PARTICULARITIES OF THE FORMATION AND DEVELOPMENT OF REGIONAL MARKETS OF LABOUR FORCE IN THE REPUBLIC OF MOLDOVA

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Abstract: This article presents the results of analysis of the particularities connected with the formation and development of national and regional labour markets of the Republic of Moldova. The research is based on statistical data on the number of the resident population and the population with usual residence, which reflects the real situation in the country, taking into account the population, that absence of more than a year. Evaluation of impact of demographic factors, including the population decline, the change in the age structure and demographic ageing, and migration processes, was given in the analysis of labour force market and the possibility of its reproduction. Economic factors have importance for the stable development of labour force market, including the state of production and social structures in regions, the development of different forms of property, the quality of professional training of labour force, as well as the level of remuneration or wage. As a result of a comparative analysis of the situation in the regional aspect, the main challenges of labour market were identified. The proposals to improve the socio-economic policies were developed, including to increasing of employment rate of working age population, reducing the regional differentiation of local labour markets, promoting new perspective forms of remuneration and, as a result, increasing the stability and sustainability of the above markets to exogenous and endogenous factors.

Keywords: demographic and economic factors, wage, quality of labour force, age structure, market of labour force, working age population.

JEL Classification: J21, J62, O18.

1. Introduction

The opportunities for stable development of labour market in the Republic of Moldova depend on the condition and characteristics of regional labour markets (by zones — mun Chisinau, North, Center and South), to evaluation which it is necessary to determine the main determinants of their equilibrium, contributing to the convergence of regional labour markets and adjustment of employment policies. The relevance (actuality) of this matter is connected to the need for evaluation opportunities and elaboration effective policies for the development of labour market in the Republic of Moldova that can respond to shocks of both endogenous and exogenous nature.

The functioning of labour market is affected by the number of factors, demographic (population decline, ageing), economic (demand and supply for labour force, the opportunity to ensure the reproduction of labour force at the expense of remuniration its real value) and structural (age and educational asymmetry of labour force structure) leading to a quantitative and qualitative change in labour force, its transformation.

2. Data and methodology

The research approach is based on Labour Statistic of National Bureau of Statistics of the Republic of Moldova for the period 2014-2018.

The research was performed on the comparative characteristic of both official statistics up to 2018, inclusively based on a database of resident population, and statistical data calculated on the basis of an indicator of the population with usual residence.

The following main areas in which the inequality factor takes place will be analyzed in connection with the analyse the heterogeneity of regional (zonal) labour markets:

- imbalances in the number of total labour force, inclusiv employed and unemployed population;
- assessment of labour force, employed and unemployed population by age groups, inequality in the level of employment of individual socio-economic groups in labour market;
- development of informal sector;
- imbalances in dynamics of educational structure of labour force;
- evaluation of wage;
- labor migration (migration flows).

The complex and systemic approaches were used in research, methods of scientific knowledge were also used, such as analysis and synthesis, the method of groupings, graphic images, comparative and system analysis.

3. Results

The evaluation of the unevenness development of regional labour markets would allow to more deeply understand the current asymmetries in labour market, determine the main factors and reasons for their existence, and also develop some proposals for socio-economic policies to reduce and prevention their impact in order to increase stability and competitiveness both national and local labour markets for the medium and long term.

4. The number of population

The basis of any labour market is human capital, country's working age population. In view of the above, the analysis will be logically built based on the evaluation of labour force potential, that is, the number of working-age population of the Republic of Moldova, which can constitute this potential (as the potential which shoud exist if the country's population were on its territory or resident population and the real population living at the moment in the country, excluding labour migrants). Such approach will make it possible to evaluate the future development of labour market and in terms of its age structure, subsequently the educational level. In Fig. no. 1 the absolute values and the share of population at working age (16-56 / 61 years) in the structure of the resident population and the usual residence population are presented. The tendency of population decline is reflected particularly evident, which is the consequence of ongoing demographic processes, which is one of main factors in decrease in absolute indicators of labour force. If *in the first case*, the letter **a)** there is a slight change in total number of registered resident population, what *in the second case*, the letter **b)** when evaluate the population with the usual place of residence, there is a sharp decline in population, as a consequence of demographic changes and, especially, migration processes. Simultaneously with the population decline, its structure is changing, namely, a reduction in the share of working-age population, as can be seen from the dynamics of both the resident population and the usial residence population. So, this indicator of the difference between the relative share of working-age population (labour force in partipation age) was about 4-5 percentage points (p.p.).

a) resident population   **b) usual residence population***
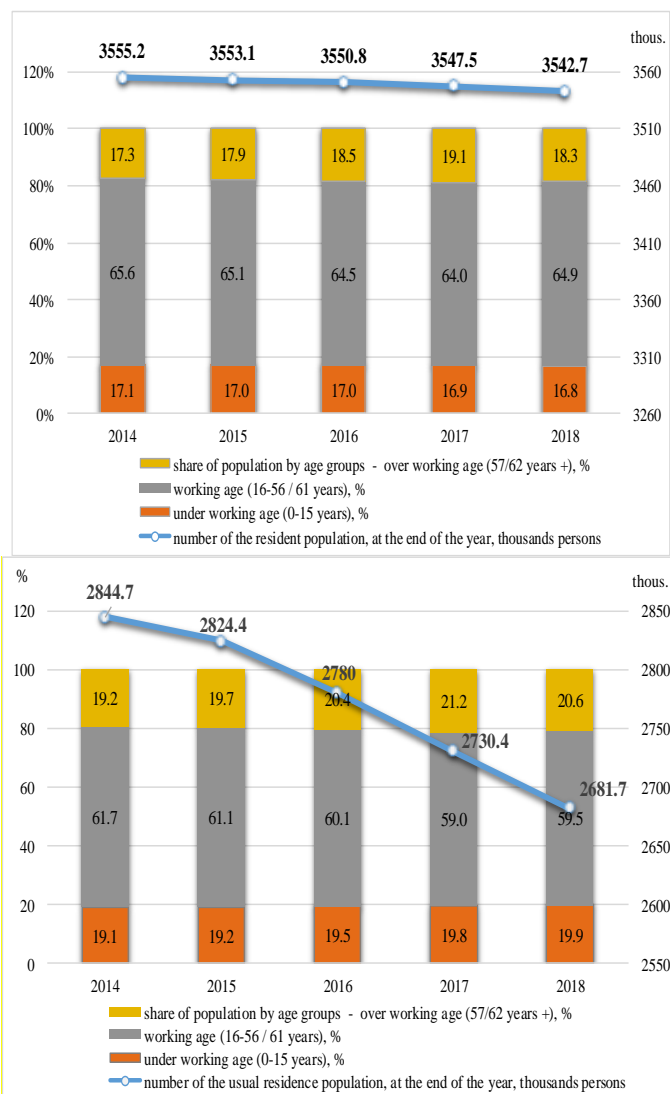
* Without the citizens who went abroad to work for a period of more than one year.

