

## COMPARATIVE EVALUATION OF THE LABOR MARKETS DEVELOPMENT IN THE REPUBLIC OF MOLDOVA AND UKRAINE

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*The relevance of the article is due to the fact that the functioning of labour markets in the Republic of Moldova and Ukraine is facing a number of serious problems. Among them, the most acute are the problem of inefficient employment, the widespread informal employment, and the imperfect wage system. The aim of the research is to analyze the challenges and risks in the labour sphere of Moldova and Ukraine, to identify commonalities and differences in the process of transforming the labour markets of both countries, and to develop proposals for resolving the most acute problems. Information base of the research is represented by data of national statistics, international databases, legislative and normative acts. The authors are using the following methods: monographic, statistical, analogue based, and comparison based ones. They proposes various measures to bring the minimum wage to European standards, reduce the level of informal employment, and improve the system of social protection of the unemployed.*

**Keywords:** employment, informal employment, nominal wages, sectoral wage differentiation, labour productivity, minimum wage, subsistence minimum of an able-bodied person, unemployment rate, unemployment benefit.

*În ultimii ani, funcționarea piețelor muncii în Republica Moldova și Ucraina prezintă o serie de probleme complexe, printre care: ocuparea ineficientă a forței de muncă, prevalența pe scară largă a ocupării informale, imperfecțiunea sistemului de remunerare a muncii. Scopul cercetării este analiza provocărilor și a riscurilor în domeniul muncii în Republica Moldova și Ucraina, identificarea convergențelor și divergențelor în procesul de transformare a piețelor forței de muncă, elaborarea propunerilor privind soluționarea celor mai acute probleme. Baza informațională a cercetării constituie datele statisticii de stat, bazele de date internaționale, actele legislative și normative. În cercetare sunt aplicate metodele: monografică, statistică, analogică, comparativă. Conform rezultatelor cercetării se propun măsuri privind apropierea cuantumului salariului minim la standardele europene, reducerea ocupării informale, perfecționarea sistemului de protecție socială a omului.*

**Cuvinte-cheie:** ocuparea forței de muncă, ocuparea forței de muncă informal, salariul nominal, diferențierea sectorială a salariului, productivitatea muncii, salariul minim, minimumul de existență a persoanei apte de muncă, omaj, ajutor de omaj.

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**Introduction.** Nowadays, an actual problem is the improvement of the performance of labour markets in the Republic of Moldova and Ukraine. In order to solve this problem, it is necessary to conduct an analysis of the functioning and to identify common and different sides in the development of the labour sphere in both countries. Consequently, we will identify measures to improve employment policy in the labour markets of the Republic of Moldova and Ukraine. This research will be better done on the basis of a comparative analysis of social processes.

The method of comparative analysis provides an understanding and description of social processes, as well as the dynamics of change in any country, which makes it possible to go from the description (what, where, when) to the explanation and, as a consequence, to reveal the causal links (If... that...). The reasons for the comparison are written by Tom Mackie and David Marsh: "The main reason for the comparative study reflects the basic nature of social scientific research; it almost always is unable to use the experimental method... More specifically, we can identify two main reasons, why the comparative analysis is significant: firstly, to avoid ethnocentrism in the analysis, secondly, to compile, verify and, accordingly, to reformulate theory and related concepts and hypotheses about the relationship between political phenomena" [1]. By comparing different processes, facts, elements, structure, phenomena, concepts, we can identify something common or different between them. That is, the comparison is a way of revealing the general and the particular in the phenomena being studied. If we ask the question of how to do this comparison, we will have a lot of problems.

One of them is the problem of comparability. That is, in the study of several countries, the question always arises whether they are comparable. Alasdair MacIntyre [2, p.8-26] considers that all countries are unique and each of them represents a special set of political, economic, social and other institutions, and therefore, if we make an intercountry comparison, this leads to a simplification of reality. If we take the risk of identifying such elements, we will not have any guarantee that there are the same causal links in different countries. Roy Macridis [3] believes that intercountry comparison is possible if we choose countries that are either similar in most parameters (based on economic, social, cultural, historical, etc. proximity) or are opposite in these indicators.

The Republic of Moldova and Ukraine are suitable for cross-country comparison, given in [3]. They have a common history within the former USSR, and huge social and economic transformations that have occurred in the last quarter of a century. The collapse of the Soviet era and the emergence of market-based management took place against the backdrop of impoverishment of the majority of population and deepening property differentiation. There was a large-scale destruction of infrastructure, the redistribution of property, formation of private capital with a simultaneous multiple declines in output, especially in industry, rising unemployment and a drop in real incomes. Each neighboring country experienced the above processes in different ways, because initially they had different potentials, and initially they chose different market transition strategies. For the Republic of Moldova, active use of shock tools and rapid de-industrialization were characteristic. Ukraine, on the contrary, chose a gradual, slow transition to a market economy based on the goal of preserving and developing the existing industrial potential.

All of the above historical and economic aspects, as well as the revival of globalization, have left their imprint on social and labor relations and the labor market in both countries. In this context, taking into account the European orientation of either country, we consider it relevant to analyze the current situation in the labor sphere, and identify commonalities and differences in the transformation of labour markets in the Republic of Moldova and Ukraine. This is the purpose of the article.

