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Socio-Demographic and Educational Determinants of Labor Market Participation in Albania

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Abstract: Objectives: This study examines the socio-demographic and economic determinants of employment probability in Albania, with particular emphasis on gender differences. **Prior Work:** Existing research highlights the importance of human capital, demographic structure, and gender norms in shaping labor market outcomes. However, limited empirical evidence provides gender-disaggregated econometric analysis for Albania. **Approach:** Using nationally representative microdata from the Albanian Demographic and Health Survey, the study estimates separate binary logistic regression models for women and men. Employment status is modeled as a function of education level, demographic characteristics, and socio-economic indicators. **Results:** Education is positively associated with employment for both genders, with a stronger effect among women. Marriage and parenthood reduce women's employment probability but increase it for men. Regional and wealth disparities significantly influence employment outcomes. **Implications:** The findings highlight the persistence of structural gender inequalities and emphasize the need for gender-sensitive labor market and social policies. **Value:** The study contributes gender-disaggregated econometric evidence on employment determinants in Albania and advances understanding of structural labor market inequalities in transition economies. It is a historical snapshot of the period following the global financial crisis and serve as a benchmark for comparison with more recent studies, filling a gap in the literature and paving the way for future research using updated data.

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1. Introduction

Employment remains a central indicator of economic development and social inclusion. Despite improvements in educational attainment and labor market reforms, gender disparities in employment participation persist across many transition economies, including Albania. In contemporary labor markets, employment opportunities are shaped by a combination of individual and structural factors, including education, age, gender, socioeconomic background, and regional characteristics (Blau & Kahn, 2017; OECD, 2020). These factors influence not only access to employment but also the quality and stability of labor market participation.

Among the determinants of employment, education occupies a particularly important role. Human capital theory suggests that education enhances productivity, skills, and employability, thereby increasing labor market attachment and employment prospects (Psacharopoulos & Patrinos, 2018). However, the benefits of education are not distributed equally across population groups. Gender norms, family responsibilities, socioeconomic conditions, and place of residence may shape how educational attainment translates into employment outcomes (World Bank, 2021; Blanden et al., 2013).

Existing research highlights persistent gender inequalities in labor market participation, with women often facing greater barriers to employment and career advancement. These disparities are frequently reinforced by household responsibilities, limited economic resources, and unequal access to opportunities. In Albania, demographic and socioeconomic transformations have altered labor market conditions, yet gender and regional disparities remain important policy concerns.

Understanding how education interacts with socio-demographic characteristics is therefore essential for explaining employment outcomes and designing effective labor market policies. This study examines the determinants of employment probability in Albania using nationally representative data from the Albania Demographic and Health Survey (ADHS) 2008–2009. Employing binary logistic regression models, the analysis compares women and men across key demographic and socioeconomic characteristics, including age, marital status, education, place of

residence, region, and household wealth. By integrating these factors within a single empirical framework, the study contributes to the literature on labor market inequalities by providing a comprehensive assessment of gender differences in employment probability in Albania.

2. Literature Review

The relationship between education and employment outcomes has been widely examined in economic literature, particularly within the framework of human capital theory. A substantial body of empirical research confirms that higher levels of education are associated with improved employability, shorter unemployment duration, and greater adaptability to labor market changes.

Several studies report a strong negative relationship between education and the duration of unemployment. (Farber, 2004) finds that individuals who recently lost their jobs and possess higher levels of education are more likely to be reemployed full-time more quickly compared to those with lower educational attainment. Obtaining standard or higher-level qualifications reduces unemployment duration by approximately 12%.

This perspective highlights education not only as a productivity-enhancing investment but also as a mechanism that increases resilience in dynamic labor markets.

Beyond individual-level effects, demographic and structural factors also influence employment outcomes. Demographic and educational changes affect employment differently across age groups (Biagi & Lucifora, 2008). Their findings suggest that youth unemployment tends to rise with shifts in the population age structure, while adults and more educated individuals generally maintain higher employment rates. Likewise, factors such as education, age, gender, and work experience can both facilitate and hinder entrepreneurship and employment creation, thereby influencing unemployment dynamics. (Startiene & Remeikiene, 2009).