Figure 1. Characteristics population at the end of the year, 2014-2018, thousand persons/% of total

Source: elaborated by the authors on the basis of NBS RM data and authors' calculations, www.statistica.md

5. The number of economically active, employed and unemployed population.

Under the impact of various factors and processes, including: zonal unevenness of socio-economic development, demographic changes and migration flows, the effectiveness of regional management, the possibility of investing in the economy, the availability of human capital and the level of its professional development, changes are occurring that affect the homogeneity of regional labour markets. The above factors strengthen the process of differentiation of local labour markets at the regional level, lead to a deepening of the asymmetry of zonal employment, unemployment, the balance of demand and supply of labour force, etc. Taking into account that the labour market is derived from the economic state, any changes in this field are reflected in labour force market, and the development of different segments of employment, the emergence of new forms and types

of employment, new specialties and professions create their own *patterns of sustainability* of labour relations, including determine regional heterogeneity of labour markets and uneven development both at the macro level and at the level of zones (regions).

From analysis of economically active and employed population, it follows that in 2018, the main relative share in the formation of national labour market belongs to the **Northern zone**, respectively, 29.7% and 29,6%, according to data calculated on the basis of *resident population* and for employed population - 29.5 % Northern zone and 29.8% of the Central zone according to data calculated on the basis of *usual residence population*. Moreover, by 2018 the growth of total economically active population in the *first case* amounted to 104.7% (compared with 2014) and the employed population — 105.7%, respectively, compared to 2017, 102.5% and 103.7%, and in the *second case* these indicators were in 2018, compared with 2017, respectively, 101.8% and 102.9%. In this case, the difference from modified calculation methodology of these indicators was 20.6% in 2017 and 21.1% in 2018.

In general, it should be noted that the tendency both an increase and a decrease in the number of economically active and employed population in spite of the positive growth in number of economically active population in evaluation on the basis of the number of resident population[1] in local labour markets. In case of consideration of data for 2017-2018, there is the tendency for growth of both economically active and employed people, with the exception of mun.Chișinău - the decrease was, respectively, 2.6% and 1.7%. However, the decline in economically active and employed population by mun. Chișinău did not fully affect the growth in their total number, as it was offset by the an increase in their number in other zones (Savelieva G., Zaharov S. [1, p. 25]).

Table 1. The number of economically active/employed population by zones, 2014-2018, thousand persons

	Resident population					Usual residence population	
	2014	2015	2016	2017	2018	2017	2018
Economically active population							
RM	**1232,4**	**1265,6**	**1272,8**	**1259,1**	**1290,7↑**	**999,7**	**1018,1**
mun. Chișinău	353,5	353,9	341,5	336,6	335,4↓	267,0	260,0
North	356,1	384,0	389,7	382,0	383,7↑	296,3	300,4
Center	321,5	329,1	344,1	338,6	364,9↑	278,7	298,8
South	201,3	198,7	197,5	201,9	206,7↑	157,8	159,0
Employed population							
RM	**1184,9**	**1203,6**	**1219,5**	**1207,5**	**1252,2**	**960,8**	**988,5**
mun. Chișinău	332,2	329,2	322,0	317,1	319,2↓	251,5	247,1
North	347,4	366,7	374,0	368,9	371,2↑	287,3	290,9
Center	311,3	315,8	329,6	324,9	359,3↑	268,4	294,7
South	193,9	192,0	194,0	196,6	202,5↑	153,6	155,8

Source: elaborated by the authors on the basis of NBS RM data, www.statistica.md

Evaluation of unemployment

The formation of ILO unemployed population in the regional aspect is resulted from various factors, including structural transformations in the economy, deepening and development of market relations in all sectors areas of the national economy and other reasons of external and internal nature. So, for example, in 2015, recession and trade restrictions on agricultural exports from Russia, the crisis in Ukraine, growth of demand

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[1] Further it is used "for the resident population" and "for the usual residence population". Comment by the authors.

for domestic products in the EU, drought, problems in the banking system, etc. negatively affected on economic development. As a result, the growth in the number of unemployed amounted to 30.7% compared to 2014, including in the Northern zone - 2.02 times, in this case in the South of the country the number of unemployed on the contrary decreased by 7.2%.

In general, the number of unemployed tended to decrease by 2018, including, for example, a decrease in the Central zone constituted to 8.2 thousand persons or about 60%, mainly, the youth group of 15-24 years old (Table no. 3), as well as accordingly the number of migrants in this zone increased in 2018 (Table no. 5).

Despite the fact that mun. Chișinău is a key industrial and center of the country, in which the highest level of socio-economic and cultural development of the country, including employment opportunities in comparison with other zones, at the same time, that's why the municipality has the largest number of unemployed with lower number of employed compared to other country's zones - the share of unemployed mun. Chișinău has fluctuated between 36 and 45% of the total number of unemployed in the country, one of the reasons for this situation is the low level of wages.

With the transition to a new methodology for calculating labour market indicators, unemployment indicators calculated using data on the population with usual residence *have decreased significantly*, but the **existing asymmetry has remained**. So according to data for 2018 the absolute number of unemployed population amounted to 29.6 thousand persons, what is 8.8 thousand persons or 22.9% lower than the unemployed population (based on resident population).

The decrease in the number of unemployed has had an improvement in economic situation. So, despite the fact that in 2017 there was a dependence and vulnerability of economy of the Republic of Moldova from the influence of external factors, there were all signs of recovery in economy, including the increase in production volumes in industry and agricultural sector, investments in fixed capital, foreign trade, transportation, and the growth of real wages and remittances of labour migrants from abroad led to the increase in household incomes and, as a consequence, the increase in consumption. The 4.7% increase in Gross Domestic Product (GDP) was ensured by an increase in internal Gross Value Added (GVA) and product taxes. In 2018 GDP growth was 4.3%, or 0.4 pp lower than in 2017, at the same time, the availability of the good harvest in 2017 was positively influenced to the economic activity and, as a result, an increase in agricultural exports, an increase in investments, as well as the increase in household consumption by 3.8% compared to the previous year. The aforementioned factors caused to reduction of unemployment to 2.9%[1].