When a comparative analysis is made, one must take into account that the term comparative analysis causes certain difficulties in its definition, since it is difficult to imagine an analysis in the social sciences that is not comparative. Émile Durkheim understood this more than a hundred years ago: "Comparative sociology is not a special branch of sociology. This is sociology itself, when it ceases to be merely descriptive and begins to take into account the facts" [4, p. 139]. However, this general truth is too universal. For concrete comparative studies, the definition given by Neil J. Smelser in [5] is much more

appropriate. In his opinion, comparative analysis is considered to describe and explain the similarities and differences (mainly differences) of the conditions or results of the development of large social units, usually regions, countries, societies, cultures and social systems [6, 3-44; 7, p.1-21]. This approach is shared by the authors of this article.

The functioning of labor markets in the Republic of Moldova and Ukraine is subject to the following principles:

- We use the comparative analysis methodology and the same research tools;
- Comparisons should be based on 17 key labor market indicators (KILM) developed by the International Labor Office and used by researchers around the world [8]: KILM 1. Labor force participation rate; KILM 2. Employment-to-population ratio; KILM 3. Status in employment; KILM 4. Employment by sector; KILM 5. Employment by occupation; KILM 6. Part-time workers; KILM 7. Hours of work; KILM 8. Employment in the informal economy; KILM 9. Unemployment; KILM 10. Youth unemployment; KILM 11. Long-term unemployment; KILM 12. Time-related underemployment; KILM 13. Persons outside the labor force; KILM 14. Educational attainment and illiteracy; KILM 15. Wages and compensation costs; KILM 16. Labor productivity; KILM 17. Poverty, income distribution, employment by economic class and working poverty.

In this article it is not possible to carry out a comprehensive assessment of all 17 KILMs, therefore only those KILMs that are most relevant for the Republic of Moldova and Ukraine are covered by the comparative analysis.

**Labor markets in the Republic of Moldova and Ukraine.** The transformation of social and labour relations and the principles of government social policy are manifested in the crisis phenomena of “social state”, which means social equality and development of the middle class in the developed countries. At the same time, the emerging markets are looking for a compromise between a socially satisfied and efficient worker and commercialization of the welfare state. Those are the external determinants that define the development of labor markets and social and labor spheres in the Republic of Moldova and Ukraine. In this context, in either country, statements about the need to create an innovative model of economic development seldom go beyond slogans, so both economies are characterized by various non-concerted tendencies with the predominance of raw material based patterns that minimize the involvement of intellectual resource and human capital.

Currently, the Republic of Moldova and Ukraine are characterized by negative demographic trends, which have a significant impact on the labor market and determine the supply in the labor market. The total population of the Republic of Moldova in 2015 numbered 3.55 million inhabitants, most of whom (57.6%) lived in rural areas. The demographic trend is marked by continuing negative annual growth, with a declining average annual rate of 0.2% from 2000 also partly due to heavy outward migration (12.9% of the population working abroad in 2015) – table 1.

Today is high risk of deterioration of the demographic situation, due to population ageing, migration of the active population and the declining birth rate. The share of younger age groups has declined with 15-24 year-olds falling from 25.1% of the population in 2011 to 19.7% in 2015, while the oldest age group (65+) has increased to 10.3%. The dependency ratios of youth (21.2) and the elderly (13.4) in 2015 have different economic and social implications, threatening sustainable growth and future funding of social protection such as pensions.

Ukraine's population stood at 42.7 million in 2015, 69% of which is urban and 31% rural. Population growth continues to be negative although the decline has been slightly slowing in recent years. Ukraine ranks among the top 30 oldest countries of the world by share of the population aged 60 years and above. Life expectancy at birth is around 70 years, which is among the lowest levels of life expectancy at birth in Europe.

The Republic of Moldova had a low activity rate of 42.4% in 2015 and 42.6% in 2016 with a 5.2% gender gap, standing at 45.1% for men and 39.9% for women. The employment rate was also very low at 40.3% in 2015 and 40.8% in 2016, with a smaller difference of 3.9% between the 42.3% for men and 38.4% for women. Ukraine's labor market faces challenges such as fell an activity rate that slightly from 64.2% in 2011 to 62.2% in 2016 (69.2% for males and 56.2% for females) and rise of unemployment rate from 6.8% in 2006 to 9.3% in 2016.

The significant difference in levels of activity and employment is explained by the peculiarities of statistical recording, namely, in the Republic of Moldova, national statistics do not classify migrants as economically active population, because they work abroad, and there are differences in the comparative basis for calculations.

