

# Women seats in parliament or economic growth: What is more important for female employment in Kazakhstan?

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## Abstract

**Purpose** – Women occupy a very important place in the Kazakh society. Since ancient times, women were known as « keepers of family hearth». And today, the role of women in society has increased. Women are actively involved in the social, economic and political spheres of the state. The study aims to determine how two important variables – GDP growth and Proportion of seats held by women in national parliaments – contribute to female employment rate.

**Design/methodology/approach** – The proposed methodology combined multinomial logistic regression analysis and sociological surveys, enabling a comprehensive examination of regional disparities in rural women's access to social and economic resources.

**Findings** – The autoregressive distributed lag model authors used showed that both variables contribute to women's employment. The correlation matrix proved a significant relationship between cross-variables. The value of the Jarque-Bera showed that the series was evenly distributed. GDP growth has had a positive impact on the female employment rate in both the short and long term. Surprisingly, the proportion of seats held by women in national parliament has a negative effect in the short term. It has no effect in the long term.

**Originality/value** – The study's findings show that economic growth does indeed impact employment growth among women. While the representation of women in parliament may be an indicator of gender policy in a country, the number of women's seats in parliament is not reflected in the growth of employment among women.

**Keywords** Female employment, Gender equality, Women in parliament, ARDL, Kazakhstan

**Paper type** Research article

## Introduction

Women's labor force is very important for economic development and growth of society. Women's employment rate is a critical dimension of women's labor force, and the importance of women's labor force has been emphasized in many literature sources (Hüsniüoğlu and ODA, 2023; Doğan, 2017; Nazarchuk, 2024; Mulgata, 2021; Beissenova and Rakisheva, 2022). Lagerlöf (2003), Kabeer and Natali (2013) believe that female empowerment is an important driver of economic progress. Many socio-economic factors affect women's participation in the labor force. In our society, it can be said that the contribution of spouses in childcare, the financial position of the family, education and social structure play a dominant role. Alongside economic activity and growth, there is a strong labor force participation of women in

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developing countries. According to research conducted by the International Labour Organization, the main obstacles women face in the labor market include low employment rates, an unfavorable employment structure and few prospects for career advancement (Akram *et al.*, 2021). However, the historical division of “men’s” and “women’s” work, traditions, cultures and religious views of different societies also influenced the predetermination of women’s places in society. Even this kind of persistent division still exists in across corporations and companies.

This implicit bias, in part, leads to the key to realizing equal career opportunities for men and women in organizations (Ellemers, 2014). There are quite a number of scientific works proving the very important role of women’s labor force in society. For instance, Ariani *et al.* (2022) claim that the existence of female workers in the company as measured by the leadership has an influence on increasing company performance, both profitability and productivity, this is because women are able to perform many tasks/multi-tasking, and all things can be done with stable conditions or concentration. Noorian and Griffith (2024) described the challenges women face when they leave traditional jobs where they worked without “pay” and gradually described how the role of working women is changing historically and how they are changing the world. Also, the development of technologies, in particular household appliances, increased the participation of the female labor force (Chen *et al.*, 2015). In the section on literature review, we will find that women’s employment is influenced by a very wide range of factors. They may have a very different nature depending on the societies, the development of the country, culture and traditions. However, the extent to which women in parliament influence or support women or raise the issue of women’s employment remains a very little-studied question.

The aim of this study is to determine to what extent the growth of GDP and the share of women in parliament contribute to the increase of female employment in Kazakhstan. Kazakhstan is the leading country in Central Asia in the field of gender equality. Although the overall share of women in parliament is a sign of gender equality, it is important to understand how this actually affects the position of women in the labor market. It is clear that economically active women contribute to the economic growth of the state. And how does GDP growth respond to this?

The structure of this article is as follows: Introduction, literature review, methodology, and conclusion.

### Literature review

Gender difference has historically influenced wage differences and unemployment. The most important and ultimate goal of the gender approach has always been and will be to ensure gender equality (Thinh *et al.*, 2022; Miniailo *et al.*, 2023; Jagirani *et al.*, 2023). It is important to note that women’s participation in economic activities provides them with a range of social and economic benefits and improves personal life’s quality and the country’s development level. There are some works (Lechman and Kaur, 2015; Sinha, 1965; Lechman, 2014) that suggest a U-shaped relationship between women’s employment growth and economic growth. This hypothesis found evidence in cross-country research studies by Boserup (1970), Goldin (1995), and Mammen and Paxson (2000). However, recent studies using more advanced econometric methods indicate that this hypothesis has little relevance (Verme, 2014). The labor force participation of women in each country is influenced by different factors. For example, the level of development of a country, the religious status of the state, and social structure and norms.