Table 2. The number of ILO unemployment population by zones, 2014-2018

	Resident population					Usual residence population	
	2014	2015	2016	2017	2018	2017	2018
The number of ILO unemployment population by zones							
RM, thousand person	**47,5**	**62,1**	**53,3**	**51,6**	**38,4↓**	**38,9**	**29,6↓**
mun. Chișinău	21,3	24,7	19,5	19,5	16,1↓	15,5	12,9
North	8,6	17,4	15,7	13,1	12,5↓	8,9	9,4
Center	10,2	13,3	14,5	13,7	5,5↓	10,3	4,1
South	7,3	6,7	3,6	5,3	4,3↓	4,2	3,2
The structure of unemployed by zones, % of total number of unemployed							
RM (100%)	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**
mun. Chișinău	44,8	39,8	36,6	37,8	41.9	39,8	43,6

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[1] 2.9% recalculated according to the new methodology, www.statistica.md.

North	18,1	28,0	29,5	25,4	32,6	22,9	31,8
Center	21,5	21,4	27,2	26,6	14,3	26,5	13,9
South	15,6	10,8	6,7	10,2	11,2	10,8	10,7

Source: elaborated by the authors on the basis of NBS RM data and authors' calculations, www.statistica.md

Nevertheless, in mun. Chisinau, compared to regional labour markets, the relative share unemployed persons constitute to 39.8% in 2017 and 43.6% in 2018, despite the fact that, according to the data of the Municipal Employment Agency, the number of vacant work plases have been over the number of unemployed (the number of unemployed registered since the beginning of 2018 was 2,919 persons), including 60.5% were job placed (on the end of the year the number of vacant work plases was 16,300)[1]. This situation takes place despite the fact, that more than 50% of the Gross Value Added (GDA) is produced in mun. Chișinău, in the key center of concentration of production, of main services (including of financial, IT) in comparison with other regions of the country. The analysis of the correlation between vacancies and unemployment based on the use of the **Beveridge Curve** in Fig. no.2 showed that despite the fact, that the national labour market and labour market mun. Chișinău are maintaining flexibility and aspiration for equilibrium(independently of the impact of external and internal factors), Beveridge Curve changes at the macro level and at the regional level (mun. Chișinău) have differences. So, the Beveridge Curve at the national level in response to the global financial crisis shows a reduction in unemployment, what at mun. Chișinău level the increase in unemploymen takes place. The difference between the Beveridge Curve at the macro level and at the mun Chișinău level lies in the fact, that at the level of mun. Chisinau the Curve reflects the faster recovery in labour demand in labour market and in 2017-2018 years demand for labor exceeded the 2008 level, in contrast to the change in the Curve at the national level.

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[1] National Employment Agency of Moldova, www.anofm.gov.md.

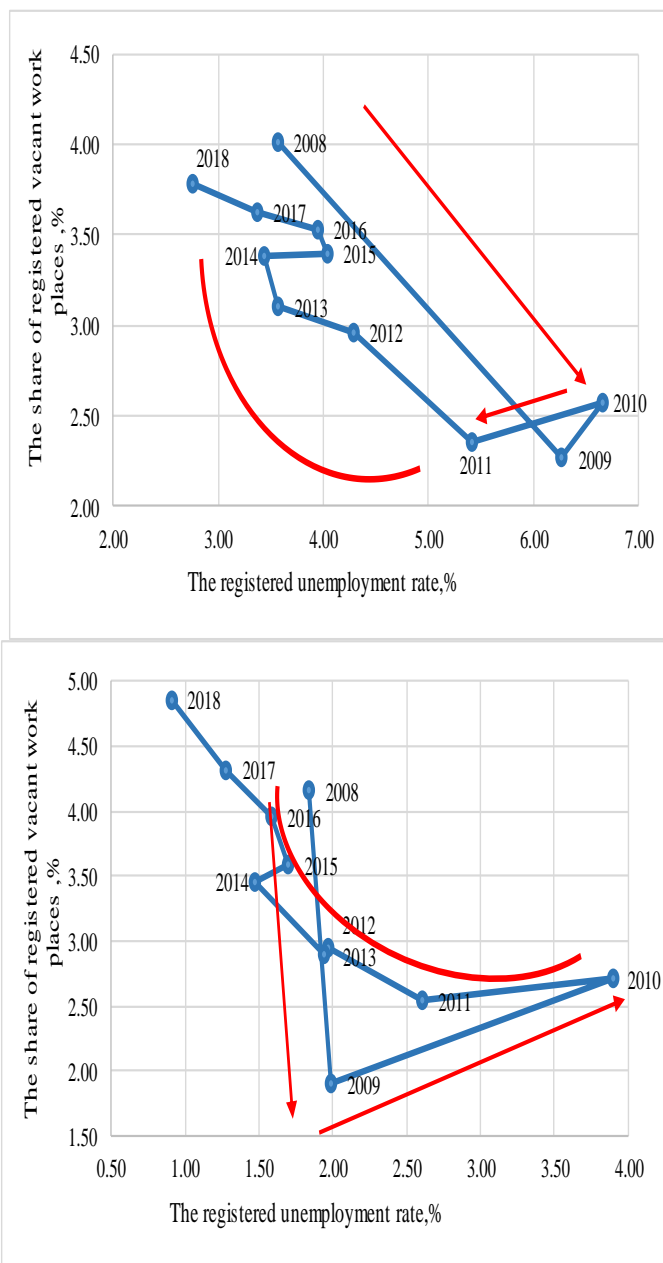**a). RM**   **b). mun. Chişinău**

Figure 2. Beveridge Curve, 2008-2018

Source: authors' calculations based on NBS data and NEA data, www.statistica.md, www.anofm.md

6. Analysis of the dynamics in age structure of economically active and unemployed population

Evaluation of changes in age structure of economically active and employed population by principal age groups gives reason to confirm, that they usually coincide. For comparison and the most probable estimation of the real potential of labour force, the analysis was based on the use of the resident population and the population with usual residence.

