and increasing pressure on the sustainability of economic development.

Since Latvia regained independence, and especially after its accession to the European Union, emigration has become one of the key processes shaping the country's demographic and economic trajectory. Previous research on Latvia and the Baltic labour markets shows that post-enlargement emigration affected labour availability, the age and skill composition of the workforce, human capital and the long-term functioning of the labour market (Hazans & Philips, 2011; Hazans, 2013). These changes are important because modern growth theories increasingly emphasise the role of human capital, knowledge, innovation, and labour productivity as key drivers of long-term economic growth. Therefore, analyses of emigration in Latvia should not be limited to demographic statistics alone but should also be linked to broader economic growth and labour market processes.

1.2. Current State of Research

Previous studies show that emigration is closely related to economic and labour market conditions. In the literature, emigration is often analysed as a factor associated with labour market balance, income dynamics and the reallocation of labour between countries (Atoyan et al., 2016; Receptoğlu, 2022; Kasnauskienė & Kavalnis, 2021). Long-term emigration from Eastern European countries has been linked to both the growth prospects of the countries of origin and their income convergence with Western Europe (Atoyan et al., 2016). At the same time, this relationship is not one-directional. Economic conditions influence the intensity of emigration, while emigration itself changes the economic growth potential of the country of origin (Receptoğlu, 2022). Similar conclusions are drawn in studies analysing emigration in the context of “brain drain” and “economic gain”, where the effects of emigration depend on the country's level of development, the initial level of human capital, emigration intensity and the skill structure of migrants (Beine et al., 2008; Docquier & Rapoport, 2012; Dissanayake et al., 2025).

Recent research increasingly emphasises that emigration should be analysed in relation to economic growth factors, since migration decisions are shaped by a combination of individual, social, economic and institutional conditions, including income levels, unemployment, migration costs and labour market opportunities (Afonso et al., 2025; Sargent, 2024; Soto Nishimura & Czaika, 2024; Barišić et al., 2024). Other studies emphasise that emigration is linked to labour mobility, income dynamics, human capital redistribution and the development potential of countries (Dritsaki & Dritsaki, 2024; Benček & Schneiderheinze, 2024; Lanati & Thiele, 2024). The institutional and labour market perspective is further developed by studies showing that the effects of emigration depend on labour market structure, institutional quality, access to public services and economic uncertainty (Chassamboulli et al., 2024; Poledna et al., 2024; Adelakun et al., 2025).

However, the impact of emigration is not assessed uniformly in the scientific literature. On the one hand, labour mobility can help receiving countries adapt to demographic challenges and reduce labour shortages. On the other hand, for countries of origin, especially in Central and Eastern Europe, emigration may contribute to human capital loss and limit income convergence with more developed European Union countries (Atoyan

et al., 2016; Khan, 2021). These diverging conclusions indicate that the relationship between emigration, labour market quality and economic growth is complex, multidimensional and context-dependent. Labour market quality is a multidimensional concept that refers not only to the availability of jobs, but also to employment stability, wage adequacy, labour market security and working conditions (Cazes et al., 2015; Burchell et al., 2014). Previous research emphasises that labour market quality should not be assessed only through unemployment or employment rates, because income quality, job security and social protection are also important dimensions of decent and sustainable employment (Davoine et al., 2008; Sehnbruch et al., 2020). In this research, labour market quality is understood as the capacity of the labour market to provide stable, adequately paid and productive employment opportunities.

No less important is the accessibility of education, which determines human capital formation, and the availability and the potential mobility of individuals, particularly in the case of skilled migration and brain drain (Rokita-Poskart et al., 2025; Vega-Muñoz et al., 2025).

Demographic stability is closely related to migration processes, as emigration can reinforce population ageing and regional shrinkage, while ageing regions may become less attractive for labour immigration (Prenzel, 2021). Demographic change is important for economic development because natural population changes and migration affect labour supply, age structure and income distribution (d'Albis et al., 2021). Moreover, declines in the working-age population can weaken regional productive capacity and long-term growth potential (Nicolini & Roig, 2024).