Table 1

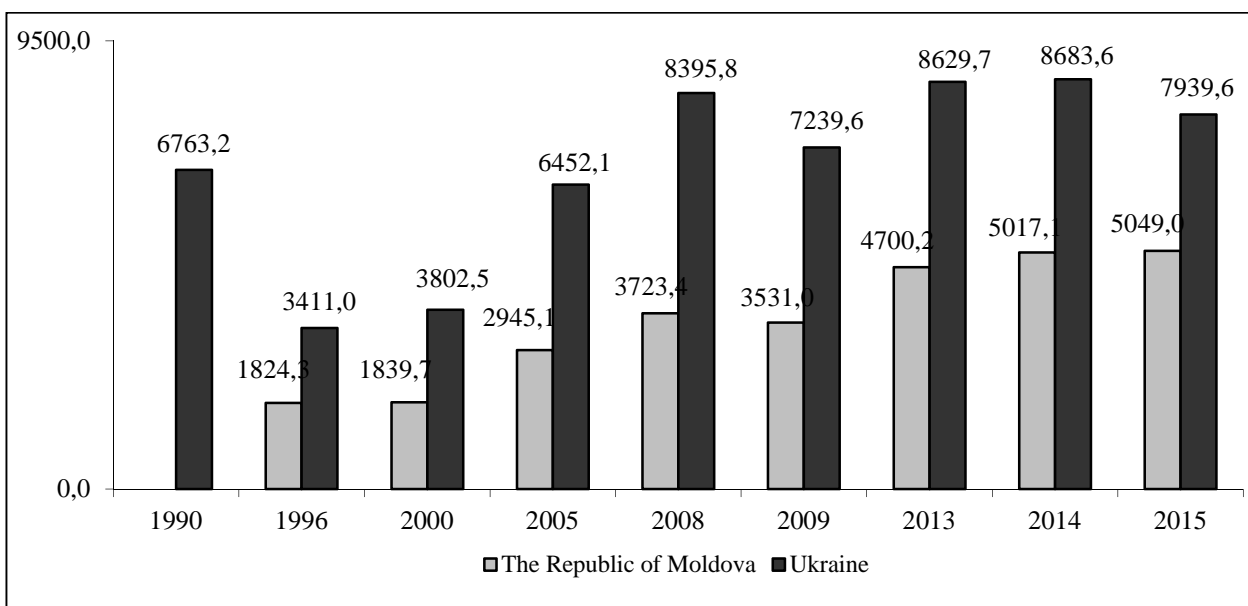
**Indicators of labor market development in the Republic of Moldova  
and Ukraine, in 2006-2016**

|   |                     | 2006     | 2014     | 2015     | 2016     | 2016 as<br>% of<br>2006 |
|---|---------------------|----------|----------|----------|----------|-------------------------|
| Number of economically active population, thousand people | Republic of Moldova | 1,357.2  | 1,232.4  | 1,265.6  | 1,272.8  | 93.8                    |
|   | Ukraine             | 22,245.4 | 19,920.9 | 18,097.9 | 17,955.1 | 80.7                    |
| Level of economic activity, %                             | Republic of Moldova | 46.3     | 41.2     | 42.4     | 42.6     | 92.0                    |
|   | Ukraine             | 62.2     | 62.4     | 62.4     | 62.2     | 100.0                   |
| Number of employed people, thousand people.               | Republic of Moldova | 1,257.3  | 1,184.9  | 1,203.6  | 1,219.5  | 97.0                    |
|   | Ukraine             | 20,730.4 | 18,073.3 | 16,443.2 | 16,276.9 | 78.5                    |
| Employment rate, %  | Republic of Moldova | 42.9     | 39.6     | 40.3     | 40.8     | 95.1                    |
|   | Ukraine             | 57.9     | 56.6     | 56.7     | 56.3     | 97.2                    |
| Number of unemployed, thousand people.                    | Republic of Moldova | 99.9     | 47.5     | 62.1     | 53.3     | 53.4                    |
|   | Ukraine             | 1,515.0  | 1,847.6  | 1,654.7  | 1,678.2  | 110.8                   |
| Unemployment rate, %                                      | Republic of Moldova | 7.4      | 3.9      | 4.9      | 4.2      | 56.8                    |
|   | Ukraine             | 6.8      | 9.3      | 9.1      | 9.3      | 136.8                   |
| Number of inactive population, thousand people            | Republic of Moldova | 1,576.0  | 1,756.1  | 1,721.7  | 1,712.7  | 108.7                   |
|   | Ukraine             | 13,542.1 | 12,023.0 | 10,925.5 | 10,934.1 | 80.7                    |
| Labour migrants, thousand people                          | Republic of Moldova | 310.1    | 341.9    | 325.4    | 319,0    | 102.9                   |

Source: [9, 10].

Labor is one of the main factors of production, determines the dynamics and structure of the economy. At the same time, structural and dynamic changes in employment depend on a number of macroeconomic and sectoral factors. The main characteristic at the macro level, which assesses the level of the country's economic development, its type and structure, is the dynamics of gross domestic product or gross value added.

All two countries are characterized by rather low income levels and belong to the lower-middle income level group according to the World Bank's classification. The Republic of Moldova, being the poorest country in Europe, had an estimated per capita GDP (at PPP) of some EUR 3000 in 2015, slightly more than 10% of the EU average, while Ukraine – about twice as high as Moldova's (figure 1).



**Figure 1. GDP per capita in the Republic of Moldova and Ukraine, PPP \$**

Source: Calculated by the authors according to [11].