The difference in age structure of economically active and employed population is that the vector of changes at the national level (macro-level, +/-), representing the total number of economically active/employed population across the country, may or may not

coincide with changes at the level of defined zone (meso-level). So in 2018, compared with 2014, the share of the youth age group of 15-24 years old decreased by 1.4 percentage points in the whole country at the expense of its decrease in the Northern, Central and Southern zones (respectively -1.5 p.p., -2.2 p.p. and -1.8 p.p.), but in mun. Chișinău the relative share of this group has not practically changed compared to the 2014 level. (Table no.3, resident population).That situation may be a consequence of more favorable opportunities for trainig(education) and job placement of youth in mun. Chișinău. During the period under consideration the relative share of the 25-34 age group decreased, but an increase in its share is observed only in the Northern zone. In the matter of the increase in relative share of the 35-44 age group, it can be seen from the analysis, it is provided due to mun. Chișinău and the South zone. In the age group of 45-54 years significant zonal asymmetry is not observed. At the same time, can be noted the increase in relative share of older age groups (55-64 and 65 years and over) in almost all zones of the country, with the exception of mun. Chișinău.

At the same time, it is necessary to noted that as a result of demographic processes (mortality, ageing), the structure of working age population by age groups changes, which in turn promotes to strengthen the processes of labour mobility, including by type of economic activity: liberating working age population of older age groups in the course of structural reforms goes into those types of economic activity that are less in demand by younger age groups: in agriculture and the service sector, self-employed, various types of creative works(art) and crafts (Zaharov S. [1]). Moreover, it can be noted that the employment structure by type of economic activity in mun. Chișinău differs significantly from other zones in which economic activity in agriculture, forestry and fisheries predominates (Savelieva G., Zaharov S. [1, Table no. 2, p. 28]).

Table 3. Characteristics of main indicators of economic activity and unemployment in the regional aspect, by age groups[1]

	Economically active population						ILO Unemployment population					
	Age groups, years						Age groups, years					
	Total	15-24	25-34	35-44	45-54	55-64	65+	Total	15-24	25-34	35-44	45-54	55-64	65+
RM - total													
2014*	100,0	8,5	25,7	23,9	24,4	15,0	2,5	100,0	21,7	30,9	24,6	16,4	6,4	-
2018*	100,0	7,1↓	24,7↓	24,3↑	21,3↓	17,5	5,1	100,0	17,6↓	34,3↑	18,4↓	17,7	11,5↑	0,5
2018**	100,0	7,1	22,6	22,8	22,3	19,1	6,1	100,0	17,2	33,3	17,9	18,8	12,1	0,7
Mun. Chisinau													
2014*	100,0	9,0	34,6	23,4	19,3	12,3	1,4	100,0	15,0	32,9	28,6	15,0	8,5	-
2018*	100,0	8,8	30,9↓	27,0↑	18,2↓	12,8	2,3	100,0	17,4↑	31,7	14,9↓	21,7↑	13,7↑	0,6
2018**	100,0	8,8	30,0	25,8	19,2	13,7	2,5	100,0	17,1	30,2	14,7	21,7	14,7	1,6
North													
2014*	100,0	8,6	21,3	24,6	25,4	15,5	4,6	100,0	24,4	26,7	27,9	18,6	2,4	-
2018*	100,0	7,1	24,4	22,4	21,9	17,	6,4	100,0	21,6	33,6	20,8	12,8	11,2	-

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[1] For comparability the data from the Labour Force Survey (LFS) were presented based on the data calculated from the resident population for 2014 and 2018. Given that starting with 2019, the Labour Force Survey was conducted according to a new survey plan and according to of the revised definition of employment, based on the estimation of the research results based on the number of the population with the usual residence, the data for 2018 are interpreted in the mentioned context.

		↓	↑	↓	↓	8			↓	↑	↓	↓	↑	
*2018**	100,0	7,2	21,5	20,6	22,9	19,7	8,1	100,0	20,2	34,0	20,2	14,9	10,7	-
Center														
2014	100,0	8,4	22,9	24,5	27,3	15,4	1,5	100,0	31,4	30,4	18,6	15,7	3,9	-
2018	100,0	6,2↓	21,5↓	23,9↓	23,1↓	18,9	6,4	100,0	14,5↓	32,7↑	25,5↑	20,0↑	7,3↑	-
*2018**	100,0	6,1	19,3	22,6	24,1	20,5	7,4	100,0	14,6	31,7	24,4	19,5	9,8	-
South														
2014	100,0	7,7	22,3	22,4	26,8	18,1	2,7	100,0	24,7	30,1	17,8	19,2	8,2	-
2018	100,0	5,9↓	20,9↓	24,1↑	21,9↓	21,9	5,3	100,0	11,6↓	**51,2**↑	14,0↓	14,0↓	9,2	-
*2018**	100,0	5,7	18,7	22,4	22,7	24,1	6,4	100,0	12,5	46,9	15,6	15,6	9,4	-

* In estimating the research results, the number of the resident population was used;
** In estimating the research results, the number of the population with the usual residence was used.

* for comparability the data from the Labour Force Survey (LFS) were presented based on the data calculated from the resident population for 2014 and 2018. Given that starting with 2019, the Labour Force Survey was conducted according to a new survey plan and according to of the revised definition of employment, based on the estimation of the research results based on the number of the population with the usual residence, the data for 2018 are interpreted in the mentioned context.
Source: authors' calculations on the basis of NBS RM data, www.statistica.md

The deviation between the indicators of the relative share of principal age groups in the structure of economically active and employed population, calculated on the basis of data on resident population or the population with the usual residence, constitute to ± 2.3 p.p. Moreover, the share both the economically active and the employed population in the age structure of workers of *older age groups* (55-64 and 65 years of age and over) increases.

Inequality of zonal labour markets is also reflected in different numbers of age groups with the highest rates of population economic activity (Table no. 4). So the South zone has only two age groups with the highest activity of 35-44 and 45-54 years, because the remaining age groups have lower economic activity of population compared to other zones. For mun. Chișinău is characterized by a higher rate of economic activity of youth group of 15-24 years compared to other zones, as a consequence of the availability of more opportunities for youth job placement. The indicator of economic activity for the age group 55-64 years in mun. Chișinău practically is equal both for the resident population and for the population with the usual residence, which also indicates the presence of favorable conditions for the participation of this age group in labour market in mun. Chișinău.