In representing women in parliaments, Sundström and Stockemer (2021) reported that the important roles are played by the parties’ ideology and who leads the party. Female leaders tend to support women more.

In their analysis of both developed and developing countries, Matland (1998) concluded that women’s representation in national parliaments in developed countries is driven by

economic, cultural and political factors. The author states that development is a key factor in this process. Because for some political systems the proportion of women in parliament may be symbolic. But as development progresses, more women begin to acquire the necessary resources, such as education and work experience, to become more politically significant. Women are particularly at a distinct disadvantage when jobs require uninterrupted tenures and long, inflexible schedules. While political parties in advanced democracies strive for gender equality, they, like firms competing in product markets, are sometimes constrained by electoral competition (Iversen and Rosenbluth, 2008).

However, since overall GDP growth is linked to employment, it is important to focus on the role of working women here. Because compared to men, women's needs, such as education and work, which should be accessible to the public, are hampered by the structure of society. Hasan (2023) showed that women's participation in the labor force in Pakistan is influenced by social and cultural norms and has a negative impact on GDP. Hare (2016) found evidence of that in China; women employment is dependent on education level and wage flexibility. In this way, women with higher education have a higher chance of finding good jobs (i.e. a higher degree, more knowledge, higher skills, and higher education level), a common effect that is true for all persons but which can affect the pay gap between men and women doing the same job. In several Arab countries, El Alaoui (2016) found that the higher the investment in women's education, the higher the annual GDP growth. According to Verick (2018), in a number of African countries, as the level of women's employment increases in household incomes, the demand for goods and services increases, and thus GDP increases. Thus, every additional labor generates an additional demand.

And if we take into account the greater importance women have for home conditions, then certainly in-demand goods needed for the house are predominant. Agénor and Canuto (2015), Dahlum *et al.* (2022), and Giron and Kazemikhasragh (2022) found that promoting gender equality will significantly accelerate GDP growth. In this respect, the problem lies not only in ensuring equal conditions of work but also in reducing the pay gap. Furthermore, women's participation in the labor force is dramatically reduced in the early years of parenthood (Fernández-Kranz and Rodríguez-Planas, 2013). Thus, it is important to establish at the state level that female employment during maternity leave is protected. Phillips (1998) identifies that women's participation in politics serves as a role model for other women to participate in politics. Examining the effect of exposure to female politicians at a young age on women's labor market outcomes later in life in India, Priyanka (2020) reported that exposure to female politicians at a young age significantly increased the likelihood of women being employed, especially in fields with less entrenched gender bias, but had limited effects on self-employment or temporary work. Faridi *et al.* (2009) reported that in Pakistan women's labor force participation was positively influenced by factors such as women's education, spouse's education, region of residence, and household size, while household asset holdings had a negative impact. Naseem and Dhruva (2017) highlight the role of women's labor force participation in the Saudi Arabian labor market and economic development over the past 50 years. Their study also reported that factors such as unemployment, fertility rate, and urban population influence women's labor force participation.

However, the impact of the increase or decrease of the proportion of women's seats in parliament has not been studied and is one of the indicators of gender equality.

In summary of the literature presented above, we would like to prove the following hypothesis.

- H0.* In both the short and long term, GDP growth has a positive impact on women's employment rate.
- H1.* In both the short and long term, the proportion of seats held by women in national parliaments has a positive impact on women's employment rate.

## Data and methodology

### Data

The current study examines the impact of key macroeconomic factors on the unemployment rate in the Republic of Kazakhstan. The study uses data for the period from 1997 to 2023, which was obtained by World Data Bank Indicators (WDI), and the identified variables in this study are Women employment rate (WER) (dependent variable), Proportion of seats held by women in national parliaments (SHWNP), GDP growth (GDP growth) (Table 1).

