

THE METHODOLOGICAL ISSUES OF THE IMPROVEMENT OF GENDER STATISTICS OF EMPLOYMENT

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Abstract

Region statistical employment information by gender and age is very scarce in Georgia. Consequently, the statistical methodology of gathering and analyzing such information needs to be improved. Therefore, the purpose of the research is to discuss the methodological issues of the employment statistics by gender, and to introduce the gender indexes in all the fields and on all the levels of the traditional statistical system.

The research reveals the methodological issues of making the employment indexes and there are given the indexes of changing, structural and fixed composition, and also there are revealed the influence of the factors involved in the index model on the change of level of women's employment using the chain method.

The impact of the factors involved in the index model on the employment rate according to the age is revealed and the projected figure of gender statistics of employment is calculated.

Gender indexes of employment are modified, which helps to determine changes in the nature of employment in the aspect of gender.

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1. Introduction

Introduce the problem

Studying gender issues of employment and correcting the policy aiming at guaranteeing the employment gender equality on its basis is one of the priorities of the present government of Georgia.

Following the interests in improving the labour market efficiency, the topicality of the issue is even clearer if considering the necessity for implementing the balanced policy of the national labour market by the state taking into account the national specificity and global trends.

In terms of unfavourable demographics, the high level of unemployment and poor economic activity, insufficient employment and labour compensation, accordingly is clearly seen and particularly, among women. There is a strong flow of the workforce, mostly young people, including high-qualified labour, to foreign countries. In addition, as strange it may seem, the flows of the professionals from abroad it is found in our country in excess numbers are quite intense. Unfortunately, there are no exact statistical data about migrants and emigrants published in Georgia making the scientific studies of the given problem difficult. There are only expert data with significant differences. On the other hand, the balanced policy of the national labour market is possible through thorough analysis of the gender picture of employment in dynamics.

Presently, studying gender issues in Georgia is quite urgent and it is undertaken in different directions, but such studies are less concentrated on the improvement of the statistical methodology mainly caused by the information scarcity.

Unfortunately, in Georgia lacks regional statistical employment information in respect of gender and age, and therefore, the statistical methods to obtain and analyze such information need improvement.

It is true that the presently available information resources allow identify the general level of employment and its changes in the regional and gender respects, but in order to develop the progressive employment policy, one needs to fix the change of the population employment-gender ratio. This can be done through the employment indexes.

“Designing employment indices and results analysis are necessary to monitor the changes taking place in the field of employment to avoid such inaccuracy as disregard of gender factors. After the society has the right perception of the gender problems, the progress of employment policy will be possible to evaluate what will help to abolish gender stereotypes”.¹

That is why the purpose of the research is to discuss the methodological issues of the gender statistics of employment, to introduce the gender indexes in all the fields and at all the levels of the traditional statistical system.

The investigation was started by analyzing the picture of gender statistics in Georgia and the employment indices were modified based on the available data. In particular, we designed the indices of employment variables, fixed and structural shifts, and evaluated the possible changes in employment and calculated the estimated figures based on the factors included in the index.

Develop the background

In the course of our work, we obtained the available literary and e-sources, in particular: “Gender and Policy” by Khomeriki, “Gender Policy” by Winerolm, Abashidze and Zhvania. We got familiar with following material: Gender Research into Education Sector in Georgia, UNICEF, Klans, Oparaocha, Roer. Gender Equality and Renewable Energies, Thematic Background Paper, Conference Materials, Bonn, Sociological Surney to Nominate Best Gender Sensitive Organization, Gender and Politics into the South Caucasus Project UNDP-Georgia, Tbilisi. We analysed works by Prof. Charita Jash, etc. At the same time, we used different scientific articles and materials of conference reports about the topic in question, in particular, “Impact of women’s psycho-physiological peculiarities on the employment gender balance”, “Social factors of the employment increase”, etc.

State the purpose and rationale background

The purpose of our study is considering the methodological issues of employment gender statistics, introducing gender indicators of the traditional statistics system in all fields and at all levels allowing undertaking the monitoring and identifying major employment priorities. Gender statistical study and analysis are the real basis to support the basic predictive plans and parameters of the country’s economic and social development. No development or realization of the efficient social-economic policy is possible without such calculations.

2. Method

Efficient employment statistical analysis in gender respect is possible only by using relevant statistical methods. The work, through the combined application of methods of statistical observation, grouping and analysis, studies the employment dynamics in gender respect based on the method of fixed numbers. This has enabled us to identify the nature of employment changes in gender respect and impact of the factors on the changes of this phenomenon functionally linked to the resulting index.

Based on the available data, we drafted the employment variable, structural and fixed indices; the employment coefficients and women’s and men’s specific indices were included in the method of fixed numbers and impact of these factors on the employment level changes was identified.