Table 4. Economic activity rate by age groups and zones, 2018, %

Age groups	Economic activity rate									
	Resident population					Usual residence population				
	RM	mun. Chișinău	North	Center	South	RM	mun. Chișinău	North	Center	South
Total	43,3	48,6	44,3	42,9	35,8	45,9	49,8	48,3	45,1	38,4
15-24	20,8	**31,4**	21,1	17,6	13,9	22,5	**33,1**	24,0	18,3	15,1
25-34	**47,4**	**57,8**	**48,7**	**45,0**	34,0	**52,5**	**62,0**	**54,4**	**49,5**	38,7
35-44	**58,3**	**69,2**	**57,3**	**56,8**	**48,1**	**63,2**	**72,7**	**63,6**	**60,9**	**53,2**
45-54	**61,7**	**69,3**	**61,4**	**59,9**	**57,0**	**66,4**	**74,0**	**67,5**	**64,3**	**59,9**
55-64	**47,6**	44,6	**52,2**	**47,6**	44,4	**49,4**	44,8	**55,5**	**49,1**	46,4
65 and over	16,1	7,4	19,6	21,7	14,1	17,5	7,3	22,6	22,5	15,1

Source: elaborated by the authors on the basis of NBS RM data, www.statistica.md

The significant reasons for the existence of inequality in the age structure of the unemployed aren't observed at the time of general reduction in the number of unemployed, calculated on the basis of both the resident population and the population with the usual residence (Table no. 2, Table no. 3). At the same time, some differences in comparison with other territories in the age structure of unemployed take place in the Center zone (resident population). Significant reduction in the share of the age group 15-24 years from 2014 to 2018 by 16.9 p.p. changed the age structure of the unemployed population of this zone, signs of asymmetry can be noted practically in almost all age groups (except for 15-24 years) in this zone. It is also noted the sharp increase in the share of the age group 25-34 years of the South zone in 2018 up to 51.2% (resident population, Table no. 3).

7. The educational structure of the labour force

Analysis of labour force by education level is an important step in evaluation its stability and competitiveness. Considering that local labour markets are components of the national market and they form it as a whole, therefore, evaluation their quality by education level is especially important.

In evaluating the quality of labour market as a whole, it can be noted that most of labour force and the employed population have professional education (according to results of research in 2018, it was identified that 60% of labour force has a professional education Savelieva G., Zaharov S. [2]). Moreover, the highest relative share of workers with professional education is concentrated in the age groups of 45-54 and 55-64 years. Also in this context, it can note a tendency to increase the share of working population with higher education, which, in turn, has largest of economic activity and employment rates. Analisis of the education level of labour force by individual age groups show, that the largest relative share of workers in the age groups of 25-34 and 35-44 years has higher education (in 2018, 36.8% and 29.4% for the resident population and 34, 8% and 28.4% for the usual residence   population). At the same time, analisis the unemployment rate of various categories of workers hasn't identified any particular differences depending on education. [Zaharov S. 7, p. 55-56]

In 2018, the largest share of economically active population with higher education takes place in the mun. Chișinău (47.2%): 159.4 thousand persons. economically active population calculated on the basis of the resident population and 122.7 thousand persons economically active population calculated on the basis of the usual residence population have higher education, respectively, 47.5% of labour force and 47.2%. Vocational and secondary specialized education is characteristic of the Central zone (40.2%) and the Northern zone of the country (35.1%). Gymnasium graduates have a rather high relative share in the Northern zone — 29.2% of economically active population of this zone. At the same time, the Southern zone has the highest relativa share of economically active population without education - 1.3% (Table no. 5). The above-mentioned differentiation in the education level of economically active population is reflected both the quality of local markets and the national one, reducing its stability and competitiveness. In large part, the existing situation is the consequence of socio-economic infrastructure, its changes during implementation of structural reforms and other transformations (Savelieva G., Zaharov S. [1, p. 28]). However, during the development of perspective programs for socio-economic development of territories, education and training, retraining should be determined as *one of the priority tasks*.

Table 5. The educational structure of the economically active population by zones, 2018, thousand persons/%

	Resident population					Usual residence population				
	RM	mun. Chișinău	North	Center	South	RM	mun. Chișinău	North	Center	South
Total	**1290,7**	**335,4**	**383,7**	**364,9**	**206,7**	**1018,2**	**260,0**	**300,4**	**298,8**	**159,0**
Higher	**312,8**	159,4	66,3	52,7	34,5	**230,9**	122,7	44,6	39,4	24,2
Secondary special	**167,0**	46,9	50,5	41,5	28,1	**133,1**	37,1	39,4	34,6	21,9
Primary (secondary) vocational education	**295,7**	54,0	85,7	100,5	55,6	**237,3**	42,2	66,0	85,4	43,8
Lyceum, general secondary	**241,0**	53,2	75,2	68,8	43,7	**193,0**	41,3	60,3	56,9	34,4
Gymnasium	**266,3**	21,7	103,2	99,1	42,3	**217,5**	16,5	87,5	80,7	32,7
Primary school or without	**7,9**	0,2	2,8	2,2	2,6	**6,4**	0,2	2,4	1,8	2,0
In % of total										
Total	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**
Higher	**24,2**	47,5	17,3	14,4	16,7	**22,7**	47,2	14,8	13,2	15,2
Secondary special	**12,9**	13,9	13,2	11,4	13,6	**13,1**	14,3	13,1	11,6	13,8
Primary (secondary) vocational education	**22,9**	16,1	22,3	27,5	26,7	**23,3**	16,2	22,0	28,6	27,5
Lyceum, general secondary	**18,7**	15,9	19,6	18,9	21,1	**18,9**	15,9	20,1	19,0	21,6
Gymnasium	**20,6**	6,5	26,9	27,2	20,5	**21,4**	6,3	29,2	27,0	20,6
Primary school or without	**0,7**	0,1	0,7	0,6	1,4	**0,6**	0,1	0,8	0,6	1,3

Source: elaborated by the authors on the basis of NBS RM data and authors' calculations, www.statistica.md

8. Evaluation of wages

The transformation of the socio-economic regional infrastructure, structural transformations of the economy, the development and deepening of market relations, including the formation of a predominant share of private property and the liberalization of labour relations have led to the decrease in the state role in wage regulation. At the present time, wage in the Republic of Moldova does not cover the cost of labour force and have practically lost their principal functions such as stimulating, reproductive and economic regulation. The predominant share of working age population is occupied by the agricultural sector (39.3% in 2018)[1] which is the main one for the regions, including the Northern zone (48.9%), the Central zone (47.6%) and the South (45.9 %)[2].

At the same time, the labour in the above sector is not highly qualified, therefore the level of wages in it is also the lowest compared to other types of economic activity: in 2018, for example, with the average wage in the Republic of Moldova of 6268.0 lei, in sectors agriculture, forestry and fisheries, its size constituted to 4188.7 lei or 66.8% of the average for the country, including in agriculture, hunting and related services - 4088.4 lei or 65.2% of the average for the country. The level of remuneration at public and private property enterprises is different: in 2018 the wages of workers employed at enterprises and organizations with public property amounted to 6313.4 lei, and from private - 6 233.4 lei or

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[1]Authors' calculations on the basis of NBS RM data, https://statbank.statistica.md/pxweb/pxweb/ro/30%20Statistica%20sociala/30%20Statistica%20sociala__03%20FM__03%20MUN2019__MUN020/MUN120200.px/table/tableViewLayout1/?rxid=b2ff27d7-0b96-43c9-934b-42e1a2a9a774.