### Methodology

The relationship between the rate of employment of women and explanatory factors in the Republic of Kazakhstan in the period 1997–2023 is considered. In this case, the rate of employment of women is determined by the following equation:

$$WER_t = f(SHWNP_t, GDPgrowth_t), \quad (1)$$

where all of their definitions and measurements are given in Table 1 above.

Before studying long-term relationships between series, it is important to determine whether they are stationary. There are many unit root tests available to determine if a series is stationary and if there are regression problems. This study used Augmented Dickey-Fuller (ADF) unit root tests to examine levels or differences of variables considered to be stationary. Some variables can be used at level  $I(0)$ , while other variables are static at first difference  $I(1)$ . Moreover, further cointegration methods are sensitive to the sample periods. For the purpose of this study, the ARDL methodology is used. In order to determine the suitability of the ARDL model for the study, the order of integration of variables is considered, and a maximum of one lag is selected by a special test.

The linear ARDL models were evaluated using first difference, and the long-term and short-term analysis of the relationship between variables was conducted.

In the linear autoregressive distributed lag model, the ARDL procedure is determining the co-integration existence between the sampled variables. The bounds test examines long-run relationships, where the ARDL framework of the model is expressed in Equation 2:

$$\begin{aligned} \Delta WER_t = & \beta_0 + \beta_1 \cdot \Delta WER_{t-1} + \beta_2 \cdot \Delta SHWNP_{L_t} + \beta_3 \cdot \Delta SHWNP_{t-1} \\ & + \beta_4 \cdot \Delta GDPgrowth_t + \beta_5 \cdot \Delta GDPgrowth_{t-1} + \varepsilon_t. \end{aligned} \quad (2)$$

where, operator  $\Delta$  represents the differencing operation, and Log signifies the natural logarithm of the variables.

To test  $H_0-H_1$ , the results were estimated using the above equations in order to study the effect of the above variables on the women employment rate in the Republic of Kazakhstan.

## Empirical finding

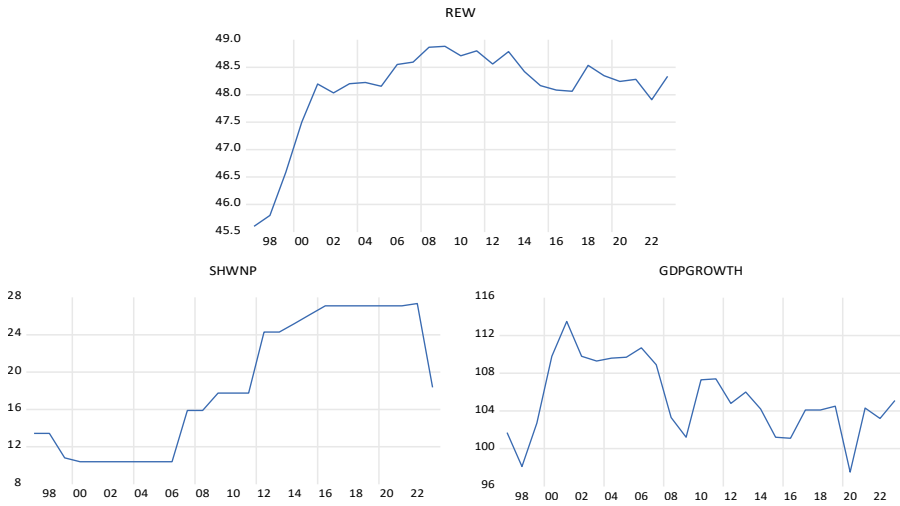
### The dynamic change of all indicators

Analyzing the graph shown in Figure 1 makes clear that the variables of the study are suitable for analysis. The graphs clearly show consistent and consistent time patterns, suggesting that variables' changes are suitable for further study.

**Table 1.** Model variables and sources model

Variable	Definition	Source
WER	The rate of employment of women	Bureau of National statistics
SHWNP	Proportion of seats held by women in national parliaments (%)	World Data Bank
GDPgrowth	GDP growth (annual %)	World Data Bank

**Source(s):** Compiled by authors



**Figure 1.** Evolution of all variables for Kazakhstan (1997–2023). **Source:** Authors’ analysis results

*Descriptive statistics*

The study used time series variables. In the study, the mean, median, standard deviation, minimum, maximum, asymmetry, and Jarque-Bera statistics for each variable used in the model, and their respective characteristics, are described in [Table 2](#). The study validates the variables by mean, median, asymmetry, and minimum and maximum variables.