The calculation of the estimated figures of expected unemployment in gender respect by considering the identified employment trends was done by using so called stochastic models of time

¹Gender aspects of employment in Georgia. International Scientific-Analytical Journal „The Economist“, January-February, 2010. P.12.

series, as in the given case, the classical regression methods (linear and non-linear) fail to produce fairly accurate models. The stochastic models were developed in the 1970s' by Box and Jenkins. A general option of this model is known as an "integrated autoregressive and moving average" model (of ARIMA type). We used this model in the given case. In addition, surely we selected its option yielding the desirable accuracy. In the given case, a particular option of this model, in particular moving average model of type AR was found to be appropriate. The trend component was added to this type of model to enhance accuracy.

3. Results

In order to study the population employment dynamics by considering the retrospective analysis, we designed the employment indexes in a gender respect, in particular, the variable employment index was designed as follows:

$$J_v = \frac{t_1^m m_1 + t_1^f f_1}{t_0^m m_0 + t_0^f f_0};$$

Therefore, the fixed proportion index for men and women was formulated as follows:

$$J_m = \frac{t_1^m m_1 + t_1^f f_1}{t_0^m m_1 + t_0^f f_1}; \quad J_f = \frac{t_0^m m_1 + t_0^f f_1}{t_0^m m_1 + t_0^f f_1};$$

and the structural shift indexes were formulated as follows:

$$J_m = \frac{t_0^m m_1 + t_0^f f_1}{t_0^m m_0 + t_0^f f_1}; \quad J_{f.} = \frac{t_0^m m_0 + t_0^f f_1}{t_0^m m_0 + t_0^f f_1}$$

The employment coefficients in a gender respect and specific weights of men and women were included in the index model. This has laid a certain foundation to analyze the nature of change of the study phenomenon.

"Aiming at making the analysis more thorough and obtaining reliable results, the indexes were developed by considering other factors, too. In particular, the employment coefficient and amount of labour resources were used",² and the following indexes were calculated as a result:

$$\text{Variable: } J = \frac{K_{\text{imp.1}} \cdot T_{\text{IMLR.}}}{K_0 \cdot T_0}$$

$$\text{Constant: } J = \frac{K_1 \cdot T_1}{K_0 \cdot T_1} \quad \text{and structural shift index: } J = \frac{K_0 \cdot T_1}{K_0 \cdot T_0}$$

What is the gender statistics of employment gained through the calculation of indexes like in Georgia?

As a reference, by the data of January 1, 2012, the population of Georgia amounted to 4497,6 thousand people, with 52,3% of women and 47,7% of men. 43,5% of the total population with 46,7% females was economically active.³

The statistical data suggest that the variation of the activity level of both sexes in the study period is almost stable. In addition, women are less active. By the data of 2011, the activity level of women was 55,8% and that of men was 76,5%. These indicators showed a 2,3% increase for women and 3,1% increase for men after 2008. Respectively, the women's employment level is lower than that for men, amounting to 48,5% vs. 63,7% for men.

² Abesadze, N. (2010). Index method in employment gender statistics. Collection of works of the scientific conference (301).

³ http://geostat.ge/cms/site_images/_files/georgian/qali%20da%20kaci.pdf

Table 1. Distribution of population aged 15+ by economic activity in age respect (2013)⁴

	Employment level		Activity level		Unemployment level	
	2011	2008	2011	2008	2011	2008
Total population	55,4	52,3	65,2	62,6	15,1	16,5
Women	48,5	44,8	55,8	53,5	13,1	16,1
Men	63,7	61,1	76,5	73,4	16,7	16,8

Source: http://geostat.ge/cms/site_images/_files/georgian/qali%20da%20kaci.pdf

As a rule, women prevail in the fields of education, health and social services, trade, hotel and restaurant businesses. This trend has been promoted by the structural changes in the country's economics and formation of new institutional units in recent years in Georgia.

Particularly high is the unemployment level among women in 20-29 and 30-34 age groups (making 39,6% and 23,2%, respectively), which progressively increased until 2009 and was the major factor having forced the population of Georgia and women particularly to seek jobs abroad in the given period. Accordingly, the migration balance in Georgia was negative until 2009. The recent data evidence that this indicator is positive at present and amounts to 20.2 thousand people.

The data gained after calculating the indices designed in gender respect evidence that the employment level in Georgia has improved since 2008 with the rate of increase of about 3,5% mostly due to the increased male employment. This is evidenced by the gained value of the index designed based on the male employment coefficient, as on the index factor with constant composition. (The index, in terms of constant influence of other factors on the employment level variation, amounted to 1,41. The same indicator for women was 1,09). It should be noted that in the analysis period, the structural shifts showed only limited influence (with the index amounting to 0,996 and 1,002, respectively).

Aiming at expanding the analysis and guaranteeing reliable results, we also designed the employment dynamics indices based on the quantities of two factors – employment coefficient and labour resources.

