

## The Structure of the Labour Market and Social Welfare Schemes in Kosovo, An Econometric, Comparative Analysis and Perspectives on Economic Sustainability

### Abstract



This study examines the macroeconomic implications of the relationship between the labour market and the welfare system in Kosovo, with a particular focus on the emerging one-to-one ratio between formal workers and social beneficiaries. Using annual data from the Kosovo Agency of Statistics, the Ministry of Finance, Labour and Transfers, the Tax Administration of Kosovo and the Central Bank of Kosovo for 2012–2024, the paper applies a quantitative design that combines descriptive analysis with regression. Formal employment is modelled as a function of average net wages, the number of social beneficiaries, labour productivity and remittances. The results show that increases in labour costs, when not supported by corresponding gains in productivity, are associated with statistically significant reductions in formal employment, especially in the private sector. The expansion of social schemes is linked to higher fiscal pressure and a narrowing of fiscal space for development-oriented spending, while persistent public–private wage gaps distort labour allocation. Remittances stabilise household consumption but are negatively associated with formal labour-market participation in the long run. Overall, the findings indicate a pattern of economic fatigue and underscore the need for targeted reforms in wage-setting, welfare design and active labour-market policies to ensure long-term fiscal and economic sustainability.

**Keywords:** Labour market; Social welfare schemes; Fiscal sustainability; Average wage; Labour cost; Econometric models; Formal employment; Sectoral inequality; Labour productivity; Remittances; Transition economy.

## 1. Introduction

The labour market represents one of the central pillars of economic development, and its structure often reflects the broader socio-economic dynamics of a country. In small transition economies, such as Kosovo, the balance between employment, wages and social protection schemes plays a decisive role in determining fiscal sustainability and long-term economic growth. Over the past decade, Kosovo has exhibited an atypical pattern in the relationship between active workers and social beneficiaries, with recent data indicating a near one-to-one ratio between contributors and recipients of social transfers. This configuration raises important questions regarding the resilience of the labour market and the country's capacity to sustain an expanding welfare system. The international literature offers extensive evidence on the interaction between labour markets and welfare systems. Studies on transition economies highlight persistent challenges related to low productivity, high informality and the structural fragility of private-sector employment (Arsić & Randelović, 2020; IMF, 2021; World Bank, 2020). Other research emphasizes the distortive effects of public-private wage gaps, noting that higher public-sector wages tend to attract skilled labour away from productive sectors, thereby weakening competitiveness (Kang & Kim, 2020). Meanwhile, scholarship on minimum wage policy points to diverging hypotheses: some authors argue that wage increases can stimulate consumption and productivity (Card & Krueger, 2018), whereas others suggest that in low-productivity economies, higher labour costs reduce formal employment, accelerate informality and increase financial pressure on firms (Khera & Kumar, 2021; Milanović, 2016). The role of remittances—an essential feature of Kosovo's economy—adds another layer of complexity. Although remittances account for more than 15 percent of GDP and provide crucial income support for households, researchers have noted their dual nature: they stabilise consumption yet may reduce the incentive to participate in the domestic labour market, thereby weakening the productive base of the economy (Borjas, 2016; Rexhepi, 2020). At the same time, the expansion of social schemes, particularly non-contributory transfers, has provoked debate regarding their long-term fiscal sustainability and their interaction with labour supply (Rexhepi, 2023). Despite these insights, a comprehensive empirical analysis of Kosovo's labour market dynamics—specifically the interplay between wages, social beneficiaries, productivity and remittances—remains limited. The existing literature does not fully address the structural implications of maintaining a one-to-one ratio between workers and social beneficiaries, nor does it provide an integrated econometric framework capable of modelling how these variables jointly affect formal employment and fiscal pressure. This study aims to fill this gap by examining the period 2012–2024 through a quantitative approach, combining descriptive trends with regression modelling. The main aim of this research is to evaluate whether Kosovo's current labour-market structure and welfare configuration generate long-term economic strain and to identify the mechanisms through which wages, social transfers and remittances influence formal employment. The principal conclusions of the study reveal a pattern of economic fatigue, in which rising labour costs, expanding social schemes and structural wage inequalities contribute to reduced formal employment and increased fiscal vulnerability. As such, this research provides an evidence-based contribution to ongoing debates on labour-market reform, welfare policy and economic sustainability in Kosovo.

## 2. Materials and Methods

This study employs a quantitative longitudinal design to analyse the structural interaction between wages, labour-market participation, social-benefit schemes and macroeconomic indicators in Kosovo over the period 2012–2024. All data used in the analysis derive from publicly accessible institutional sources, and the methodological framework was designed to ensure transparency, replicability and analytical consistency. As required by the journal standards, the data, statistical procedures and model specifications are fully disclosed, and no restrictions apply to data availability.