In the context of Southeastern Europe, youth employment is strongly shaped by educational attainment and broader economic conditions, with higher education improving employability prospects (Bojadjieva et al., 2022). However, evidence from Albania presents more nuanced findings. Among individuals over the age of 21, those with higher education may experience higher poverty rates compared to

those with vocational education, while individuals with vocational qualifications exhibit poverty rates three times lower than those who completed general secondary education (Dumani et al., 2018). These findings suggest potential mismatches between educational pathways and labor market demand.

National-level evidence further highlights the complexity of youth employment challenges. According to INSTAT (2019), youth unemployment has declined in recent years, accompanied by rising employment rates. Nevertheless, youth unemployment and long-term unemployment remain associated with increased poverty risk, higher emigration intentions, deteriorating physical and mental health, and greater exposure to social exclusion.

Policy responses at the national level have sought to address these challenges. The National Youth Action Plan 2015–2020, part of the broader development and integration strategy, focused on promoting youth employment, democratic participation, education, social protection, and social inclusion. Additionally, the Youth Law adopted in 2019 established institutional mechanisms for protecting and promoting youth rights, with the Ministry of Education, Sports and Youth serving as the central coordinating authority.

Overall, the literature consistently confirms a strong link between education and employment outcomes, particularly in reducing unemployment duration and increasing employability. However, regional disparities, demographic factors, vocational versus general education pathways, and structural economic conditions may moderate these effects. These findings provide the conceptual and empirical foundation for the present study, which examines how education and socio-demographic characteristics influence employment probability, with particular attention to gender differences.

Based on the theoretical framework, the study tests the following hypotheses:

H1: Education is positively associated with employment probability for both genders.

H2: The positive association between education and employment is stronger for women.

H3: Marriage and parenthood are negatively associated with women's employment probability.

H4: Marriage is positively associated with men's employment probability.

H5: Regional and wealth disparities significantly influence employment outcomes.

3. Methodology

3.1. Data Source and Sample

The analysis is based on microdata from ADHS 2008–2009, conducted by the Institute of Statistics (INSTAT) in cooperation with the Institute of Public Health under the supervision of the Ministry of Health of the Republic of Albania. As the first Demographic and Health Survey conducted in Albania, the ADHS 2008–2009 represents the earliest nationally representative DHS dataset available for the country and provides a unique source of detailed demographic, socioeconomic, and household-level information. The survey employed a stratified two-stage sampling design and is nationally representative at the national, county, and urban–rural levels. The sample includes 715 enumeration areas and 17,160 households (8,736 urban and 8,424 rural).

The dataset was selected because it offers a comprehensive set of variables relevant to the study of labor market participation, including educational attainment, household composition, fertility, socioeconomic status, and regional location. Furthermore, the survey captures Albania during an important phase of its post-transition socioeconomic development and in the aftermath of the global financial crisis, providing a valuable context for examining the structural determinants of employment. Given its national representativeness and the breadth of information collected through internationally standardized DHS methodology, the ADHS constitutes a particularly suitable source for analyzing gender-differentiated employment outcomes.

For the purposes of this study, the analytical sample was restricted to individuals aged 25 years and above to ensure that respondents had largely completed their formal education. The final sample consists of 1,958 men and 5,113 women. Employment status is defined as a binary variable equal to 1 if the respondent reported being employed at the time of the survey or having engaged in paid or unpaid economic activity during the previous 12 months, and 0 otherwise. To reduce the risk of underestimating women's economic participation, particular attention was given to the inclusion of informal, agricultural, and family-based work activities, which are often underreported in conventional labor market statistics.

3.2. Variables

The study focuses on socio-demographic determinants of employment, the impact of socio-demographic and economic characteristics on employment probability. The dependent variable is employment status (1 = employed; 0 = not employed). The independent variables include: marital status (single; married/divorced), age (years), education (years of schooling), region of residence (Central, Coastal, Mountainous, Tirana), type of settlement (urban/rural), wealth index (poor, middle, rich), and number of children. These variables capture key demographic and socio-economic characteristics expected to influence employment probability.

