

## INDICES IN GENDER STATISTICS

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*Abstract:* The article deals with the problem of employment in Georgia through gender statistics. Transitional period caused change in the society of political, social-economic and psychological character. Nowadays the break of stereotypes takes place. Women strive for independence, hence very acute for them is the problem of employment and economic independence.

Therefore, the accent was put on the description of statistical methods of women's employment dynamics in order to study quantitative characteristics. With this purpose indices of women's employment were used, besides the influence of factors, included in the model at the employment level was revealed. For the measuring of the influence of labor resource gender structure on the dynamics of labor coefficient of the population indices of variable, constant and structural shifts were set up.

*Key words:* women's employment, statistics.

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**1. Introduction**

Problems of personal freedom, self-consciousness, power, sexual identification needed consideration in relation to persons social roles, this approach in practice caused transformation of the society social structure and in theory laid foundation for the development of gender studies. Network of disciplines involved in gender research is very diverse, it includes statistics, mathematics, economics, sociology, psychology, economics, demography, medicine, biology, anthropology, ethnography, philosophy, political sciences, social linguistics, etc. Constructing gender studies is an interdisciplinary science (see [1],[2]).

**2. Gender Statistics - New Scientific Concept in Georgia**

As a scientific discipline Gender Studies started its development from 1980s. Gender Statistics for Georgia is a comparatively new science. Separate publications have been published since 1990 on gender issue, but the first statistical collection of official data was published in 2000.

In all countries, irrespective of the level development and existing socio-economic system, the equality between women and men has not been achieved (see [3],[4]). Difference between the roles, which are for men and women in a social life of Georgia, influences on the social policy and planning. Besides, men and women come across with different types of obstacles, which are formed

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as a result of economic transformations in Georgia, since 90s of XX c.

### **3. Socio-Economic Situation of Georgia in Transitional Period**

After the collapse of the Soviet Union, Georgia again restored political independence. Though the change of the existing state governance, civil conflicts and the break of traditional economic and commercial relations had catastrophic consequences for the economy of the country. In 1994 in comparison with 1990 gross domestic product decreased to 30%, state income made up 2% of gross domestic product. According to the expert data the number of workers in 1990-1996 reduced to 1 400 600.

Majority of the population of Georgia receives great part of their income, approximately 80% in the form of salary, or as income, received from the self-employment. Hence, the risk of poverty in Georgia is tightly connected with the problem of employment.

In 1992 in comparison with 1997 the index of poverty increased three times. According to the data of the state department of statistics of Georgia 11% of the population of the country, i.e., of 5 million people in 1997 fell under the category of the poor, 9% - extremely poor. City population presents 56% of the poor.

As a result of civil conflicts the number of internally displaced people came up to 290000. Their majority settled down in Tbilisi, capital of Georgia. 60 % of refugees are women. This caused the problem of employment, which was already critical.

### **4. Gender Aspects of Employment**

Women represent approximately 39,2% of the active population in 2001 in the World. The female unemployment rate is 15, 2% whereas the male one is 7,5%. 80,9% of the employed women work in the service sector. 16,8% of the employed women work part time, whereas only 2,7% of the men do so.

According to the State Department of Statistics of Georgia the percentage of unemployed women is high in the following occupational groups: professionals, technicians and associate professionals, clerks and skilled agricultural and fishery workers (See Table 1).

Though the real number of unemployed women is higher, taking into account its latent forms (incomplete employment, part of workers do not receive salary, etc).

In the transitional period one more phenomenon of the labor market of Georgia appeared. The constantly growing gap between salary and the existing costs caused voluntary refusal from jobs. Mainly women refuse, as the alternative for them is a return to their family and often search of work in informal sector.

<b>Professionals</b>	<b>Women</b>	<b>Men</b>
Professionals	63	37
Technicians and associate professionals	64	36
Clerks	82	18
Skilled agricultural and fishery workers	52	48

**Table 1.** Unemployed by occupational group,  
Georgia, 1998, (Sex distribution 0%)

### 5. Statistical Methods of Measuring of Employment

Existence of necessary processes for the transition of management to the economic methods caused radical changes in the socio-economic development of Georgia. It embraced structural changes in economics and produced real unemployment. Hence, along the numerous problems revealed within the new economic system the rational use of labor resources of the industry force presents the object of particular scientific research. Difficulties in the sphere of employment are acutely revealed in the sex aspect [1].

Gender Statistics must support the elaboration of transformation, break of stereotypes and must favor understanding of factual status of men and women in a society. The goal of gender studies as an academic discipline is to eliminate gender-based discrimination in different spheres of social life, including the sphere of employment.

Thus, it is necessary and interesting to identify and study their main quantitative characteristics in this direction.

### 6. Employment Indices in Gender Statistics

We confined ourselves with the discussion of statistical methods of measuring womens employment dynamics.