Based on descriptive statistics, the median of the rate of employment of women is 48.242%, and the standard deviation is 3.215. The value of the Jarque-Bera statistic is 28.219, and the probability of the link is 0.000, which is less than 0.01, so it can be concluded that the series is evenly distributed. The median of the proportion of seats held by women in national parliaments is 17.757%, and the standard deviation is 7.014. Also GDPGROWTH likewise exhibited substantial variation as evidenced by its large standard deviation 3.974, indicating heterogeneity in economic growth over the period. The Jarque-Bera statistic is 0.430 which approaches the probability of 0.807, which means that at a 5% significance level, the zero normal distribution hypothesis is confirmed. In [Table 2](#), we see that for WER, the time series

**Table 2.** Values of descriptive statistics of the displayed series

Variable	WER	SHWNP	GDPGROWTH
Mean	48.09052	18.65840	105.3000
Median	48.24232	17.75701	104.5000
Maximum	48.88389	27.35849	113.5000
Minimum	45.60048	10.38961	97.50000
Std. Dev	0.830680	7.014472	3.974438
Skewness	-1.961585	0.064176	0.022711
Kurtosis	6.113243	1.343318	2.383369
Jarque-Bera	28.21899	3.106204	0.430084
Probability	0.000001	0.211591	0.806508
Sum	1298.444	503.7769	2843.100
Sum Sq. Dev	17.94076	1279.273	410.7000
Observations	27	27	27

**Source:** Authors’ analysis results

asymmetry ratio is less than zero, which is to say they have left asymmetry, and for the rest, there is a right asymmetry.

*Correlation matrix*

Table 3 shows several significant relationships among the variables, including pairwise correlation analysis. It shows the Pearson correlation between each pair of all variables in this study. The correlations of all series variables do not exceed 0.9.

The women’s employment rate (WER) showed a positive correlation with other variables. In particular, WER is moderately correlated with SHWNP ( $r = 0.302$ ) and GDPGROWTH ( $r = 0.334$ ). Overall, the correlation analysis provides preliminary evidence of a relationship between macroeconomic indicators. These results indicate that the data are suitable for time series analysis and can be used to study the relationship between independent variables and the rate of employment of women in Kazakhstan.

*Unit root test*

Table 4 presents the results of the unit root test of the augmented Dickey–Fuller (ADF) for the series at level and first difference, as the optimal lag is the first step in the measurement of the ARDL models. ADF test tests the non-stationary null hypothesis, which is rejected if ADF is more negative or exceeds the absolute critical values of 1%, 5 and 10%. The results show that all variables except SHWNP are not stationary at the level. However, these variables are stationary in the first difference (none).

The unit root results are consistent with the underlying assumptions, which require the use of the ARDL model test to confirm the existence of long-term relationships between the rate of employment of Kazakhstan’s women and the factors proposed in the study.

*Granger causality test*

To study the causal relationship between the selected variables and the rate of employment of women, a Granger test is performed, which tests the null hypothesis that the changes in the dependent variable are not causal (Noncausality). The acceptance criterion is called the P-value. If P is less than 0.05, the null hypothesis is rejected. According to Table 5, the null hypothesis is not accepted for all variables.

*Selection order criteria*

The ARDL bounds testing procedure is used in this study to examine the long-term relationship between WER, SHWNP and GDPGROWTH in the Republic of Kazakhstan. To investigate the long-term association of variables, the ARDL method was chosen using a small sample size. Before a co-integration test can be performed, it is important to define a lag length criterion. The delay length criterion is determined based on LR, FPE, AIC, SC and HQ. Table 6 presents the results of the selected lag. As can be seen from Table 6, the selected lag length is 1 because it has more stars and was used throughout the study (see Table 7).