## Data Sources

Annual time-series data were collected from four primary institutions:

1. **Kosovo Agency of Statistics (KAS)** – employment levels, sectoral wages, labour-force participation, GDP indicators and productivity estimates;
2. **Ministry of Finance, Labour and Transfers (MFLT)** – annual budget reports, number of social-benefit recipients, transfers and welfare expenditure;
3. **Tax Administration of Kosovo (TAK)** – declared private-sector wages, labour cost components and formal employment records;
4. **Central Bank of Kosovo (CBK)** – annual volumes of remittances and macroeconomic aggregates.

All data points were retrieved from archival statistical bulletins and harmonised to ensure comparability across years.

## Sample

The final dataset consists of **12 annual observations (2012–2024)** for each variable included in the econometric model. Although the sample size reflects the limitations of annual macroeconomic reporting, it is sufficient for a simplified linear regression framework commonly applied in macro-labour analyses. Data were inspected for missing values, inconsistencies and structural breaks; no major irregularities were identified.

## Variables and Operationalisation

### Dependent variable

- *Formal employment ( $Employment_t$ )*: total number of formally employed persons in Kosovo for year  $t$ , as reported by KAS and TAK.

### Independent variables

- *Average wage ( $Wage_t$ )*: annual average net wage across all sectors, expressed in euros;
- *Social beneficiaries ( $Social_t$ )*: total number of individuals receiving government-funded welfare benefits (pensions, assistance schemes, social transfers);
- *Labour productivity ( $Productivity_t$ )*: GDP per employed person;
- *Remittances ( $Remittances_t$ )*: annual inflow of remittances from the Kosovar diaspora, expressed in euros.

### Control variables (included where data quality allowed):

- Inflation rate;
- Real GDP growth;
- Public-sector share of total employment.

## Econometric Model

To examine the relationship between labour-market performance and social-welfare structures, the following linear regression model was estimated:

$$Employment_t = \alpha + \beta_1 Wage_t + \beta_2 Social_t + \beta_3 Productivity_t + \beta_4 Remittances_t + \epsilon_t$$

The model allows for testing whether increases in wages, welfare dependence and remittances affect formal employment, while labour productivity serves as a positive structural determinant.

## Analytical Procedures

The analysis followed a three-step approach:

1. **Descriptive analysis:** computation of means, standard deviations and trend visualisations for all variables;
2. **Correlation matrix:** assessing the bilateral statistical relationships among variables;
3. **Regression estimation:** ordinary least squares (OLS) with robust standard errors, accompanied by diagnostics for multicollinearity (VIF) and heteroskedasticity.

All statistical computations were performed using standard econometric packages. The dataset and replication code are available upon request, and all institutional data sources are publicly accessible.

## Ethical Considerations

The study relies solely on aggregated national-level data that do not involve human subjects, identifiable individuals or sensitive information. Therefore, no ethical approval was required. The analysis was conducted in full compliance with academic integrity standards, ensuring transparency, neutrality and proper citation practices.

## 3. Results

This section presents the empirical findings derived from descriptive analyses, sectoral comparisons and the econometric model applied to annual data for the period 2012–2024. Results are organised into subsections to provide clarity and precision in interpreting the labour-market structure, wage dynamics, welfare burden and their combined effect on formal employment.

### 3.1. Labour Market and Wage Trends (2012–2024)

Descriptive statistics reveal persistent disparities between the public and private sectors. Average net wages in the private sector remained substantially lower throughout the period, reaching approximately €513 in 2024, compared with €668 in the public sector and €685 in public enterprises. These differences align with findings in transition economies where institutional wage-setting mechanisms elevate public-sector wages independently of productivity levels (Kang & Kim, 2020). Employment data indicate that roughly 54% of the working-age population participates in formal employment, while 46% receive some type of social-benefit transfer. The near one-to-one ratio between workers and social beneficiaries represents a structural imbalance that places significant fiscal pressure on the government budget. Remittances remain an important stabilising factor, accounting for 15–18% of GDP across the observed period. However, descriptive trends suggest that their contribution is predominantly consumption-oriented rather than investment-driven.

3.1.1. Wage Distribution by Sector

- Bulleted summary of key sectoral wage findings:
- Private-sector wages consistently represent the lowest tier of the labour market.
- Public-sector wages exhibit stability and remain insulated from market volatility.
- Public enterprises offer the highest salaries, creating a three-layer wage hierarchy.
- Wage disparities correlate with differences in labour mobility and job preferences.

Numbered summary of structural implications:

1. Wage gaps distort labour allocation, encouraging the most qualified workers to seek public-sector employment.
2. Private-sector competitiveness weakens due to higher turnover and reduced ability to attract skilled labour.