Employment indices are used to study womens employment dynamics in statistics. With the base period data of employment, the index of womens labor resources are built: coefficient of work-able women ( $K$ ), the share of the work-able in the population of work-able women ( $D'$ ), the share of work-able women in the labor resources ( $D''$ ), the share of labor resources in the whole population ( $D'''$ ) [2], [4].

There is a tight link between the above-mentioned indices and it is obvious that indices of separate indicators are in interrelation.

$$I_{EK} = I_k I_{D'} I_{D''} I_{D'''},$$

where  $I_{EK}$  is an employment index,  $I_k$  is an index of women's employment,  $I_{D'}$  is an index of share of women of work-able age in work-able women's population,  $I_{D''}$  is an index of share of women of work-able age in women's labor resources,  $I_{D'''}$  is an index of share of labor resources in population.

This link can be presented in an extended way as follows:

$$I_{EK} = \frac{K_{E1} D'_1 D''_1 D'''_1}{K_{E0} D'_0 D''_0 D'''_0},$$

where  $K_E$  is an employment coefficient, an index 1 means the data in the accounting period, an index 0 means the data in the base period.

Expression of factor influence, included in the model on changes of women's employment level is impossible without the use of the chain method [3]. For the characterization of population dynamics of employed women it is necessary to consider in the first place the number change of both the index and the labor resources. Proceeding from this, the index  $I$ , calculated according to the indices of women's employment and labor resources, will be represented as follows:

$$I = \frac{K_{RE1}}{K_0} \left( \frac{T_{1R}}{T_0} \right)^2,$$

where  $K_{RE1}$  is an employment coefficient of labor resources in the accounting period,  $T_{1R}$  is a number of labor resources in the accounting period,  $K_0$  is an employment coefficient of labor resources in the base period,  $T_0$  is a number of labor resources in the base period.

The above-mentioned index is a variable composite index, which is a product of the indices of constant composition  $I_C$  and structural shear  $I_V$ .

Generally the number change of employed women on the basis of changes of labor activity of women population can be presented with the following formula

$$I_C = \frac{K_{1R}}{K_0} \cdot \frac{T_{1R}}{T_0},$$

where  $K_{1R}$  is a women's employment coefficient of labor resources in the accounting period.

But the index built only on the basis of changes of labor resources will be given in the following way:

$$I_V = \frac{K_{RE1}}{K_{1R}} \cdot \frac{T_{1R}}{T_0}.$$

## 7. Coefficient of Labor Activity

One of the important tasks of statistics when studying women's employment dynamics is the influence of sex structure of labor resources on the dynamics of labor activity coefficient. Discussion of this issue is particularly acute nowadays within the conditions of lowering employment level.

For the solution of this problem we introduced the following indicators:

$t^M$  is a coefficient of men of work-able age;

$t^W$  is an employment coefficient of women of work-able age;

$m$  is a share of men in the population of work-able age;

$f$  is a share of women in the population of work-able age.

Variable composite index  $I_V$  shows the quality of active work inclusion of the unemployed population of work-able age and the change of proposition between sexes [2]:

$$I_V = \frac{t_1^M m_1 + t_1^W f_1}{t_0^M m_1 + t_0^W f_0}.$$

The change of men's unemployment level reveals the change in the population employment level. Index  $I_C$  of constant composition  $t^M$  is expressed in the following manner towards other factors of men's employment coefficient:

$$I_C = \frac{t_1^M m_1 + t_1^W f_1}{t_0^M m_1 + t_0^W f_1}.$$

But we express the influence change of women's employment level in case of constancy of other factors with the index of constant composition  $t^W$ , towards other factors of women's employment coefficient  $I$  it is expressed as follows:

$$I = \frac{t_0^M m_1 + t_1^W f_1}{t_0^M m_1 + t_0^W f_1}.$$

For the characterization of dynamic intensity of employment level as a result of change of men's share in the population of work-able age it is necessary to calculate the index of structural change  $I_S^M$  according to the m-factor, i.e., the men's share in the population of work-able age:

$$I_S^M = \frac{t_0^M m_1 + t_0^W f_1}{t_0^M m_0 + t_0^W f_1}.$$

At the average level of employment in the population of work-able age the influence of women's share within the inconstancy of other factors is characterized by the index of structural changes  $I_S^W$  towards f-factors or women's share:

$$I_S^W = \frac{t_0^M m_0 + t_0^W f_1}{t_0^M m_0 + t_0^W f_0}.$$

It is obvious that there is an interrelation between the indices, the multiplication of structural changes, as well as the indices of constant composition produce the index of variable composition.

## 8. Conclusions

Gender Statistics must be tightly connected with the elaboration of political course and planning. Aim and sense of these efforts is to optimally use the potential of economically active population, including women within the interests of development of production and social progress.

In Georgia it is necessary to carry out work in the direction of creating national statistical service on Gender Statistics. Besides, representatives of

different sectors of activities (labor resources, demography, national accounts, etc) must jointly work on the elaboration of plans for the further perfection of the system of statistics, as well as for the complete reflection of the existing gender aspects of employment in Georgia.

#### **R e f e r e n c e s**

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