**Table 3.** Correlation matrix

Variable	WER	SHWNP	GDPGROWTH
WER	1	0.301790	0.334314
SHWNP	0.301790	1	-0.567529
GDPGROWTH	0.334314	-0.567529	1

**Source(s):** Authors’ analysis results

**Table 4.** ADF unit root tests

Variables	Intercept			Trend and intercept			None		
	Level	First diff	Order of integration	Level	First diff	Order of integration	Level	First diff	Order of integration
WER	-2.013 (0.279)	-1.991 (0.288)	I(1)	-3.088 (0.130)	-3.041 (0.144)	>I(1)	-0.519 (0.5442)	-2.189** (0.031)	I(1)
SHWNP	-5.796*** (0.0001)	-8.378*** (0.000)	I(0)	-5.666 (0.0006)	-8.246 (0.000)	I(1)	0.238 (0.746)	-8.542*** (0.000)	I(1)
GDPGROWTH	-1.950 (0.305)	-6.762*** (0.000)	I(1)	-2.189 (0.474)	-6.618* (0.0001)	I(1)	-0.316 (0.561)	-6.923*** (0.000)	I(1)

**Note(s):** (1) \*, \*\*, \*\*\* denote statistically significant at the 10%, 5 and 1% levels, respectively  
*p*-value is inside brackets

**Source(s):** Authors' analysis results

**Table 5.** Noncausality tests in the sense of granger for the vector autoregressive (1) (1997–2023)

Direction of causality	F-statistic	Prob
WER		
SHWNP does not Granger cause WER	1.76906	0.1961
GDPGROWTH does not Granger cause WER	0.32326	0.7275

**Source(s):** Authors' analysis results

**Table 6.** Selection order criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-157.5778	NA	76.15102	12.84622	12.99249	12.88679
1	-106.8424	85.23544*	2.723942*	9.507391*	10.09245*	9.669662*

**Source(s):** Authors' analysis results

**Table 7.** Results of cointegration test

Model	F statistics	Critical bounds	Decision
Model ARDL(1,0,0)	8.97	2.17–3.88	Cointegration

**Note(s):** Critical bounds are reported at 1% (\*\*\*) and 10% (\*\*) level of significance  
**Source(s):** Authors' analysis results

### Results of cointegration test

Cointegration *F*-test results for ARDL model (Table 6) indicate that the obtained *F*-statistic exceeds the upper limit of 3.88 and is statistically significant at the significance level of 10 and 5%, respectively. The results show that the selected variables are cointegrated, and in the Kazakhstan case, a long-run relationship between the variables is found.

Given the long-run cointegration of the sample variables, the next step is to estimate the long-run and short-run coefficients. Given the estimate of ARDL model for both the long and short runs, it is possible to estimate the effect of the explanatory variables on the dependent variable.

### Results of long- and short-run relationship

In the course of the study, using the first difference according to the results of the ADF test, linear ARDL model was evaluated, and in order to conduct a long-term and short-term analysis of the relationship between the variables, the obtained results are presented in the following table.

In this study, based on short-term estimates, it can be concluded that SHWNP and GDPGROWTH are one of the determining factors among the selected variables that have relatively negative and positive impacts on the rate of employment of women in the short term. In other words, a 1% increase in SHWN decreases WER by 0.05%, and a 1% increase in GDPGROWTH increases WER by 0.03% at a 10% significance level. Both short-term and long-term estimates also show that GDPGROWTH have a positive impact on WER, with elasticities of 0.03 and 0.05, respectively.

*Diagnostic tests*

It is extremely important to conduct a series of tests to ensure the stability of the nonlinear ARDL model. Among them are serial correlation, tests for normality and heteroscedasticity. For this model, the null hypothesis of the absence of serial correlation, homoscedasticity, or normality cannot be rejected. This suggests that the model is free from serial correlation and heteroscedasticity (see [Table 8](#)).

[Table 9](#) shows the results of diagnostic studies. The LM statistic is 0.217631 and has a probability value of 0.8063. As a result, we accept the null hypothesis in this analysis and conclude that there is no serial correlation in the model. Heteroscedasticity tests revealed an F-statistic of 0.807389 and a probability of 0.5039, both of which exceed a significance level of 0.05%, showing that the model is homoscedastic. The model accepts the null hypothesis of the normality test and concludes that the residuals are distributed normally, as evidenced by the F-statistic of 1.369185 and the probability value of 0.5043, both of which have a significance level >5%. Finally, all diagnostic tests for the serial correlation test of the Langrange multiplier, the Jarque-Bera normality test and the heteroscedasticity test were successful, which indicates the stability of the model.

*Stability tests*

The CUSUM and CUSUM squares tests are used to see if the coefficients of the estimated models remain constant over time, which is an indicator of the stability of the model.