[2] Authors' calculations on the basis of NBS RM data, https://statistica.gov.md/pageview.php?l=ro&idc=350&id=4290.

1.3% lower[1]. Consequently, the existing socio-economic infrastructure, type of economic activity, form of property, professional status of a worker to one degree or another affect to the level of wages and its differentiation in individual zones. The difference in the level of remuneration of employed population by zones compared with the average republican level for a five-year period, 2014-2018, had been reflected in Table no. 6.

Table 6. Comparative characteristics of wages in the regional aspect[2]

	Average monthly wage - brut, lei					The ratio of the regional wage to the average wage in the country,%				
	2014	**2015**	**2016**	**2017**	**2018**	**2014**	**2015**	**2016**	**2017**	**2018**
RM	**4089,7**	**4538,4**	**4997,8**	**5587,4**	**6268,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**
mun. Chişinău	4827,0	5375,3	5951,5	6716,4	7490,0	118,0	118,4	119,1	120,2	119,3
North	3522,1	3871,0	4211,9	4665,2	5259,5	86,2	85,3	84,3	83,5	80,8
Center	3334,7	3719,5	4061,8	4522,3	5084,0	81,5	82,0	81,3	80,9	77,7
South	3183,5	3527,3	3881,6	4257,0	4814,7	77,8	77,7	77,7	74,4	73

Source: elaborated by the authors on the basis of NBS RM data and authors' calculations, www.statistica.md

As follows from the analysis, the lowest level of wages is characteristic for the Southern zone of the country. In principle, summarizing the results of the analysis, the following can be noted.

The growth of wages (up to 325 euros in 2018) made it possible for the Republic of Moldova to compare its average level with countries such as Armenia and Georgia. However, according to estimates of foreign experts the level of wages (brut) of the Republic of Moldova in 2018 remains 44% lower than a country in the European Union such as Bulgaria (580 euros), as well as Serbia (580 euros), Northern Macedonia (579 euros), and compared to Romania (965 euros), it less than 50%, three times less than in Poland (1,134 euros)[3]. Naturally, the current situation forces the working age population to search for possible ways to improve the material well-being of the family and, as one of the solutions, is labour migration.

9. Labour migration
One of the unfavorable factors for ensuring the stability of the development of labour force market is the low level of economic activity of population. Despite the decrease in the absolute values of economically inactive population by 7.4% in 2018, compared to 2016, the economic inactivity rate remains at the level of more than 50%, including in 2016 - 55.2%, 2017 — 55.9%, in 2018 - 54.1%. The main reasons for this situation are demographic changes, including a population decline, in particular a change in age and sex structure, ageing and migration processes. Evaluating the motives of existing situation, it can affirm, that the main relative share in this category of population is the category of pensioners (48.5% in 2018 as a result of demographic population ageing), in second place is the population in the process of study, vocational training (17.0%) and the category of labour migrants occupied the third place (13.9%). Moreover, if in 2016-2017 the share of migrants from rural was more significant (58.9% and 61.7%, respectively), then in 2018

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[1] NBS RM, https://statbank.statistica.md/pxweb/pxweb/ro/30%20Statistica%20sociala/30%20Statistica%20sociala__03%20FM__SAL010__serii%20anuale/SAL010200.px/table/tableViewLayout1/?rxid=5aad211e-2f63-43c6-9796-f49f4cefe6cf.
[2] The calculation is based on the data on the average monthly wage - brut.
[3] Spatari M., GugaŞ. Situația salariaților din Republica Moldova: o criză structurală. Friedrich Ebert Stiftung, Syndex Romania, 2019, p. 31-32.

the labour migration from urban increased from 41.1% in 2016. up to 48.2% in 2018 (in 2018, labour migrants from rural constituted for 51.8%). By gender, among migrants, male migrants constitute for a larger share (in 2016 - 67.6%, in 2017 - 66.6% and in 2018 - 62.3%), although there is a tendency to increase in the composition of women migrants. Considering the fact, that the economic factor takes place at the basis of labour migration (the possibility of job placement, conditions and regime of employment, wage size), uneven of socio-economic development, the absence of both production and socio-cultural infrastructure in the territories destabilize local markets labour force, which in turn is manifested in the differentiation of basic indicators, including those connected to labour mobility, its internal and external migration.

Analysis of labour migration flows had shown, that the largest relative share of labour migrants is constituted the working age population of the Central zone (40.3%) and the Southern zone (27.9%) in the total number of labour migrants, in this case the labour migration from the mun. Chișinău is also increasing (9,7%). Table no. 7 presents the characteristics of labour migrants (calculated on the basis of the resident population and the usual residence population), however, in the first and second cases, it can be noted that in 2018 the labour migration flows *have increased*.

Table 7. The dynamics of labour migration by main zones, 2014-2018

	Thousand persons							In % of total[1]						
	Resident population*					Usual residence population**		Resident population*					Usual residence population**	
	2014	2015	2016	2017	2018	2017	2018	2014	2015	2016	2017	2018	2017	2018
RM	**341,9**	**325,4**	**319,0**	**318,4**	**352,7**	**140,6**	**147,4**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**
mun. Chișinău	32,3	33,5	31,1	36,5	44,8	13,5	14,3	9,5	10,3	9,8	11,5	12,7	9,6	9,7
North	101,3	97,6	86,9	82,9	97,2	29,1	32,6	29,6	30,0	27,2	26,0	27,6	20,7	22,1
Center	113,8	100,5	103,1	112,1	118,2	58,2	59,4	33,3	30,9	32,3	35,2	33,5	41,4	40,3
South	94,5	93,9	97,9	87,0	92,5	39,9	41,2	27,6	28,8	30,7	27,3	26,2	28,3	27,9
[1] authors' calculations														

* the number of citizens who left for work or in search of work abroad;
** went to work abroad for a period of more than one year.
Source: elaborated by the authors on the basis of NBS RM data and authors' calculations, www.statistica.md

Evaluation of labour migrants by age structure shows to conclude, that the *predominant age group* is 25-34 years old practically in all zones of the country, that is, the most perspective and fertile group in labour market (the interval by zones is from 34 to 44% of total migrants). At the same time, the decrease in relative share of older age groups, including the age group of 45-54 years, can be noted. In mun. Chișinău in comparison with both the national average and zonal indicators, *lower involvement* in labour migration is noted in the age group of 15-24 years.