The recent migration literature suggests that emigration is influenced not only by economic and demographic conditions but also by a broader set of political, institutional and social factors. Institutional quality has been identified as an important determinant of migration decisions, with indicators such as government effectiveness, rule of law, political stability and control of corruption shaping individuals' perceptions of the opportunities and prospects in their country of origin (Akça & Çelik, 2024; Çınar & Özbek, 2025; Powell, 2025). Building on this perspective, research has also highlighted the role of trust in government, democracy, political rights and civil liberties, suggesting that institutional and political environments may influence both migration aspirations and actual emigration behaviour (Aliyev & Gasimov, 2023; Helbling & Morgenstern, 2023; Gutmann et al., 2024). Furthermore, social conditions, including crime, violence and perceived insecurity, have been recognised as additional factors that may encourage individuals to seek better living conditions abroad (Chan et al., 2022; Paredes & Navarrete, 2025; Becker & Heidland, 2025).

Migration research highlights that migration decisions are influenced also by political, institutional and geopolitical factors that shape individuals' perceptions of security, stability and future opportunities (Helbling & Morgenstern, 2023; Aliyev & Gasimov, 2023). Accession to the European Union expanded freedom of movement and access to labour markets in other European Union Member States, thereby creating new opportunities and incentives for emigration. Furthermore, Latvia's position as a European Union and NATO border country neighbouring Russia and Belarus make migration processes particularly sensitive to regional, political and security developments. Recent studies suggest that geopolitical instability, armed conflicts, sanctions, political uncertainty and changes in governance conditions can affect migration aspirations and cross-border mobility patterns (Gutmann et al., 2024; Powell, 2025). In this context, events such as Brexit, migration pressure on the European Union's eastern border and Russia's full-scale invasion of Ukraine in 2022 have significantly influenced the broader migration environment in Europe and the Baltic region (Becker & Heidland, 2025; Chan et al., 2022).

Although these factors are acknowledged as potentially relevant determinants of emigration, the present study focuses specifically on socioeconomic factors measured through official statistical data.

1.3. The Latvian Context

In Latvia, emigration intensified after accession to the European Union and became particularly significant after the 2008–2009 financial crisis, when negative net migration increased sharply in response to worsening economic and labour market conditions (Hazans, 2013, 2016). The crisis was followed by a deterioration in labour market conditions, rising unemployment, falling income levels and a decline in living standards, all of which created strong economic incentives for emigration. In later years, labour market imbalances and relatively low wages remained among the key economic drivers of emigration.

Between 2004 and 2024, Latvia experienced a significant population decline, influenced by both negative migration balance and natural decrease. Recent studies confirm that demographic decline, emigration and population ageing remain important challenges for Latvia, affecting the size and structure of the working-age population and creating risks for future labour supply (Šipilova et al., 2025; Krumins et al., 2025). Between 1 January 2004 and 1 January 2024, Latvia's population decreased from approximately 2.29 million to 1.88 million inhabitants, representing a decline of about 18%. According to Eurostat, this was one of the largest relative population decreases among all European Union member states during the period (Eurostat, 2025).

During this period, emigration involved a substantial number of working-age people, which directly affected the availability of labour and the structure of human capital. Similar conclusions are found in recent studies on migration and economic development, which show that migration flows influence labour productivity, human capital formation and long-term economic growth potential (Kwilinski et al., 2022; Dissanayake et al., 2025). As a result, emigration became not only a demographic challenge but also a factor limiting the country's long-term growth potential. Labour shortages, population ageing, skills mismatches and insufficient productivity growth have created structural constraints for Latvia's economic development.

1.4. Research Gap, Aim and Contribution

Although the relationship between emigration, labour market quality and economic growth has been widely discussed in the literature, many studies focus on individual indicators such as wages, unemployment, income differences or demographic change (Mayda, 2010; Grogger & Hanson, 2011; Ortega & Peri, 2013; Docquier et al., 2014; Dustmann et al., 2015; Afonso et al., 2025). Less attention has been paid to integrated methods that combine several groups of emigration-influencing factors into a single empirical framework. This is particularly important in the Latvian context, where emigration is shaped by a combination of demographic stability, education accessibility, labour market quality and living standards.

Given the scale of population loss and its implications for labour supply, human capital, and demographic sustainability, Latvia provides a particularly relevant case for analysing how socioeconomic factors influence emigration and how these processes are linked to labour market sustainability and long-term economic growth.