The deterioration of the macroeconomic situation in Ukraine in late 2014 and in 2015 transformed into the stagnation of domestic industry (particularly metallurgy, as one of the budget revenue-generating sectors of the economy), the deterioration of economic relations between domestic producers, the destruction of the industrial, transport and social infrastructure in the Donetsk and Luhansk regions, etc. The financial and economic crisis, as well as a massive budget deficit, made it challenging to achieve macroeconomic stabilization and increase economic demand for labor.

Since 2014, the overall economic growth in the Republic of Moldova has followed a relatively positive trend. Data show that it was positive from 2014 to 2015, at which point the economic growth rate registered a decrease. However, the state debt (internal and external) increased significantly. The external dependence of the national economy remains high. Trade trends show that the level of imports is higher than the level of exports, despite efforts to develop policies to promote private initiative and increase its contribution to GDP. As a result, the production of goods and services, external trade, etc., has decreased.

Comparative analysis of the structure of the GVA of the Republic of Moldova and Ukraine allows drawing certain conclusions (table 2).

Table 2

## Gross value added by activity, country and year, percent share of GVA

|  |                     | 2000 | 2003 | 2005 | 2008 | 2009 | 2010 | 2013 |
|--|---------------------|------|------|------|------|------|------|------|
| GVA in agriculture, hunting & forestry; fishing  | Republic of Moldova | 28.3 | 20.9 | 19.1 | 10.4 | 9.9  | 14.1 | 14.5 |
|  | Ukraine             | 16.4 | 11.7 | 10.1 | 7.5  | 8.0  | 8.4  | 9.9  |
| GVA in industry, including energy  | Republic of Moldova | 18.2 | 20.1 | 18.3 | 16.5 | 15.5 | 15.5 | 16.8 |
|  | Ukraine             | 32.8 | 29.1 | 29.7 | 28.6 | 25.8 | 26.1 | 22.8 |
| GVA in construction  | Republic of Moldova | 3.0  | 3.4  | 3.9  | 5.9  | 4.1  | 4.0  | 3.9  |
|  | Ukraine             | 3.8  | 4.1  | 4.0  | 3.4  | 2.6  | 3.3  | 2.7  |
| GVA in wholesale & retail trade, repairs; hotels & restaurants; transport & communications | Republic of Moldova | 25.3 | 25.7 | 27.6 | 31.3 | 30.9 | 29.7 | 29.3 |
|  | Ukraine             | 23.4 | 27.3 | 26.2 | 26.3 | 28.3 | 28.8 | 27.2 |
| GVA in financial, real estate, renting & business activities                               | Republic of Moldova | 11.1 | 11.1 | 12.8 | 16.9 | 17.4 | 16.2 | 15.5 |
|  | Ukraine             | 7.5  | 10.5 | 12.4 | 17.8 | 19.6 | 17.2 | 16.7 |
| GVA in other service activities  | Republic of Moldova | 14.2 | 18.8 | 18.3 | 19.1 | 22.2 | 20.6 | 20.0 |
|  | Ukraine             | 13.2 | 15.0 | 15.5 | 15.7 | 17.8 | 17.0 | 18.4 |

Source: Calculated by the authors according to [11].

The share of productive sectors in the structure of added value decreased due to the share of agriculture (for the Republic of Moldova this reduction was 13.8 pp, for Ukraine – 6.5 pp). In developed countries, the growth of the service sector does not occur at the expense of the productive sector, but rather on its basis and at the same time is a determinant of its development at a qualitatively different level. Many service activities are directly related to production, namely R&D, marketing, engineering and consulting services that contribute to the building up and qualitative renovation of material production, which not only satisfies the basic needs of the population, but also boosts the level of consumption.

Ukraine, on the contrary, is characterized by a weak development of the secondary sector, due to the poor performance of the construction (compared to general European trends, where construction rapidly became an engine of GDP and employment growth, as well as a stimulus for the development of related sectors).

Post-industrial development itself does not imply a fall or stagnation of industrial output, but rather a moderate growth, while some slowdown of its rate is due to a relative satisfaction of the needs for industrial development. However, these characteristics do not apply to Ukraine, where today there are no grounds for assessing the current level of production as sufficient for solving this country's basic problems.

The structure of production directly determines the structure of employment and the quality of life of the population. The economic constraints on the development of the social and labor spheres of both countries are similar, but the institutional features that have developed are different. Differences and imbalances in the labor sphere, on the one hand, impart dynamism to the processes of the social and labor sphere, and on the other, strengthen the gap and the depth of stratification.



On the one hand, the peculiarities of the social and labor sphere and the presence of structural disproportions of employment represent limits to economic development, and on the other side they are a consequence of the processes of integration and globalization in the world. In this context, a sectoral analysis of employment in Ukraine and the Republic of Moldova could be indicative. The sectoral structure of employment characterizes civilization changes in the structure of the economy and the efficiency of economic employment policy in the country, which is manifested in changes in the shares of the primary, secondary and tertiary sectors in the GDP structure.