Table 8. The structure of labour migrants by main age groups in regional aspect, 2018,
% of total

Age groups	Resident population					Usual residence population				
	RM	mun. Chişinău	North	Center	South	RM	mun. Chişinău	North	Center	South
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
15-24	15,4	9,1	16,4	15,8	16,8	18,9	12,0	19,9	19,2	19,9
25-34	38,6	42,1	33,8	38,2	42,5	38,3	44,2	33,5	37,7	41,0
35-44	24,2	24,1	24,4	23,9	24,5	23,5	24,7	22,1	24,3	23,1
45-54	15,7	17,6	19,2	15,9	10,7	14,4	13,4	19,3	14,2	11,2
55-64	6,0	6,9	6,1	6,0	5,4	4,8	5,7	4,9	4,6	4,8
65 and over	0,2	0,2	0,1	0,2	0,1	0,1	0,0	0,3	0,0	-

Source: authors' calculations on the basis of NBS RM data, www.statistica.md

Further, the analysis of the ratio of the number of labour migrants per 100 people of labour force had shown, that there are problems of *high labour migration* working age population in the South zone.

Table 9. The number of labour migrants per 100 persons of labour force* by zones, 2014-2018

Labour Force	Resident population					Usual residence population	
	2014	2015	2016	2017	2018	2017	2018
RM	27,7	25,7	25,1	25,3	27,3	14,1	14,5
mun. Chişinău	9,1	9,5	9,1	10,8	13,4	5,1	5,5
North	28,4	25,4	22,3	21,7	25,3	9,8	10,9
Center	35,4	30,5	30,0	33,1	32,4	20,9	19,9
South	46,9	47,3	49,6	43,1	44,8	25,3	25,9

* The ratio between the number of labour migrants per 100 persons of the economically active population.
Source: authors' calculations on the basis of NBS RM data, www.statistica.md

10. Informal employment

As noted earlier, a distinctive particularity of the Republic of Moldova's labour market was the low level of registered unemployment or less than 2%. However, the analysis of the actual situation suggests that this indicator does not reflect the real situation in the field of employment of labour force and, on the contrary, is often the result of hidden unemployment and imperfections of accounting of statistical data, including that it is calculated on the basis of the number of addressed population for job placement in public employment services. However, taking into account that these services are not able to provide the job placement for addressed workers, they are often job placed themselves, including in the informal sector, given the possibility of obtaining additional "into an envelope" wages or on the basis of self-employment. This fact is confirmed by the data of the Labour Force Survey (LFS) of the National Bureau of Statistics (NBS). So, according to the NBS, in 2018, informal employment constituted to 38.5% of total employment (calculation based on the resident population) and 39.7% based on the population with usualy residence, that is a consequence of both structural transformations in national economy and implemented measures to optimize organizations of social and managerial structures at the national and local levels. Changes in ratio between formal and informal employment are presented in Table no. 10.

Table 10. Distribution of employed population, formal and informal sectors, 2014-2018

Employed population	Resident population, thousand persons					Usual residence population, thousand persons		Resident population[1] , %					Usual residence population[1] , %	
	2014	2015	2016	2017	2018	2017	2018	2014	2015	2016	2017	2018	2017	2018
Total	1184,9	1203,6	1219,5	1207,5	1252,2	960,8	988,5	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Formal sector (formal work place)	799,4	785,2	776,2	788,6	769,9	605,3	595,9	67,5	65,2	63,6	65,3	61,5	63,0	60,3
Informal sector (informal work place)	385,5	418,4	443,3	418,9	482,3	355,5	392,6	32,5	34,8	36,4	34,7	38,5	37,0	39,7
[1] authors' calculations														

Source: elaborated by the authors on the basis of NBS RM data and authors' calculations, www.statistica.md

Analyzing informal employment by type (sector) of economic activity, it can be noted, that the situation is complex: the most favorable for the development of this form is the agriculture and construction sector, in which it constitute to 82.9% and 61.5 in 2018, respectively. These types of economic activities are traditionally predisposed to the above phenomenon alredy because, that in agriculture, which is not specially competitive and specific for rural, the predominant role of informal sector is connected with the form of labour organization based on employment of household members, who mainly produce products for own consumption, while in the construction sector the share of informal jobs has increased and this sector is connected with work in urban. Moreover, the share of employed population in these sectors is different, and taking into account the shortage of labour force in recent years, the need to attracting and exploiting investments for the country's economic development. This sector should be closely monitored by the state. At the same time, in the trade sector, hotel and restaurant activities (HoReCa), there is a tendency to decrease the share of the informal sector.

Table 11. Informal employment by economic activity sectors, % of total employment

	Total RM	Agriculture, hunting economy, fish farming	Industry	Construction	Wholesale and retail trade, hotels, restaurants	Transport and communications	Public administration, education, health and social assistance	Other activities
2014*	32,5	77,9	6,2	60,2	15,7	11,8	0,3	13,2
2015*	34,8	82,4	5,8	62,8	15,4	11,5	0,5	14,2
2016*	36,4	82,4	6,4	58,9	15,9	14,2	0,6	15,5
2017*	34,7	82,3	5,2	60,1	14,9	9,5	0,3	17,3
2018*	38,5	85,3	4,8	62,5	13,3	9,9	0,6	18,8
2016**	38,3	82,3	6,4	58,6	16,0	14,4	0,6	15,8
2017**	37,0	82,5	5,8	59,7	15,3	9,4	0,3	17,3
2018**	39,7	82,9	4,8	61,5	12,8	8,8	0,6	18,4

* In estimating the research results, the number of the resident population was used[1]
** In estimating the results of the research, the number of the population with usual residence was used, calculated by the authors, www.statistica.gov.md.
Source: authors' calculations on the basis of NBS RM data, www.statistica.md

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[1] Spatari M., Guga Ș. Situația salariaților din Republica Moldova: o criză structurală. , Friedrich Ebert Stiftung, Syndex Romania, 2019, p. 24.

The largest share of informally employed population is concentrated in the youth group of 15-24 years old and 65+ years old, however, the employment rate in these age groups is low (Zaharov S. [4]).