The aim of this research is to quantitatively assess the relative importance of selected socio-economic factors influencing emigration in Latvia over the period 2004–2024 using an integrated index method. This research focuses on four groups of factors: demographic stability, education accessibility, labour market quality conditions and living standards.

By constructing multidimensional and integral indices, this research evaluates the overall intensity of these factors and analyses their relationship with emigration trends in Latvia.

Research questions (RQ) are as follows:

RQ1. What are the main socio-economic factors influencing emigration trends in Latvia over the period 2004–2024?

RQ2. Which group of emigration-influencing factors—demographic stability, education accessibility, labour market quality or living standards—has the strongest relationship with emigration dynamics in Latvia?

RQ3. To what extent does the integrated index of emigration-influencing factors reflect changes in emigration trends in Latvia?

The main contribution of this research lies in applying and adapting the integrated index method to the Latvian context to assess emigration-influencing factors as a multidimensional socio-economic phenomenon. The theoretical contribution of the study is that it combines demographic stability, education accessibility, labour market quality and living standards within a single analytical framework. The practical contribution is that the proposed method identifies the relative importance of different factor groups, providing evidence that can support policy measures aimed at reducing emigration and encouraging remigration.

2. Methodology

2.1. Research Design and Aim

The empirical part of the research is based on the theoretical assumption that human capital, education, research and development, labour market quality, and demographic structure are among the key drivers of economic growth. In this context, emigration is analysed not only as a demographic process, but also as a socio-economic phenomenon that affects the availability of labour, the formation of human capital and the long-term growth potential of the country.

2.2. Research Period and Case Selection

Latvia was selected as the case research because it has experienced significant emigration flows, population decline and labour market transformation since regaining independence and especially after joining the European Union. The empirical analysis covers the period from 2004 to 2024. The starting year was chosen because Latvia's accession to the European Union in 2004 marked an important turning point in labour mobility, providing gradual access to other EU labour markets and strengthening the role of the free movement of labour.

The selected period includes several important socio-economic phases, such as the rapid economic growth after EU accession, the financial and economic crisis of 2008–2010, the post-crisis recovery period, the COVID-19 pandemic and the subsequent period of economic uncertainty. However, these phases are not analysed separately or compared as distinct subperiods. Instead, they provide the broader socio-economic context for examining the overall relationship between emigration-related factors and emigration trends in Latvia over the entire period from 2004 to 2024.

2.3. Limitations

This study does not include political, institutional, and social factors such as democracy, political rights, civil liberties, government effectiveness, government capacity, and crime. Although these factors may influence emigration, this study focuses on socioeconomic determinants measured using official statistical data. Many political and institutional variables are based on perception-based or composite indices, which differ from the ob-

jective statistical data used in this research. Therefore, the results reflect the relationship between emigration and measurable socioeconomic conditions rather than all possible determinants of emigration.

Also, study does not include an additional traditional time-series regression model as a robustness check. This choice is related to the single-country research design and the limited number of annual observations for the period 2004–2024. While regression-based approaches are widely used in migration research, their application in this case would be constrained by the small sample size and the potential multicollinearity among the selected socioeconomic indicators. Future research could extend the analysis by applying time-series or panel regression methods using longer period, regional-level data or a comparative cross-country design.

2.4. Data Sources and Indicator Selection

The research uses annual statistical data from the Central Statistical Bureau of Latvia (Central Statistical Bureau of Latvia, 2026) for the period 2004–2024. The indicators were selected based on economic growth theories, migration theories and previous empirical studies on emigration, labour market conditions, and economic development. The authors grouped selected indicators into four dimensions: demographic stability, education accessibility, labour market conditions and living standards (Table 1).

Table 1. Groups of indicators used to assess emigration-influencing factors in Latvia.