The long-term dynamics of the world economy testifies to a significant flow of workers from the sphere of agriculture, where almost 80% of the workforces were employed in the beginning of the industrial age, to the manufacturing industry, and later to the service sector. These tendencies of decrease in the share of those employed in the primary and secondary sectors are also observed in the structure of Ukraine's labor market (table 3). The quantitative characteristics of the developments in the social and labor sphere of Ukraine and the Republic of Moldova, namely the growth of the tertiary employment sector from 47.2% in 2000 up to 60.1% in 2015, and from 30.8% to 39.6%, respectively, could have been interpreted as a civilization transition to the phase of post-industrial development, if we did not take into account the cause-effect relationships of those changes.

thus, in contrast to the European countries where such shifts take place within a single economic system, in Ukraine and the Republic of Moldova structural changes have occurred mainly against the background of the destruction of the old economic system. The existing sectoral differences deepened and aggravated the contradictions inherited from the previous system (being one of them the disparity of the sector structure of the economy) and a new restructuring took place as a result of the formation of the new system (changes in the value system, formation of new sectors, and change demand structure on the domestic and foreign markets).

Table 3

**Employment distribution in the Republic of Moldova and Ukraine, %**

| Reference area      | Years | Employment distribution –<br>ILO estimates and projections (%) |             |          |          |
|---------------------|-------|--|-------------|----------|----------|
|                     |       | Total  | Agriculture | Industry | Services |
| Republic of Moldova | 2000  | 100.0  | 36.0        | 33.2     | 30.8     |
|                     | 2005  | 100.0  | 32.9        | 32.5     | 34.6     |
|                     | 2010  | 100.0  | 27.5        | 32.2     | 40.3     |
|                     | 2015  | 100.0  | 28.4        | 31.9     | 39.6     |
| Ukraine             | 2000  | 100.0  | 28.5        | 24.3     | 47.2     |
|                     | 2005  | 100.0  | 27.9        | 22.7     | 49.4     |
|                     | 2010  | 100.0  | 20.3        | 25.7     | 54.0     |
|                     | 2015  | 100.0  | 15.3        | 24.7     | 60.1     |
|                     | 2020  | 100.0  | 15.0        | 24.7     | 60.4     |

Source: Calculated by the authors according to [11].

The sectoral structure of employment in the Republic of Moldova indicates a high degree of employment insecurity, as the share of agrarian employed remains very high. In 2015, the share of employed in agriculture was 28.4% and, unlike neighboring countries, tended to increase. Compared to 2010, the share of employed in the Republic of Moldova's agriculture increased by 0.9 percentage points (table 3). This was a direct consequence of the privatization of land and the dominance of small-scale production in the agricultural sector, which is characterized by low added value and productivity. The lowest rates of employment in agriculture are observed in Ukraine (15.3%), where the rural residents' work in the agro-holdings has become a common phenomenon.

Sectoral changes in the employment structure of developed countries were due to the flow of labor from secondary to tertiary sector as a result of the outstripping growth in labor productivity in industry and a higher income elasticity of demand for services than for goods.

For Ukraine, however, the change in the ratio between sectors is not only due to purely economic factors, but as a result of the processes of integration and disintegration. Disintegration processes were the cause of the de-industrialization. This process, in Ukraine, began as far back as in the late 80s of the last century with the increase in the level of depreciation of industrial fixed assets, which in 1990 amounted to almost 48.7% compared to 37.4% in 1980. Deindustrialization led to the redistribution of national income

in favor of agriculture, and further structural changes caused de-agrarization.

Deindustrialization in Ukraine was manifested not only in the flow of labor to high-tech industries and in the growth of the service sector, but also in the growth of the raw-material sector. New integration ties developed at the expense of the raw materials sector, intermediate products dominated in the structure of exports, and the share of raw materials grew, which, correspondingly, required expanded employment in these sectors.

In general, after the analysis we can conclude that the parameters of the development of the labor market in Ukraine and the Republic of Moldova do not meet the requirements of innovative economic modernization.

An important feature of labor markets in both countries is the weak reaction of employment dynamics to changes in the overall macroeconomic situation in the country. This is clearly demonstrated by the calculated coefficients of the elasticity of employment changes in GDP changes for the selected periods. We chose two periods, the pre-crisis 2000-2008 (table 4) and the period of stagnation and gradual recovery from the crisis 2010-2015 (table 5).

