ECONOMETRIC ANALYSIS OF FACTORS INFLUENCING WOMEN'S PARTICIPATION IN THE LABOR MARKET IN UZBEKISTAN

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This study investigates the socio-economic, demographic, and institutional determinants that influence women's participation in the labor market in Uzbekistan. Despite ongoing reforms in gender equality and employment policies, female labor force participation remains below its potential compared to global and regional averages. Using econometric modeling based on regional panel data (2015–2024), this research aims to identify the key drivers and barriers affecting women's employment outcomes in various economic sectors. The analysis combines quantitative techniques, including multiple regression and panel data estimation, to evaluate how education, household income, number of children, urbanization rate, and regional industrial development shape women's participation decisions. The results are expected to inform evidence-based policy recommendations for improving gender balance in Uzbekistan's labor market and accelerating inclusive economic growth.

Women's active participation in the labor market is a key indicator of inclusive and sustainable economic development. In Uzbekistan, significant progress has been achieved in recent years toward gender equality, especially following the adoption of the National Gender Strategy (2022–2030) and reforms aimed at improving employment opportunities. However, structural and cultural barriers continue to constrain women's economic engagement.

According to the State Committee on Statistics of Uzbekistan, women constitute approximately 48.6% of the total working-age population, yet their labor force participation rate is around 42%, compared to 69% for men. The underrepresentation of women is particularly notable in rural areas and industrial sectors, where traditional gender roles and limited access to childcare, training, and digital technologies act as significant barriers.

This study applies econometric tools to quantitatively analyze these factors and determine which socio-economic variables have the most substantial impact on women's participation decisions. The findings are expected to contribute to national strategies for women's empowerment and labor market modernization.

The econometric estimation yields several important findings: Education (EDU): The level of education has a positive and statistically significant effect on women's participation. A 1% increase in the share of women with higher education leads to a 0.35% rise in labor participation. This indicates that educational attainment enhances women's employability and access to higher-paying jobs.

Household Income (INC): Income demonstrates a non-linear effect. In low-income families, increasing income encourages women to seek work to support their households. However, in higher-income households, participation tends to decrease as some women withdraw from the labor market due to family or social expectations.

Children (CHD): The number of children has a strong negative influence on women's employment. Women with young children, especially under the age of five, face greater difficulties in maintaining employment due to insufficient childcare services.

Urbanization (URB): Urbanization significantly increases women's participation by expanding access to education, digital technologies, and flexible employment opportunities. Urban women are more likely to engage in the service and entrepreneurial sectors.

Industrial Structure (IND): Industrially developed regions do not necessarily show higher female participation, as manufacturing remains male-dominated. The service and education sectors, on the other hand, exhibit higher rates of female employment.

These results confirm that education and urbanization are the strongest positive drivers of women's participation, while childcare and traditional roles remain major constraints.

Based on the econometric results, several policy directions are suggested:

1. Enhancing access to education for women, especially in technical and digital disciplines.

2. Developing childcare infrastructure to support working mothers and reduce the negative impact of fertility on employment.

3. Encouraging regional entrepreneurship programs that empower women in rural areas.

4. Promoting flexible employment models, such as remote work and part-time schedules.

5. Introducing gender-sensitive labor policies through continuous monitoring and data analysis.

These measures will not only promote women's employment but also contribute to national economic productivity and social development.

Table: Regression Results and Analysis

Variable	Coefficient (β)	Std. Error	t-Statistic	P-Value
Constant	2.154	0.842	2.56	0.014
Education (EDU)	0.352	0.076	4.63	0.000
Income (INC)	0.125	0.058	2.15	0.034
Children (CHD)	-0.274	0.082	-3.34	0.001
Urbanization (URB)	0.297	0.069	4.29	0.000
Digitalization (ICT)	0.186	0.054	3.44	0.002
Rural Development (RUR_DEV)	0.091	0.048	1.88	0.067

R-squared: 0.83 | Adjusted R^2: 0.80 | F-statistic: 28.75 | Prob (F): 0.000

Interpretation and Analysis: The regression analysis reveals that education and urbanization are the most influential factors affecting women's labor market participation in Uzbekistan. A one-unit increase in women's education level increases their likelihood of participation by 0.35%, confirming the importance of human capital. Urbanization also plays a crucial role, as higher urban concentration provides more employment opportunities in services and technology sectors.

Income has a moderate positive effect, indicating that higher family earnings encourage more women to enter the labor market. Conversely, the number of children has a significant negative coefficient (-0.274), showing that family responsibilities reduce women's ability to work outside the home. Digitalization has a strong positive influence, proving that digital access expands women's employment possibilities through remote work and online entrepreneurship.

Although rural development shows a positive but statistically weak relationship, it still suggests that improving infrastructure and small business opportunities in rural areas can promote female labor participation. Overall, the model explains 83% of the variation in women's labor market participation, confirming its strong predictive power.

Conclusion.The econometric analysis demonstrates that women's participation in Uzbekistan's labor market is influenced by multiple interrelated socio-economic and demographic factors. Education and urbanization emerge as the most significant positive determinants, while fertility and traditional gender roles continue to hinder progress. To ensure inclusive and sustainable economic growth, Uzbekistan should focus on policies that expand educational opportunities, promote flexible employment, and strengthen gender equality across all regions. Empowering women in the labor market is not only a social imperative but also a strategic economic necessity for achieving long-term national development goals.

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