Factor Group/Indicator	Unit of Measurement	Influence
Demographic stability		
Birth rate	Per 1000 inhabitants	Reduces
Mortality rate	Per 1000 inhabitants	Increases
Life expectancy	years	Reduces
Number of divorces	per 1000 inhabitants	Increases
Education accessibility		
Groups of indicators used to assess emigration-influencing factors in Latvia	per 10,000 inhabitants	Reduces
Number of vocational education students	per 10,000 inhabitants	Reduces
Share of population with secondary education	% of population	Increases
Labour market quality		
Unemployment rate	% of population aged 15–74	Increases
Employment rate	% of population aged 15–74	Reduces
Immigrants of working age	persons aged 15–74	Reduces
Emigrants of working age	persons aged 15–74	Increases
Involuntary part-time employment	% of employed persons	Increases
Average monthly net wage	EUR/month	Reduces
GDP per employed person	EUR, 2020 constant prices	Reduces
Livings standards		
Household disposable income	EUR per household member	Reduces
At-risk-of-poverty rate	% of population	Increases
Gini coefficient	%	Increases
GDP	EUR, 2020 constant prices	Reduces

Indicator direction was defined based on theory and expert judgement.

Authors classified indicators according to whether they represent emigration-pushing or emigration-reducing factors. Indicators that reflect better quality of life, higher income, stronger labour market opportunities, wider education accessibility, and greater demographic stability were treated as factors reducing emigration pressure. In contrast,

indicators reflecting socio-economic problems, such as unemployment, poverty, income inequality, mortality or labour market instability, were treated as factors increasing emigration pressure.

2.5. Integrated Index Method

The integrated index method was selected based on the objectives and data structure of this study. The analysis focuses on Latvia during the period 2004–2024, providing a limited number of annual observations. Furthermore, the aim of the study is to assess the combined influence of socioeconomic factor groups on emigration rather than the isolated effect of individual variables. The integrated index method allows multiple indicators to be standardised and combined into a single analytical framework, making it suitable for evaluating overall trends and relationships. Since the study examines only Latvia, a panel regression approach is not applicable. Therefore, the integrated index method is considered more appropriate for the scope and objectives of this research.

This method allows several socio-economic, demographic, labour market, education and living standard indicators to be combined into a single composite assessment (Levytska et al., 2020; Mulska et al., 2021). Such a method is appropriate when emigration-influencing factors are analysed not separately, but as a set of interrelated conditions.

The construction of the integrated index consists of six main stages: normalisation of indicators; determination of indicator weights within each group; calculation of weighted multidimensional indices; determination of weights for each factor group; assessment of calculation reliability; construction of the final integrated index.

This method makes it possible to evaluate both the relative importance of individual indicators and the overall intensity of the selected groups of emigration-influencing factors.

2.5.1. Indicator Normalisation

Since the selected indicators are measured in different units, they were first transformed into comparable values using normalisation. Normalisation was applied to bring all indicators into a common scale and to make them suitable for aggregation.

For indicators that reduce emigration pressure, where a higher value reflects a more favourable socio-economic situation, normalisation was performed as follows:

$$Z_{ij} = \frac{x_{ij} - x_{\min}}{x_{\max} - x_{\min}}, \quad (1)$$

For indicators that increase emigration pressure, where a higher value reflects a less favourable socio-economic situation, the reverse normalisation formula was applied:

$$Z_{ij} = \frac{x_{\max} - x_{ij}}{x_{\max} - x_{\min}}, \quad (2)$$

where Z_{ij} is the normalised value of indicator i in year j , x_{ij} is the original value of the indicator, $x_{\min}$ is the minimum value of the indicator during the analysed period, and $x_{\max}$ is the maximum value of the indicator during the analysed period.

This transformation ensures that all indicators are interpreted in the same direction: higher normalised values indicate a stronger expression of the respective factor in the overall index.

2.5.2. Construction of the Correlation Matrix

After normalisation, a correlation matrix was constructed for each group of indicators:

$$R_k = \begin{pmatrix} r_{11} & r_{12} & \dots & r_{1n} \\ r_{21} & r_{22} & \dots & r_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ r_{n1} & r_{n2} & \dots & r_{nn} \end{pmatrix}, \quad (3)$$

where R_k is the correlation matrix of the k -th group of indicators, and r_{ni} is the pairwise correlation coefficient between the n -th and i -th indicators within the corresponding group.

2.5.3. Determination of Indicator Weights Within Each Group

After normalisation, weights were assigned to indicators within each group. The sum of the elements in each row of the correlation matrix was calculated as follows:

$$a_i = \sum_{j=1}^n r_{ij}, \quad (4)$$

where a_i is the sum of the elements in the i -th row of the correlation matrix.