3.3. Econometric Model

To estimate the determinants of employment probability, a binary logistic regression model was employed. Given the dichotomous nature of the dependent variable, logistic regression is appropriate for modeling the probability of being employed as a function of socio-demographic and economic factors. The model allows for estimation of the odds ratios ($\text{Exp}(B)$), which quantify the effect of each independent variable on the likelihood of employment, controlling for other factors in the model. This approach enables the identification of significant socio-demographic and economic determinants of employment, providing evidence-based insights into patterns and disparities within the Albanian labor market.

3.4. Study Limitations

Several limitations should be considered when interpreting the findings of this study. First, the analysis relies on cross-sectional data collected through the 2008–2009 ADHS, which limits the ability to establish causal relationships and does not capture subsequent changes in Albania's labor market. Consequently, the results should be interpreted as evidence of statistical associations rather than causal effects.

The relevance of the dataset is further supported by the nature of the factors investigated in this study. Structural determinants such as educational attainment, family responsibilities, gender norms, and territorial disparities tend to evolve gradually over time and often continue to shape labor market outcomes beyond short-term economic fluctuations. Consequently, the analysis contributes to

understanding the underlying mechanisms associated with employment inequalities rather than merely describing labor market conditions during a specific period.

Despite this limitation, the dataset remains highly valuable for the study of structural inequalities in employment. As the first nationally representative Demographic and Health Survey conducted in Albania, the 2008–2009 ADHS provides a unique source of micro-level information on education, household composition, fertility, socioeconomic status, and regional characteristics. Implemented using internationally standardized DHS methodology, the survey offers a comprehensive framework for examining the demographic and socioeconomic factors associated with labor market participation.

The relevance of the dataset is further supported by the nature of the factors investigated in this study. Structural determinants such as educational attainment, family responsibilities, gender norms, and territorial disparities tend to evolve gradually over time and often continue to shape labor market outcomes long after short-term economic conditions have changed. Consequently, the analysis contributes to understanding the underlying mechanisms associated with employment inequalities rather than merely describing labor market conditions during a specific period.

Recent empirical evidence confirms the continuing importance of these structural factors in Albania. García-Pereiro (2016) highlights the role of socioeconomic resources and traditional gender norms in shaping women's employment opportunities, while Mulla (2021) shows that gender and family-related constraints remain important determinants of labor market exclusion among young people. More recently, Cinque, Poggi and Miluka (2024) demonstrate that fertility and family formation continue to influence female employment outcomes. Likewise, reports from the International Monetary Fund (2024) and the World Bank (2023) indicate that gender disparities, regional inequalities, and unequal access to employment opportunities remain persistent challenges despite economic growth and labor market reforms.

Taken together, these findings suggest that the mechanisms examined in the present study continue to influence labor market participation in Albania, even if their magnitude may have evolved over time. Therefore, the study contributes not only to understanding employment inequalities during an important stage of Albania's socioeconomic development but also to providing a historically grounded reference point for future research on labor market dynamics and gender disparities. Future

studies using more recent data could further assess how these relationships have changed in response to demographic, economic, and institutional transformations.

More specifically, the estimated effects of education, marital status, family size, household wealth, and regional residence reported in this study may serve as baseline measures against which future studies can assess whether the determinants of employment in Albania have changed over time. Comparing these relationships across different periods would help identify whether gender disparities, educational returns, and regional inequalities in employment have narrowed or persisted.

4. Results

4.1. Descriptive Findings

The analysis reveals persistent and substantial gender disparities in employment outcomes. Men consistently demonstrate higher employment rates across all age groups. After the age of 25, approximately 73.9% of men are employed, compared to around 40% of women, and this gap remains evident throughout the life course. Female employment increases after age 25 but does not converge with male levels in any age category.

Education plays a decisive role in shaping employment probabilities. University graduates exhibit the highest employment rate (71.5%) and the lowest unemployment rate (4.4%), with tertiary education benefiting both genders. However, the positive impact of higher education is particularly pronounced for women, significantly expanding their access to labor market opportunities.