11. Conclusions

Complex and systematic methodological approaches, as well as analytical, comparisons, synthesis, graphical and other methods used in research to evaluation the correlation of the socio-economic development of the country and its regions with the employment of working age population based on the use of statistical data about the population and labour force survey and households made it possible to formulate a number of main conclusions about the interdependence and impact of demographic and transformational changes in economy, including in labour force market. As a rule, any of the above changes lead to labour mobility by type of economic activity, in the territorial aspect, in employment rate, and there is also a change in the real earnings of employed population. The change in forms of property is played an important role in these processes, the predominant share of private capital is not a guarantee of the development of production and social infrastructure and the creation of new work places, and the existence of external and internal factors, political instability and vulnerability of the Republic of Moldova from them, is reflected both on the stability of socio-economic development of the country and its regions, and the situation and development of labour force market. Estimation of economically active and employed population in 2018 showed that the main relative share in formation of national labour market belongs to the Central zone or 29.8% and the Northern zone or 29.5%. Despite the positive growth in the number of economically active population as a whole throughout the country, there are tendencies of growth as well as a decrease in the number of economically active and employed population in the local labour markets.

An important step in evaluation its stability and competitiveness of labour market is the analysis of the labour force by level of education. The main relative share of employed population has professional education (60% of labour force in 2018 had a professional education), including this situation is typical for age groups 45-54 and 55-64 years old. In the age groups of 25-34 and 35-44 years old, the highest relative share of workers has higher education (34.8% and 28.4%, respectively).

An important element of labour force market is wage. The transformation of the socio-economic regional infrastructure, the development of market relations, the change in forms of property, the liberalization of labour relations have led to a decrease in the role of the state in wage regulation. At the present time, wage in the Republic of Moldova do not cover the cost of labour force and have practically lost their basic functions such as stimulating, reproductive and economic regulation. The predominant share of working-age population is occupied by the agricultural sector (39.3% in 2018), in which the lowest level of wage is registered: in 2018, the average wage in the sectors of agriculture, forestry and fisheries is 66.8% of the national average, in including in agriculture, hunting and related services –65.2% of the national average. The level of remuneration at enterprises and organizations of public and private property is different (in 2018, the wage of workers employed at enterprises and organizations with private property were 1.3% lower than with public property). The existence of a socio-economic infrastructure in the region, the forms of property, professional status of workers to one degree or another affect the level of wage and its differentiation in individual zones.

The economic factor, including the possibility of job placement (conditions and regime of employment, wage), unvenness socio-economic development, absence both production and socio-cultural infrastructure in the territories leads to destabilization of

local labour markets, which in turn is reflected in the differentiation of principal indicators, including those connected with labour mobility, its internal and external migration. The analysis of labour migration flows shows, that the working age population of the Central zone (40.3%) and the Southern zone (27.9%) constitute the largest relative share of labour migrants in the total number of labour migrants, in this case labour migration from mun. Chișinău is increasing (9.7%).

In addition to the above-mentioned factors, informal employment influences the formation and stable development of labour market, its competitiveness. According to the NBS date, in 2018, informal employment constituted to 39.7% of total employment as a consequence of structural changes in national economy and implemented measures to optimize budget organizations at the national and local levels. The largest relative share of informal employment is in the sector of agriculture and construction, accordingly, 82.9% and 61.5% in 2018. Moreover, this form for agriculture is more specific as a form of organizing employment of household members who mainly produce products for their own consumption, what for construction, reducing of relative share of informal employment is one of the tasks of national importance, taking into account the labour force deficit registered in recent years, as well as the strengthening of the role of this sector in connection with the attraction and exploiting of investments, including foreign capital for the economic development of the Republic of Moldova.

Consequently, demographic processes (population decline, changes in age and sex structure, demographic ageing, migration processes, etc.) and economic factors (transformation and structural changes of socio-economic infrastructure, development and deepening of market mechanisms, systems of remuneration) are the main factors influencing to the formation and development of both regional and national labour force markets, including determine their heterogeneity and the existence of differentiation in main characteristics of involvement and participation in labour market of working age population.

In order to improve the existing situation, increase the stability and competitiveness of national labour force market in the context of the above, consider it advisable to improve demographic, social and economic policies, taking into account the experience of the EU countries, including:

- development of programs for regional socio-economic development, taking into account the real number of population and the demographic forecast for the medium term, as well as the territorial balances of labour force to evaluation the effective functioning of the region's socio-production infrastructure. Regional programs should be elaborated taking into account the conditions of transformational transition of economy, the particularities of population reproduction and the development of depopulation processes;

- to conduct the research to evaluation the impact of changes in age composition of population of the Republic of Moldova on economic development (the correlation of consumption, savings and transfers between generations based on data from National Transfer Intergenerational Accounts) to develop policies to support the country's economic development for the medium term, depending on the scenarios of the demographic forecast;

- determination of the need for qualified labour force, including by type of economic activity, taking into account the emergence of new professions in labour market, by region. In this connection, the education system should be reoriented to training specialists, taking into account the real needs of labour market;

- reconsider the minimum wage, which is one of the lowest in the EU countries and at this time is not the tool for increase real wage, as well as with which the state could solve the problem of undeclared payments to workers;

- promotion of new forms and systems of remuneration. Wage, as an estimate of labour cost, have lost their basic functions, including reproduction, measuring as an estimate of labour contribution, social, ensuring an interest in improving professional skills and differentiating remuneration depending on the complexity of labour, etc. Legislative state policy in this field is based on 2 systems of remuneration in the budget and real sectors of economy. In the public sector, its increase is fragmented and depends on financial possibilities, and in the real sector of economy, the revision of wages depends on the growth of the consumer price index and the increase in labour productivity at the national level. This situation already creates a certain differentiation in remuneration and at the same time does not take into account the training and quality of labour force. In the EU countries, the remuneration system is based on professional skills, competencies of workers, the dependence of the level of remuneration on skills, complexity, productivity, the scale of the work performed and other factors provided by the corresponding standards. Improving the system of remuniration will provide an opportunity not only to stimulate employment growth, but will also help to reduce the share of workers in shadow sector of economy;

- improvement of the legislative and normative basis in taxation of wages (by earnings level) and tax benefits, indexation of labour earnings in connection with the growth of prices and tariffs for goods and services;

- reactualize policies that ensure labour market flexibility, including the solution of such problems as hiring/dismissing, existence various kinds of payments and benefits, obligatory conclusion of labour contracts, remuneration, regime of work and including "remote", freelancing, training, retraining and improving professional skills, organizing and conditions for healthy work activities, creating new work places that are corresponding with the realities of market relations.

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