The total sum of all row sums was then calculated:

$$a_t = \sum_{i=1}^n a_i. \quad (5)$$

The weight of each indicator within the corresponding group was determined as follows:

$$w_{ki} = \frac{a_i}{a_t}, \quad (6)$$

where w_{ki} is the weight of the i -th indicator in the k -th group, a_i is the row sum of the i -th indicator, and a_t is the total sum of all row sums.

2.5.4. Calculation of Weighted Multidimensional Indices

For each group of indicators, a weighted multidimensional index was calculated:

$$I_{kj} = \sum_{i=1}^n w_{ki} z_{ij}, \quad (7)$$

where I_{kj} is the weighted multidimensional index of the k group in year j , w_{ki} is the weight of indicator i in group k , and z_{ij} is the normalised value of indicator i in year j .

2.5.5. Determination of Factor Group Weights

The weights of the factor groups were determined on the basis of the relative contribution of each multidimensional index to the total structure of emigration-influencing factors:

$$W_k = \frac{\bar{I}_k}{\sum_{k=1}^m \bar{I}_k}, \quad (8)$$

where W_k is the weight of the k factor group, $\bar{I}_k$ is the average value of the multidimensional index of the k group over the analysed period, and m the number of factor groups.

2.6. Construction of the Integrated Index

In the final stage, the weighted multidimensional indices were combined into one integrated index. This intermediate step was necessary because the selected indicators do not have the same direction of interpretation: some indicators reduce emigration pressure, whereas others increase it. By first constructing multidimensional indices within each factor

group, the indicators were transformed into a consistent analytical framework, allowing them to be combined into a single integrated index that reflects the overall intensity of emigration-influencing socio-economic factors. The integrated index was calculated as follows:

$$Y_j = \sum_{k=1}^m W_k I_{kj}, \quad (9)$$

where Y_j is the value of the integrated index in year j , W_k is the weight of the k factor group, and I_{kj} is the weighted multidimensional index of the k group in year j .

The integrated index reflects the overall intensity of socio-economic factors influencing emigration. A higher value of the index indicates a stronger combined expression of emigration-influencing conditions, while a lower value indicates a weaker intensity of these conditions.

The integrated index does not directly measure the number of emigrants. Instead, it reflects the combined intensity of selected socio-economic conditions that may influence emigration trends.

2.7. Correlation Analysis

To assess the relationship between the constructed indices and emigration dynamics, and to calculate the weights of the indicators, a correlation analysis was applied. The correlation coefficients were calculated between the emigration coefficient (number of emigrants per one inhabitant) and each group of emigration-influencing factors, as well as between the emigration coefficient and the final integrated index.

Correlation analysis was conducted using Pearson's correlation coefficient. The correlation coefficient was interpreted within the range from -1 to $+1$, where values closer to ± 1 indicate a stronger linear relationship. The statistical significance of the correlation coefficients was assessed at the 95% confidence level, corresponding to a significance level of $p < 0.05$.

All calculations were performed in Microsoft Excel. The dataset consisted of annual statistical indicators for Latvia covering the period 2004–2024. The data were obtained from publicly available sources of the Central Statistical Bureau of Latvia. The dataset was checked for outliers, and no extreme observations were identified; therefore, all observations were included in the analysis.

3. Results

3.1. Weights of Emigration-Influencing Indicators Within Factor Groups

The calculated weights of the selected indicators are presented in Table 2. The results show that, within the demographic stability group, the highest weight was assigned to the birth rate, which accounted for 28.37% of the group. In the education accessibility group, the highest weight was assigned to the number of higher-education students per 10,000 inhabitants, reaching 40.27%. Within the labour market group, the highest weight was identified for the employment rate of the working-age population, which accounted for 15.86%. In the living standards group, the highest weight was assigned to the Gini coefficient, reaching 28.36%.

These results indicate that the relative importance of indicators differs across the analysed groups. In the demographic dimension, population renewal plays a central role, while in the education dimension, higher education is the most important component of human capital formation. In the labour market group, employment opportunities are the most influential indicator, whereas in the living standards group, income inequality has the highest relative importance.