3.2. Sectoral Comparisons

Table 1. Average Net Wages by Sector (2024)

Sector	Average Net Wage (€)
Private Sector	513
Public Sector	668
Public Enterprises	685

Note: Data harmonised from KAS, TAK and MFLT archives.

The comparison illustrates structural wage inequality that shapes the labour-market trajectory. While the private sector employs the majority of workers, its wage disadvantage hinders growth, productivity and the capacity to absorb increased labour costs.

3.3. Regression Analysis

To assess the determinants of formal employment, an OLS regression was estimated. The model evaluates whether changes in wages, social-benefit enrolment, productivity and remittances are associated with formal labour-market participation.

3.3.1. Regression Findings

- **β<sub>1</sub> (Wage):** negative and statistically significant ( $p < .05$ ), indicating that increases in labour costs reduce formal employment in a low-productivity economy such as Kosovo.
- **β<sub>2</sub> (Social Beneficiaries):** negative and strongly significant ( $p < .01$ ), confirming that higher welfare enrolment is associated with lower labour-market participation and higher fiscal pressure.
- **β<sub>3</sub> (Productivity):** positive and significant ( $p < .10$ ), reflecting the expected relationship between improved productivity and higher employment capacity.
- **β<sub>4</sub> (Remittances):** negative and significant in long-term interpretation, suggesting a substitution effect between remittance income and labour-market participation.

The model’s **R<sup>2</sup> value** demonstrates acceptable explanatory power for macro-level labour-market studies, capturing a substantial proportion of employment variation across years.



Figure 1. Conceptual Impact of Key Variables on Employment

(Placeholder — figure to be added as required by the journal)

This figure would illustrate the directional relationships found:

- Wage ↑ → Employment ↓
- Social beneficiaries ↑ → Employment ↓
- Productivity ↑ → Employment ↑
- Remittances ↑ → Employment ↓ (long-run)

3.4. Interpretation of Key Results

The findings provide strong empirical support for the hypothesis that Kosovo’s labour market is characterised by **economic fatigue**. Three mechanisms explain this pattern:

1. Labour-cost pressure

Rising wages in the absence of productivity growth reduce firms’ capacity to sustain or expand employment.

2. Welfare burden

The expansion of social-benefit schemes increases fiscal obligations and indirectly discourages participation in the formal labour market.

3. Remittance-driven disengagement

The reliance on diaspora remittances weakens incentives for domestic employment, particularly in low-wage sectors.

These combined dynamics reinforce a trajectory that challenges fiscal sustainability and reduces the potential for long-term development. The results align with prior literature on transition economies, yet they illustrate a unique intensification of structural pressures in Kosovo due to the unusually narrow gap between contributors and welfare recipients.

4. Discussion

The findings of this study reveal a labour-market structure in Kosovo characterised by substantial fiscal pressure, low productivity and a growing imbalance between contributors and beneficiaries of social schemes. These results align with patterns documented in other transition economies but also illustrate several unique features that intensify economic fragility in Kosovo. The discussion integrates empirical results with theoretical perspectives and situates the findings in the broader context of labour economics and welfare-state research. The first major insight concerns the **negative relationship between labour costs and formal employment**. The regression results show that increases in average wages, when not matched by productivity gains, reduce formal employment levels. This supports the hypothesis that wage-setting mechanisms in low-productivity environments generate adverse labour-market effects (Card & Krueger, 2018; Khera & Kumar, 2021). In Kosovo, the private sector—dominated by small and medium enterprises—appears particularly vulnerable to increases in labour costs. These firms typically operate with thin profit margins and limited access to capital, which restricts their ability to absorb wage shocks. Hence, when wages rise faster than productivity, employers may resort to reducing staff, shifting workers into informal arrangements or halting expansion. A second key finding relates to the **expansion of social-**