**Table 4**

**Statistical characteristics of the model evaluation for 2000-2008**

| Variable                   | Coefficient | Std. Error            | t-Statistic | Prob.     |
|----------------------------|-------------|-----------------------|-------------|-----------|
| <b>Republic of Moldova</b> |             |                       |             |           |
| GDP_MOLD                   | -0.006345   | 0.001186              | -5.350434   | 0.0011    |
| C                          | 1,585.466   | 45.33160              | 34.97486    | 0.0000    |
| R-squared                  | 0.803521    | Mean dependent var    |             | 1362.667  |
| Adjusted R-squared         | 0.775452    | S.D. dependent var    |             | 113.4185  |
| S.E. of regression         | 53.74503    | Akaike info criterion |             | 10.99951  |
| Sum squared resid          | 20,219.70   | Schwarz criterion     |             | 11.04334  |
| Log likelihood             | -47.49779   | Hannan-Quinn criter.  |             | 10.90493  |
| F-statistic                | 28.62714    | Durbin-Watson stat    |             | 1.100851  |
| Prob(F-statistic)          | 0.001064    |                       |             |           |
| <b>Ukraine</b>             |             |                       |             |           |
| GDP_UKR                    | 0.001278    | 0.000186              | 6.884673    | 0.0002    |
| C                          | 19,871.81   | 96.03592              | 206.9206    | 0.0000    |
| R-squared                  | 0.871321    | Mean dependent var    |             | 2,0442.67 |
| Adjusted R-squared         | 0.852938    | S.D. dependent var    |             | 379.0449  |
| S.E. of regression         | 145.3588    | Akaike info criterion |             | 12.98942  |
| Sum squared resid          | 147,904.2   | Schwarz criterion     |             | 13.03324  |
| Log likelihood             | -56.45238   | Hannan-Quinn criter.  |             | 12.89484  |
| F-statistic                | 47.39872    | Durbin-Watson stat    |             | 1.388263  |
| Prob(F-statistic)          | 0.000235    |                       |             |           |

*Source: Calculated by the authors.*

In the Republic of Moldova, unlike in Ukraine, in 2000-2008 (table 4), with GDP growth there was a decrease in the number of employed, so the growth in labor demand should be ensured by its effective use, that is, by productivity growth. In Ukraine, in the period of economic growth, there was an increase in employment, however, there was a fairly high demand for low-skilled labor with low productivity.

The recovery of the Republic of Moldova occurred a faster than Ukraine, which is confirmed by econometric estimates for 2010-2015 (table 5). Thus, GDP growth of 2% provides an increase in employment by 0.1% in the Republic of Moldova, but in Ukraine there is the opposite phenomenon, the coefficient of elasticity of employment in GDP has a negative sign.

Structural changes in employment depend, first of all, on changes in productivity, which is in turn determined by the level of capital intensity and utilization of production capacities. At the same time, labor productivity is an aggregate indicator of the use of working time, workers' qualifications, organization of the process of production, and efficiency of the wage systems. In the long run, the dynamics of wages should correspond to the dynamics of productivity.

Table 5

## Statistical characteristics of the model evaluation for 2010-2015

| Variable                   | Coefficient | Std. Error            | t-Statistic | Prob.     |
|----------------------------|-------------|-----------------------|-------------|-----------|
| <b>Republic of Moldova</b> |             |                       |             |           |
| GDP_MOLD                   | 0.001079    | 0.000282              | 3.829013    | 0.0186    |
| C                          | 1,067.055   | 27.53688              | 38.75002    | 0.0000    |
| R-squared                  | 0.785653    | Mean dependent var    |             | 1,170.833 |
| Adjusted R-squared         | 0.732066    | S.D. dependent var    |             | 23.03403  |
| S.E. of regression         | 11.92295    | Akaike info criterion |             | 8.056008  |
| Sum squared resid          | 568.6265    | Schwarz criterion     |             | 7.986595  |
| Log likelihood             | -22.16802   | Hannan-Quinn criter.  |             | 7.778140  |
| F-statistic                | 14.66134    | Durbin-Watson stat    |             | 2.856424  |
| Prob(F-statistic)          | 0.018634    |                       |             |           |
| <b>Ukraine</b>             |             |                       |             |           |
| GDP_UKR                    | -0.004961   | 0.001565              | -3.171195   | 0.0338    |
| C                          | 26,767.68   | 2386.467              | 11.21645    | 0.0004    |
| R-squared                  | 0.715434    | Mean dependent var    |             | 19,310.67 |
| Adjusted R-squared         | 0.644292    | S.D. dependent var    |             | 1,672.050 |
| S.E. of regression         | 997.2317    | Akaike info criterion |             | 16.90904  |
| Sum squared resid          | 3,977,884.  | Schwarz criterion     |             | 16.83963  |
| Log likelihood             | -48.72713   | Hannan-Quinn criter.  |             | 16.63118  |
| F-statistic                | 10.05648    | Durbin-Watson stat    |             | 1.517269  |
| Prob(F-statistic)          | 0.033819    |                       |             |           |

Source: Calculated by the authors.

The dynamics of the recent 15 years indicate a trend of the growth of nominal wage in both the Republic of Moldova and Ukraine (figure 2). An exception is the period of the global financial and economic crisis, which caused significant losses in both economies. In the Republic of Moldova in recent years, the nominal wage has been demonstrating a steady growth. Thus, in 2015 an employee's average monthly salary was 4538.4 lei, which is by 11.0% more than in 2014.

However, due to the devaluation of national currency, nominal wages in dollar terms decreased from \$ 291.3 in 2014 to \$ 241.2 in 2015, that is, by 50.1 dollars, or by 17.2%. In Ukraine, the rate of reduction in the nominal wage was even more significant, from \$ 293 in 2014 to \$ 193 in 2015, i. . by \$ 100, or by 34.1% [12]. As a result, for the first time in recent twenty years, the nominal wage in dollar terms in the Republic of Moldova exceeded its level in Ukraine.