Table 2. Weights of emigration-influencing indicators within factor groups, %.

Factor Group/Indicator	Weight, %
Demographic stability	100.00
Birth rate per 1000 inhabitants	28.37
Mortality rate per 1000 inhabitants	23.06
Life expectancy, years	24.01
Number of divorces per 1000 inhabitants	24.57
Education accessibility	100.00
Number of higher education students per 10,000 inhabitants	40.27
Number of vocational education students per 10,000 inhabitants	36.13
Share of population with general secondary education, %	23.60
Labour market	100.00
Unemployment rate, aged 15–74, %	13.81
Number of immigrants of working age 15–74	14.13
Number of emigrants of working age 15–74	13.16
Employment rate, aged 15–74, %	15.86
Share of involuntary part-time employees, %	15.15
Average monthly net wage, EUR	12.85
GDP per employed person, EUR (2020 constant prices)	15.05
Living standards	100.00
Household disposable income per household member, EUR/month	26.00
At-risk-of-poverty rate	17.80
Gini coefficient, %	28.36
GDP, EUR (2020 constant prices)	27.85

Author's calculations based on data from the Central Statistical Bureau of Latvia.

3.2. Weighted Multidimensional Indices of Emigration-Influencing Factors

The weighted multidimensional index reflects the overall direction and intensity of each group of emigration-influencing factors. The results show that the highest intensity was identified for education accessibility, which accounted for 28.21% of the overall multidimensional structure. This was followed by living standards, with 27.18%, and labour market conditions, with 26.98%. The lowest intensity was identified for demographic stability, which accounted for 17.63%.

These findings suggest that education accessibility, living standards and labour market conditions are the most important dimensions in explaining the overall intensity of emigration-influencing factors in Latvia. Although demographic stability is also relevant, its relative contribution is lower compared with the other groups. Therefore, emigration in Latvia should be interpreted as a multidimensional process driven primarily by human capital, welfare and labour market-related conditions.

3.3. Integrated Index of Emigration-Influencing Factors

Although separate multidimensional indices allow the intensity of specific groups of emigration-influencing factors to be assessed, they do not provide a complete picture of the combined effect of all factors. Therefore, the multidimensional indices were combined into a single integrated index. The integrated index reflects the overall intensity of socio-economic conditions that may influence emigration trends in Latvia.

The dynamics of the integrated index show a downward trend during the analysed period (Figure 1). The highest value of the integrated index was recorded in 2011, reaching 0.8355. This period coincided with the highest number of emigrants in Latvia.

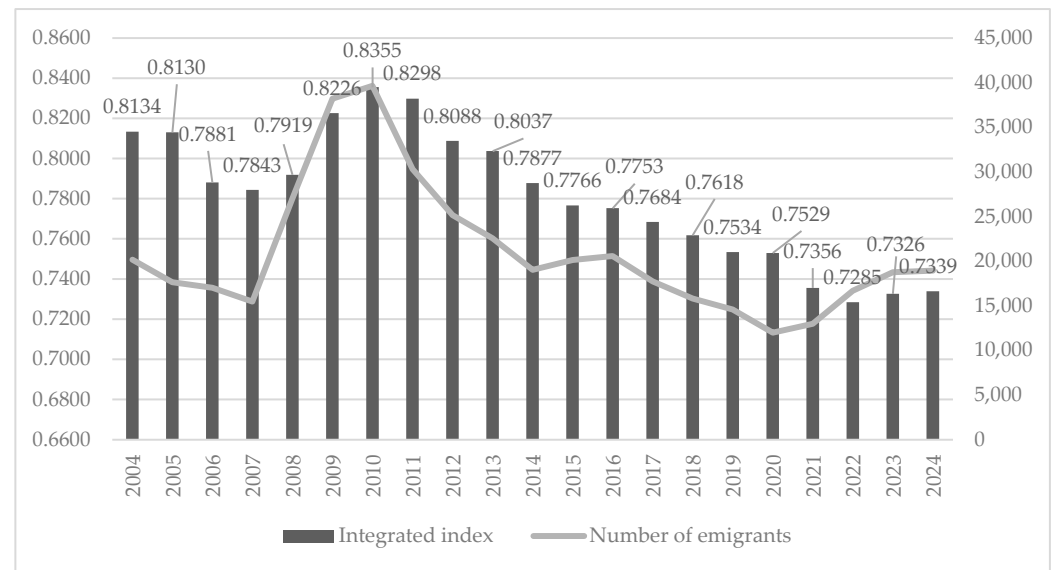


Figure 1. Changes in the integrated index of emigration-influencing factors in Latvia and number of emigrants, 2010–2023.