Family formation produces markedly different effects by gender. For women, marriage and childbearing substantially reduce employment participation, with the highest employment rates observed among women without children. Employment declines significantly after the first child and remains lower among married women, particularly those with caregiving responsibilities. In contrast, marriage increases men's likelihood of employment, and the presence of children appears to strengthen men's labor market attachment, reflecting enduring breadwinner norms.

Regional and spatial disparity's further structure employment patterns. The Tirana/Central region records the highest employment levels and the greatest concentration of skilled occupations. Urban areas are characterized by more stable and skilled employment, while rural areas are dominated by agriculture, manual

labor, and often informal or seasonal work. Northern regions display lower employment rates and stronger reliance on agriculture, whereas the South reflects a mixed structure combining agriculture with tourism and services.

Overall, the findings indicate that employment outcomes are strongly conditioned by gender, education, family structure, and regional location, revealing entrenched demographic and spatial inequalities in labor market participation.

4.2. Logistic Regression Results

Table 1 presents the logistic regression estimates for women and men in a unified framework, allowing direct comparison of gender-specific employment determinants.

Table 1. Logistic Regression Results for Employment Probability by Gender

Variables	Female B	Female Exp(B)	95% CI	Male B	Male Exp(B)	95% CI
Education (years)	0.236***	1.266	1.234–1.300	0.146***	1.157	1.107–1.210
Age (years)	0.042***	1.043	1.032–1.054	0.024*	1.025	1.003–1.047
Number of children	-0.089**	0.915	0.863–0.970	-0.144**	0.866	0.778–0.963
Single (ref: Married)	0.395**	1.485	1.131–1.949	-1.200***	0.301	0.202–0.449
Urban (ref: Rural)	0.006	1.006	0.817–1.238	-0.460*	0.632	0.424–0.941
Wealth Index (ref: Rich)						
Poor	-0.335**	0.715	0.565–0.906	-0.556*	0.573	0.363–0.906
Middle	-0.269**	0.764	0.627–0.931	-0.388*	0.679	0.468–0.984
Region (ref: Tirana)						
Coastal	-0.152	0.859	0.698–1.056	0.164	1.178	0.776–1.789
Central	-0.341**	0.711	0.579–0.874	0.098	1.103	0.736–1.653
Mountainous	-0.520***	0.595	0.482–0.733	-0.628**	0.534	0.361–0.789
Constant	-3.851***	0.021	—	0.164	1.179	—

Observations: Female = 5,113; Male = 1,958

Model Fit: Nagelkerke R^2 (Female) = 0.679; Nagelkerke R^2 (Male) = 0.638

Estimation method: Binary logistic regression

Notes:

Coefficient (B)

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Reference categories: Married; Rural; Rich; Tirana region

Source: Authors' calculations

Education exerts a positive and highly significant effect on employment probability for both genders. However, the magnitude of the effect is substantially stronger for women. Each additional year of schooling increases women's odds of employment by 26.6% (OR = 1.266), compared to 15.7% for men (OR = 1.157). This finding suggests that human capital accumulation plays a more transformative role in facilitating female labor market integration.

Age is positively associated with employment for both groups. For women, each additional year increases employment odds by approximately 4.3%, while for men the increase is about 2.5%. This pattern reflects life-cycle stabilization effects and accumulated labor market experience, with slightly stronger age-related attachment among women.

The number of children significantly reduces employment probability for both genders. Each additional child lowers women's employment odds by approximately 8–9% and men's by 13–14%. While the female effect aligns with caregiving constraints, the male effect may reflect the association between larger households and economic vulnerability.

Marital status reveals the strongest gender divergence. Single women are significantly more likely to be employed than married women (OR = 1.485), whereas single men are dramatically less likely to be employed than married men (OR = 0.301). This asymmetry underscores persistent gendered household norms: marriage appears to constrain female labor market participation while reinforcing male breadwinner roles.

Urban residence does not significantly influence female employment. In contrast, urban men exhibit 37% lower odds of employment compared to rural men. This result suggests gender-differentiated spatial labor market dynamics, potentially linked to agricultural employment patterns and urban labor market competition.