The conclusions made as a result of the calculations are similar to those made above. Despite the notably higher increase of the resulting indicator for women (it was more the same indicator for men by 5%), it was the stably increasing trend in the men's employment coefficients in dynamics having mainly led to the present priorities and trends in the field of employment of Georgia (despite the fact that the men's labour resources has shown although insignificant, but a reduction of 2,6%).

The fact of the women's employment intensity showing significant enhancement last year is particularly promising in respect of the gender balance of employment. It is a fact that today women are actively engaged in the management of different processes in public, economic, social, demographic, environmental and other fields and do the professional jobs made by men only in the past. However, it is also a fact that in the first instance, the women occupy the places of freed contingent, and women with vocational education are employed quite "reluctantly". Besides, women are less competitive in occupying managerial positions than men, and therefore, in present Georgia their wages are differentiated and differ from those for men. Despite the trend of the wages increase since the Rose Revolution (in 2011 alone, the wages increased by 7% as compared to the previous year, and in 2004-2011, the women's wages increased by 3,9 and men's wages increased by 3,7), the men's wages at present exceed the women's wages by 1,8 on average.⁵

In order to forecast the expected unemployment indicators, the unemployment level and dynamics for men and women in 1998-2011 in Georgia was analyzed. The unemployment level among men (except in 2003) was always higher than that among women.

So called MA (moving average) model was used to make the forecast by adding the trend component found by using software EvIEWS-5.

⁴http://geostat.ge/cms/site_images/_files/georgian/qali%20da%20kaci.pdf

⁵ http://geostat.ge/cms/site_images/_files/georgian/qali%20da%20kaci.pdf

The forecast estimates gained by using this model in 2012-2014 will be 15.2, 15.7, 16.0 % for women and 18.9, 19.7, 20.5 % for men, provided that the current trends remain unchanged.

Thus, the study has evidenced the necessity for the better availability of the information about gender statistics for different types and sectors of business, outlined the existing gaps, priorities and major trends in gender employment, as well as specific measures to improve statistical methodology needed for statistical evaluation of employment dynamics through modifying the employment indexes. The gained result corresponds to the paper objective allowing concluding that designing employment gender indexes and regularly identifying the existing employment proportions based on it, predicting expected misbalance in employment, outlining the employment trends “dangerous” for the society and ultimately crushing the gender stereotypes may become the basis for the progress of the efficient employment policy.

4. Discussion

The considered issue is very urgent for the Georgian reality in both, theoretical and practical respects, as the analysis and forecast of the employment dynamics in gender respect is necessary for the development and realization of the proper gender policy. The present reality of Georgia makes it necessary to significantly improve the information and methodological background of the above-described problems.

The work gives the modified employment indices in gender respect and major results of the economic analysis of the problem. In addition, it includes comparative analysis of unemployment in Georgia in gender respect, and the estimated figures of unemployment are gained by using modern mathematical and computing methods.

References

- Gender Research into Education Sector in Georgia (2004). UNICEF.
- Georgia: Human Development Report. The Reforms and Beyond (2008). Tbilisi.
- Judd Karen (ed.) (2002). Gender Budget Initiatives: Strategies, Concepts and Experiences, New York: UNIFEM.
- Klans, J., Oparaocha, Sh., Roer, U. (2004). Gender Equality and Renewable Energies, Thematic Background Paper, Conference Materials, Bonn, 95-105.
- Labour Market in Georgia (2006). Tbilisi, pp. 33-65.
- Sociological Survey to Nominate Best Gender Sensitive Organization, Gender and Politics into the South Caucasus Project UNDP-Georgia, Tbilisi; pp.5-50.
- Reforming Georgia’s Social protection system (2006). Transparency International Georgia.
- Jashi, Ch. (2005). Gender Economic Issues: The Case of Georgia. Tbilisi, pp. 45-53.
- Jashi, Ch., Tokmazishvili, M. (2009). Gender Dimensions of the Financial Policy of Georgia, 129-140.
- Khomeriki, L. (2006). Gender and Policy, pp. 37-40.
- Winerolm, K., Abashidze, T. Zhvania, I (2012). Gender Policy, pp. 33-50.
- Abesadze, N. (2010). Gender aspects of employment in Georgia, J. “The Economist”, #1, pp. 10-15.
- Abesadze, N. (2009). Impact of women’s psycho-physiological peculiarities on the employment gender balance. “The Economist”, #7, pp. 267-271.
- Abesadze, N. (2010). Index method in employment gender statistics. Collection of works of the scientific conference, pp. 299-302.
- Gelashvili, S., Abesadze, N. (2010). Social factors of the employment increase in Georgia, J. “The Social Economics”, Kharkov, #2, pp. 185-187.
- Abesadze, N., Raresashvili, N. (2010). About some questions of studying employment in Georgia, J. “The Information Technologies and Management”, #5, 54-61.
- Romantchuk, M., Karmanov, M. (1989). Statistics of population employment, 20-38, 45-48.
- http://geostat.ge/cms/site_images/_files/georgian/qali%20da%20kaci.pdf