The increase in the index during this period can be explained by the consequences of the economic crisis, when unemployment increased, disposable income declined and the overall socio-economic situation deteriorated. Previous studies on Latvia and the Baltic countries show that the 2008–2010 crisis was followed by a sharp deterioration in labour market conditions and a new wave of emigration, driven by rising unemployment and falling household income (Hazans, 2016; ILO, 2016). In subsequent years, both the value of the integrated index and the number of emigrants gradually decreased, indicating a weakening of emigration-increasing conditions, which is consistent with evidence that emigration from Latvia slowed after peaking during the economic crisis (OECD, 2016).

Since the dynamics of the integrated index and the number of emigrants show similar tendencies, the results suggest that the selected socio-economic and economic growth-related indicators are appropriate for assessing the intensity of emigration-influencing factors. However, the integrated index should not be interpreted as a direct measure of emigration volume. Rather, it reflects the combined intensity of conditions that may contribute to emigration.

3.4. Correlation Analysis of Emigration-Influencing Factor Groups and the Emigration Coefficient

To identify the dominant groups of factors influencing emigration in Latvia, correlation coefficients were calculated between the constructed factor group indices and the emigration coefficient (Table 3).

Table 3. Correlation between emigration-influencing factor groups and the emigration coefficient.

Relationship	Correlation Coefficient
Integrated index and emigration coefficient, Y_j-M_j	0.6369
Demographic stability and emigration coefficient, $I1j-M_j$	0.2434
Education accessibility and emigration coefficient, $I2j-M_j$	0.1759
Labour market and emigration coefficient, $I3j-M_j$	0.6805
Living standards and emigration coefficient, $I4j-M_j$	0.1993

The correlation analysis confirms that there is a correlation between the selected factor groups and emigration dynamics in Latvia. The correlation between the integrated index and the emigration coefficient is 0.6369, indicating that labour market conditions are

strongly associated with emigration intensity. This means that the combined intensity of selected socio-economic factors is associated with changes in emigration dynamics.

Among the separate factor groups, the strongest correlation was identified for the labour market group, with a correlation coefficient of 0.680. This indicates that labour market quality, employment opportunities, wage levels and labour market stability are among the most important factors associated with emigration from Latvia. The correlation coefficients for demographic stability, education accessibility and living standards are weaker, suggesting that these dimensions are relevant but less directly associated with emigration dynamics than labour market conditions.

Overall, the empirical results confirm that emigration is closely related to socio-economic conditions and that labour market factors play a central role in explaining emigration trends in Latvia.

4. Discussion

The results of this research confirm that emigration in Latvia is closely related to labour market quality, living standards, demographic stability and human capital formation. The finding that labour market factors show the strongest relationship with emigration dynamics is consistent with previous studies that identify wages, unemployment and employment opportunities as key determinants of migration decisions. Migration flows are strongly influenced by income levels, unemployment and labour market opportunities in both origin and destination countries (Mayda, 2010). Similarly, higher income levels and better employment opportunities in destination countries increase their attractiveness to potential migrants (Ortega & Peri, 2013). Studies on returns to skills also show that highly educated and skilled individuals are more likely to migrate to countries where their qualifications are better rewarded (Grogger & Hanson, 2011). These findings are consistent with the results of this research, which show that labour market conditions are the most important factor group associated with emigration dynamics in Latvia.

The importance of labour market conditions is also supported by studies that analyse migration not only as an individual decision, but also as a response to broader economic and institutional conditions. Economic and labour market factors first influence the aspiration to migrate and then determine whether this aspiration turns into actual migration (Docquier et al., 2014). Therefore, emigration cannot be explained by a single indicator, such as unemployment or wages, but should be interpreted as the result of several interrelated factors. This supports the methodological method used in this research, where an integrated index is applied to assess the combined intensity of emigration-influencing factors. The results also correspond to the view that migration may become a self-reinforcing process, as existing diaspora networks reduce migration costs and risks and make future emigration easier (Beine et al., 2011). This means that improvements in labour market conditions may not immediately reduce emigration if stable social and economic ties abroad have already been established.