Socioeconomic disadvantage significantly reduces employment probability for both genders. Individuals in poor and middle wealth categories exhibit substantially lower odds of employment relative to those in the high-wealth group. The negative effects are somewhat stronger for men, indicating that economic vulnerability may translate more directly into male employment instability.

Regional disparities are evident for both genders but differ in magnitude. Women living in Central ($\beta = -0.341$, $p < 0.01$) and Mountainous regions ($\beta = -0.520$, $p < 0.001$) exhibit significantly lower employment probability relative to Tirana. For men, only the Mountainous region remains statistically significant ($\beta = -0.628$, $p < 0.01$). These findings indicate that territorial disparities exert stronger constraints on women's labor market opportunities.

Overall, the unified regression table reveals several important gender asymmetries:

- Education has a stronger association with employment among women.
- Marriage increases men's employment likelihood but reduces women's employment likelihood.
- Regional disadvantage appears more severe for women.
- Socioeconomic vulnerability affects both genders but shows larger magnitudes for men in some categories.

These patterns underscore the interaction between human capital, household structure, and structural economic conditions in shaping gender-differentiated labor market outcomes in Albania.

5. Discussion

The unified regression analysis reveals significant gender asymmetries in the determinants of employment probability in Albania. Although several socio-demographic factors influence employment for both women and men, the magnitude and direction of these effects differ, reflecting persistent structural inequalities linked to household roles, regional development, and socioeconomic conditions.

Education emerges as a key determinant of employment for both genders, with a substantially stronger effect among women. This finding suggests that educational attainment plays a particularly important role in facilitating female labor market integration and may help reduce structural barriers to employment. Age is positively

associated with employment for both groups, although the stronger effect among women may reflect delayed labor market entry or interruptions related to family responsibilities.

The most pronounced gender difference concerns marital status. Marriage is negatively associated with women's employment but positively associated with men's employment, highlighting the continuing influence of traditional gender roles. Similarly, the number of children is negatively associated with employment for both genders, indicating that family structure remains an important factor shaping labor market participation.

Socioeconomic status also matters. Individuals from poorer households are less likely to be employed than those from wealthier households, suggesting that economic disadvantage continues to constrain labor market opportunities. Regional disparities further influence employment outcomes, particularly for women, whose employment probability declines significantly outside Tirana and more developed regions. By contrast, regional effects are more limited among men. Urban residence does not significantly affect female employment, while urban men exhibit a lower probability of employment than their rural counterparts.

Overall, the findings indicate that employment outcomes in Albania are shaped by the interaction of human capital, family circumstances, socioeconomic status, and regional context. While education appears to function as an important equalizing mechanism, traditional gender norms and territorial inequalities continue to generate differentiated employment patterns for women and men. These results underscore the need for integrated policy interventions that promote educational opportunities, expand childcare provision, strengthen gender-equal labor market policies, and reduce regional disparities in access to employment.

6. Conclusions

This study demonstrates that employment outcomes in Albania are shaped by demographic, social, and economic factors, with clear gender asymmetries. Across most demographic and socioeconomic categories, men exhibit higher employment rates than women, confirming the persistence of gender disparities in labor market participation. Education emerges as a key factor in promoting employment, particularly for women, highlighting the important role of higher education in facilitating female labor market integration. In contrast, family formation produces

divergent effects: marriage and childbearing are associated with lower employment probabilities among women but higher employment likelihood among men, reflecting the continuing influence of traditional gender roles and unpaid care responsibilities. Employment opportunities are also structured by socioeconomic and spatial inequalities. Regional disparities, differences between urban and rural areas, and household wealth significantly influence employment outcomes, reinforcing unequal access to labor market opportunities. Moreover, occupational segregation remains evident, with women concentrated in service and agricultural activities and men more frequently employed in technical, managerial, and construction-related occupations. Overall, the findings suggest that reducing employment inequalities requires integrated policy interventions that promote educational opportunities, expand childcare provision, strengthen gender-equal labor market policies, and address regional development disparities. Without such measures, gender and socioeconomic inequalities in employment are likely to persist. Future research should build on these findings by incorporating more recent and longitudinal data to assess the evolution of labor market inequalities in Albania.

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