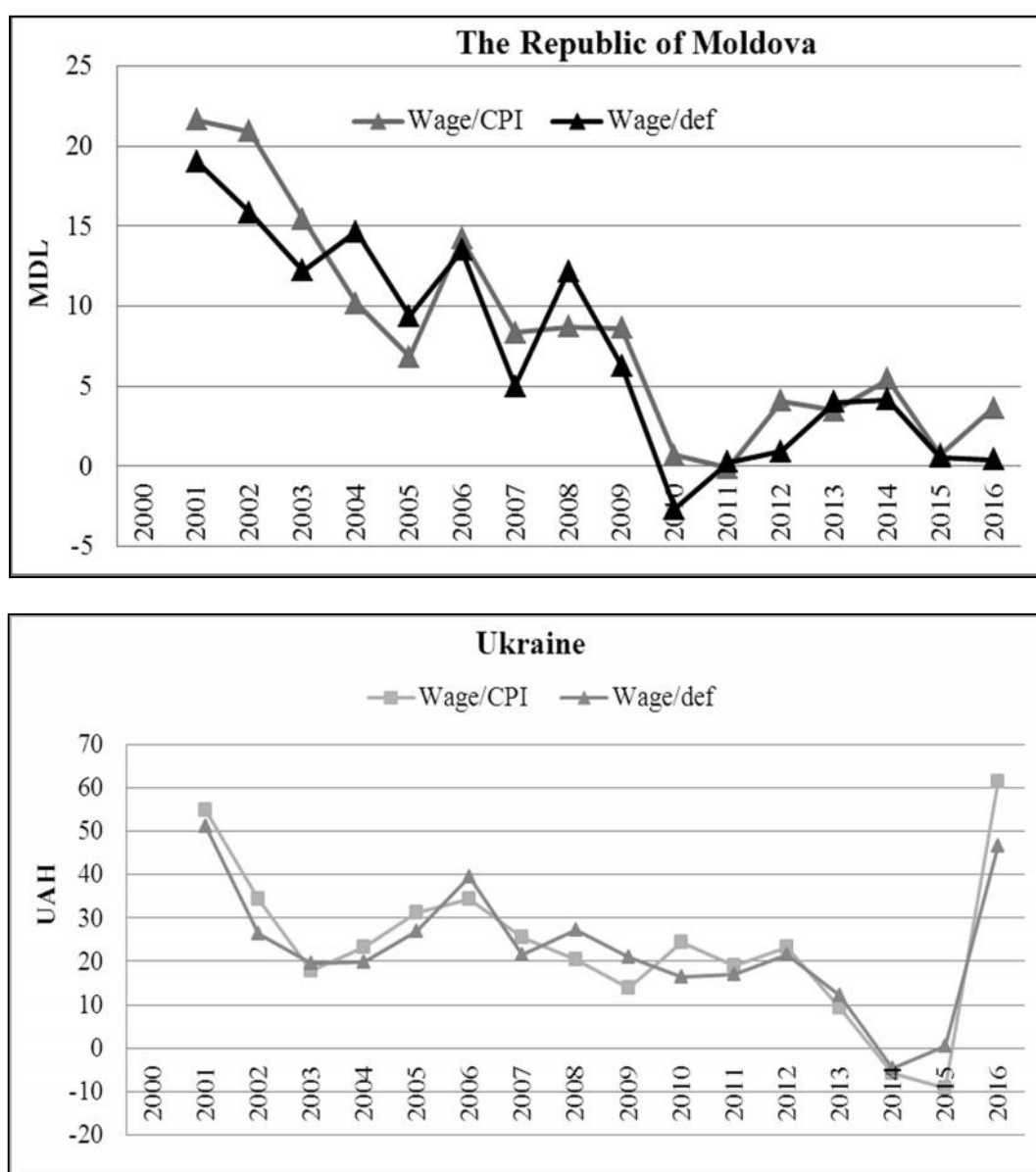
Figure 2. Dynamics of average nominal wages in the Republic of Moldova and Ukraine

Source: Calculated by the authors according to [11].



In the Republic of Moldova in recent years, the nominal wage has been demonstrating a steady growth. Thus, in 2015 an employee's average monthly salary was 4,538.4 lei, which is by 11.0% more than in 2014. However, due to the devaluation of national currency, nominal wages in dollar terms decreased from \$ 291.3 in 2014 to \$ 241.2 in 2015, that is by 50.1 dollars or by 17.2%. In Ukraine, the rate of reduction in the nominal wage was even more significant, from \$ 293 in 2014 to \$ 193 in 2015, i. . by \$ 100 or by 34.1% [10]. As a result, for the first time in recent twenty years, the nominal wage in dollar terms in the Republic of Moldova exceeded its level in Ukraine.

For the analysis of the labor price, which qualitatively characterizes the labour market, two alternative indicators can be used: "consumer wages" (adjustment of wages for the growth of consumer prices) and "producer wages" (adjusted nominal wages for producer price increases). The first indicator characterizes the change in the purchasing power of wages by the employees, the second – the change in the cost of labor by the employer (figure 3).



**Figure 3. Real wage growth in the Republic of Moldova and Ukraine in 2000-2016**

Source: Calculated by the authors.