At the same time, the literature shows that the impact of emigration on the economic growth of origin countries is not uniform. On the one hand, emigration may reduce unemployment pressure in the short term and contribute to wage growth among remaining workers, especially in countries with high unemployment or a labour market surplus (Elsner, 2013). A similar conclusion is reached in studies showing that labour outflows can change labour market equilibrium and influence wage dynamics in the country of origin (Dustmann et al., 2015). On the other hand, in the long term, labour force decline may restrict business development, reduce the availability of human capital and limit productivity growth. These conclusions are particularly relevant for Latvia, where the results of this research show a close relationship between labour market factors and emigration.

This suggests that labour market quality affects not only migration dynamics, but also the long-term economic growth potential of the country.

From a long-term perspective, the issue of human capital loss is especially important. Previous studies show that the emigration of highly qualified workers may create the risk of brain drain, as origin countries lose part of their educated and productive population (Docquier & Rapoport, 2012). Other studies indicate that skilled emigration may have a dual effect: under certain conditions, it may increase incentives to acquire education, but when emigration intensity is too high, the overall effect on human capital becomes negative (Beine et al., 2008). More recent research also suggests that the outflow of young and educated people may reduce entrepreneurship and the creation of new firms in origin regions (Anelli et al., 2023). In this context, the empirical results of this research contribute to the existing literature by showing that, in the Latvian case, labour market factors are closely associated with emigration dynamics and may influence the country's ability to maintain productivity, innovation capacity and demographic balance in the long run.

5. Conclusions

This research assessed the relationship between emigration-influencing socio-economic factors and emigration dynamics in Latvia by applying a multidimensional and integrated index method. The empirical results show that the selected factor groups are associated with emigration trends, with labour market quality demonstrating the strongest relationship with the emigration coefficient. The correlation coefficient between labour market quality and the emigration coefficient was 0.6805, indicating a strong positive relationship. This confirms that employment opportunities, wage levels, labour market stability and the quality of labour market participation are among the most important factors influencing emigration from Latvia and supporting remigration.

The weighted multidimensional indices show that the highest relative intensity was identified for education accessibility, with 28.21%, followed by living standards, with 27.18%, and labour market quality, with 26.98%. The lowest relative intensity was observed for demographic stability, accounting for 17.63%. These results indicate that education accessibility, living standards and labour market quality form the largest components of the overall structure of emigration-influencing factors in Latvia. In practical terms, this means that changes in access to education, income and welfare conditions, as well as labour market opportunities, contribute more strongly to the overall integrated index than demographic stability indicators. Therefore, emigration pressure in Latvia is shaped not by one isolated factor, but by a combination of human capital formation, socio-economic well-being and labour market conditions.

The integrated index reached its highest value in 2011, amounting to 0.8355, which coincided with the highest emigration intensity during the analysed period. This reflects the impact of the economic crisis, when unemployment increased, disposable income declined and socio-economic conditions worsened. In the following years, the gradual decline in the integrated index and the decrease in the number of emigrants indicate a weakening of emigration-promoting conditions.

The findings suggest that emigration should be interpreted not only as a demographic challenge, but also as an important factor affecting Latvia's long-term economic growth potential. The correlation between the integrated index and the emigration coefficient was 0.6369, confirming that the combined intensity of socio-economic factors is substantially associated with emigration dynamics. By reducing the availability of labour and human capital, emigration may influence productivity, innovation capacity, demographic balance and the sustainability of economic development. Therefore, policies aimed at reducing emigration and supporting remigration should focus on improving labour market quality,

increasing wage competitiveness, reducing socio-economic inequality and strengthening human capital development.

Future research could further extend the proposed integrated index method by applying it to other Baltic or Central and Eastern European countries. This would allow the results obtained for Latvia to be compared in a broader regional context and would strengthen the applicability of the developed methodological framework. In addition, future studies could include regional-level data or additional indicators related to remigration, public services and housing affordability to provide a more detailed understanding of emigration-related processes.

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