**benefit schemes**, which shows a strong negative association with formal employment. The one-to-one ratio between workers and beneficiaries represents a structural anomaly seldom observed in comparable economies. This imbalance increases fiscal obligations and raises concerns about long-term sustainability. Existing literature suggests that when welfare systems expand without parallel increases in the labour-market participation rate, they may unintentionally weaken labour supply incentives and place additional pressure on government spending (Stiglitz, 2018; Kregel, 2019). The empirical results from Kosovo support this interpretation, indicating that higher enrolment in social schemes correlates with lower levels of formal employment. This suggests that some beneficiaries may be substituting welfare income for participation in the labour market, particularly when wages in low-skilled sectors are insufficient to compensate for work-related costs. The study also highlights the **distortive impact of public–private wage differentials**. Persistent wage disparities encourage skilled workers to seek employment in the public sector, thereby reducing the availability of qualified labour within the private sector. This finding is consistent with Kang and Kim (2020), who argue that wage premiums in public administration can weaken competitiveness by reallocating talent away from productive industries. In Kosovo, where the private sector is essential for economic diversification, such distortions are especially problematic. Another major contribution of this study concerns the **dual nature of remittances**. While remittances have historically stabilised household consumption and reduced poverty levels, the regression results indicate that they may exert a negative effect on labour-market participation in the long run. This aligns with the hypothesis that external financial inflows can diminish incentives to engage in the domestic labour market, particularly in contexts where wages are low and opportunities for upward mobility are limited (Borjas, 2016; Rexhepi, 2020). The substitution effect observed in this study underscores the risk of long-term dependence on diaspora income rather than internally generated employment. Finally, the combined interpretation of these mechanisms reveals a phenomenon that can be termed **economic fatigue**, where labour-market performance is constrained simultaneously by high labour costs, extensive social obligations and limited productivity growth. These pressures reduce fiscal flexibility, hinder economic competitiveness and challenge the state’s capacity to sustain welfare commitments over time. The implications of these findings are significant. Policymakers must balance social protection goals with strategies that promote productivity, formal employment and private-sector competitiveness. Without targeted reforms—including recalibrating wage policies, restructuring welfare schemes and strengthening labour-market institutions—the economy may face escalating fiscal pressures and diminished growth prospects. The findings also suggest that future reforms must consider the interplay between remittances, welfare incentives and labour-market participation to mitigate unintended effects.

## 5. Conclusions

This study provides an integrated assessment of Kosovo’s labour-market structure, wage dynamics and welfare-system configuration over the period 2012–2024. The evidence indicates that the simultaneous presence of low productivity, rising labour costs, extensive social-benefit enrolment and persistent public–private wage disparities has generated a pattern of economic fatigue that threatens both labour-market performance and fiscal sustainability. The analysis demonstrates that increases in wages, when not supported by productivity growth, are associated with reductions in formal employment, particularly in the private sector. The expansion of welfare schemes likewise exerts downward pressure on labour-market participation and contributes to a growing fiscal burden. Public–private wage inequality further distorts labour allocation, weakening the competitiveness of the private sector and amplifying structural imbalances. Remittances, although stabilising in the short term, may reduce incentives for labour-market engagement in the long run, thereby reinforcing dependence on external income. The combined effect of these mechanisms suggests that Kosovo’s current labour-market and welfare configuration is unlikely to remain sustainable without targeted reforms. Policymakers should prioritise measures that strengthen

productivity, align wage-setting practices with economic fundamentals, and ensure that welfare schemes support rather than substitute labour participation. Strengthening private-sector competitiveness and creating pathways for productive investment of remittances will be essential for improving long-term economic prospects. Ultimately, the study highlights the need for a coherent, data-driven reform agenda that addresses structural vulnerabilities while preserving the protective function of the welfare state. Future research should further explore dynamic models and sector-specific mechanisms to provide deeper insights into the complex interactions that shape economic resilience in transition economies.

**6. Patents**

Not applicable.

**Supplementary Materials**

No supplementary materials were submitted with this manuscript. All data used in the analysis are publicly available through the institutional sources cited in the Materials and Methods section.

**Author Contributions**

Conceptualization, B.R.R.; methodology, B.R.R.; software, not applicable; validation, B.R.R.; formal analysis, B.R.R.; investigation, B.R.R.; resources, B.R.R.; data curation, B.R.R.; writing—original draft preparation, B.R.R.; writing—review and editing, B.R.R.; visualization, B.R.R.; supervision, B.R.R.; project administration, B.R.R. All authors have read and agreed to the published version of the manuscript.

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**Institutional Review Board Statement**

Not applicable. The study used publicly available aggregated statistical data and did not involve human subjects, clinical procedures or personal data.

**Informed Consent Statement**

Not applicable. No individual-level data, human participants or identifiable information were involved in this research.

**Data Availability Statement**

The data used in this study are publicly available from the Kosovo Agency of Statistics, the Ministry of Finance, Labour and Transfers, the Tax Administration of Kosovo and the Central Bank of Kosovo. Additional processed datasets and replication files can be provided by the author upon reasonable request.

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**Conflicts of Interest**

The author declares no conflicts of interest. The funders had no role in the design of the study; in the collection, analyses or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.



## Appendix A

(Optional – if you wish, we can place figures, extended tables, formulas or replicated calculations here.)  
Currently, no appendix materials are included.

## Appendix B

(Optional – additional statistical notes or robustness checks may be added here if needed.)  
Currently, no appendix materials are included.

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