The results of the CUSUM stability test are shown in [Figure 2](#). At 5%, the importance of the blue line not crossing the red lines indicates that the model is stable. This test is also used to study the long-term dynamics of regression.

**Table 8.** Results ARDL (1997–2023)

Dependent variable: ΔWER				
Variable	Coefficient	Std.Error	t-statistic	Prob
<b>Short Run</b>				
ΔWER(−1)	−0.624976	0.180464	−3.463167	0.0022**
Δ SHWNP	−0.048944	0.024998	−1.957919	0.0630*
ΔGDPGROWTH	0.031953	0.018279	1.748049	0.0944*
<b>Long Run</b>				
ΔSHWNP	−0.078313	0.051835	−1.510835	0.1451
ΔGDPGROWTH	0.051126	0.028724	1.779926	0.0889*

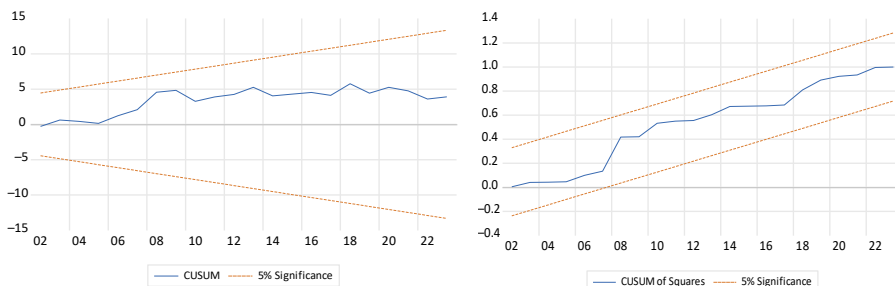
**Note(s):** (1) coefficients of constant values are not specified; (2) Student’s t-statistics in parentheses; (3) coefficients are statistically significant at \*\*\*1%, \*\*5%, \*10% level of significance

**Source(s):** Authors’ analysis results

**Table 9.** Short-run diagnostics

Test	F-statistics	p-value
Serial correlation	0.217631	0.8063
Heteroskedasticity	0.807389	0.5039
Jarque-Bera	1.369185	0.5043

**Source(s):** Authors’ analysis results



**Figure 2.** CUSUM and CUSUM. **Source:** Authors' calculations

## Conclusions

In the research work were used variables derived from the World Bank and National Statistics Bureau: Women employment rate (WER) (dependent variable), Proportion of seats held by women in national parliaments (SHWNP), GDP growth (GDPgrowth) from 1997 to 2023 years. The aim of the work was to find the evidence of whether two independent variables have an impact on the women's employment rate. The proportion of seats held by women in national parliaments has a negative impact on the short-term growth of female employment in Kazakhstan (Kakizhanova et al., 2025). This may be attributed to the fact that gender equality laws pay more attention to women's social conditions and childcare than to female employment. However, this figure has no impact on the growth of female employment in the long term and therefore is insignificant. That is, although parliament's proportion of women is an indicator of gender equality, it has no effect on employment, in fact. Thus, H1 was not proven.

And GDP growth, on the contrary, has a positive effect on women's employment growth both in the short- and long-term. Women's employment is a trend that leads to increasing demand for goods and services, which in turn increases household income. Therefore, the turnover of goods and services in the economy increases. At the same time, the linkage between women's employment growth and private business opening, and self-employment will also lead to economic development. It also helps reduce government spending on benefits. The government should therefore adopt public programmes to encourage private entrepreneurship among women. Thus, H0 was proved.

According to the model, increasing the number of women's seats in parliament as a factor of gender equality is not a way to increase female employment in Kazakhstan. In the last few years, issues related to domestic violence against women have been raised in Parliament more often than women's employment, and we believe that this is a good sign that women's rights are being raised at the state level. The problem is not in creating specifically for women the conditions of employment but in ensuring the equality of the conditions in all employment processes without gender bias. In this regard, the role of the economic growth indicator is more important than the role of «women seats in parliament».

Finally, the effect of economic growth on employment demonstrates that Okun's law (Okun, 1962) holds.

Since the socio-economic structure of the society is considered, the state policy should focus only on female employment, taking into account the role of women in the family and policies such as “support for mothers”, “support for working mothers”, “remote work opportunities”.

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