In figure 3 rates of growth of two indicators of a payment of labour are presented. The demand for labor is determined by real wages – "productive". During periods of crisis and stagnation, both indicators of real wages have declined, however, if the labor costs for an employer grow at a slower rate than consumer wages, this characterizes the potential for economic development. Comparing the situation in

both countries, we can say that the Republic of Moldova has more opportunities for development and renovation of fixed assets, as labor costs grow more slowly than consumer wages. The conclusion about appreciation or cheapening of the labor force can be made only by comparing the dynamics of real wages and labor productivity. Labor productivity is an aggregate indicator of the use of working time, workers' qualifications, organization of the process of production, and efficiency of the wage systems. In the long run, the dynamics of wages should correspond to the dynamics of productivity.

The dynamics of the recent 15 years indicate a predominant trend of excess of the growth of nominal wage over that of labor productivity in both the Republic of Moldova and Ukraine. An exception is the period of the global financial and economic crisis, which caused significant losses in both economies. The existence of such a long-term trend is unacceptable, since it does not promote not only expanded, but even a simple reproduction, and leads to an imbalance between supply and demand. The long-term growth of aggregate demand and wages, exceeding productivity growth, only leads to price increase without affecting output growth and unemployment.

Due to the extremely low minimum wage in the Republic of Moldova and Ukraine, a significant stratum of the poor is preserved in both countries. In 2015, the proportion of employees who had wages below the minimum wage was 0.2% in the Republic of Moldova and 4.4% in Ukraine (table 6).

For Ukraine, a positive fact is a decrease in the proportion of workers with wages below the minimum wage, from 5.2% in 2012 to 4.4% in 2015, i. . by 0.8 percentage points. The Republic of Moldova and Ukraine are characterized by the phenomenon of the working poor, when the availability of work does not guarantee the workers an exit from poverty. In fact, workers living below the poverty line are on the brink of survival. Many of them, trying to earn their living, are forced to work in several places to the detriment of their health.

Table 6

**Distribution of workers by the amount of wages in the  
Republic of Moldova and Ukraine, % of total**

|                            | Years | Total workers | Distribution of workers       |          |             |
|----------------------------|-------|---------------|-------------------------------|----------|-------------|
|                            |       |               | less than 1 minimum wage (MW) | 1-3 (MW) | over 3 (MW) |
| <b>Republic of Moldova</b> | 2012  | 100.0         | 0.1                           | 29.6     | 70.3        |
|                            | 2015  | 100.0         | 0.2                           | 42.7     | 57.1        |
| <b>Ukraine</b>             | 2012  | 100.0         | 5.2                           | 62.1     | 32.7        |
|                            | 2015  | 100.0         | 4.4                           | 79.5     | 16.1        |

Source: [9, 10].

One of the significant challenges for both countries is the so-called hidden unemployment or employment in the informal sector, which serves as a shock absorber of unemployment, because it is in this sector where the least competitive part of the labour force is absorbed during periods of economic decline or stagnation. Unemployment, strengthening social inequality, determines the risks of what is called "social exclusion".

Recently, informal employment in Ukraine and the Republic of Moldova has been rapidly expanding, covering a significant number of jobs in the formal and informal sectors of the economy [14, 15]. The negative consequences of this phenomenon are manifested in limited opportunities for the realization of most social rights provided for by the Constitution and labour legislation; increased risk of unstable employment and income; inefficient use of available labour potential.

According to official statistics, the share of informal employment in either country is quite high and covers more than a quarter (Ukraine) and more than a third (the Republic of Moldova) of employed population (table 7).

Table 7

**Informal employment in the Republic of Moldova and Ukraine  
(share of total employment), %**

|                            | 2003  | 2005  | 2008  | 2009  | 2010  | 2011  | 2013  | 2014  | 2015  |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>Republic of Moldova</b> | 38.04 | 33.44 | 31.14 | 30.01 | 30.92 | 30.74 | 30.93 | 32.53 | 34.76 |
| <b>Ukraine</b>             | 17.17 | 21.45 | 21.76 | 22.14 | 24.24 | 24.47 | 24.88 | 25.12 | 26.17 |

Source: [16, 17].

This shows a significant deformatization of labour relations. Traditionally, informal employment is represented in both countries by workers in agriculture, construction, and services. In the Republic of Moldova, informal employment mainly includes workers engaged in agriculture, hunting, forestry and fishing (73.2%), while workers in the construction sector account for 10.4% of total [16]. Among the informal workers, the share of the youngest and oldest age groups is higher than among those formally employed. In the Republic of Moldova, in the structure of the informal employment, the share of people aged 15-24 years is 1.3 times higher than among the formally employed, and the share of workers at the age of 65 and over is 3.1 times higher. And, conversely, the proportion of middle-aged people among informal workers is lower than among the formally employed [16].

The spread of informal employment among young people is explained by the strategy of smooth transition from study to work, while people of pension age are engaged in this sector mainly due to low pensions, which cause a high level of poverty among the elderly and force them search for informal means of subsistence. The desire to continue working makes older people agree to informal employment and to jobs unattractive for their younger counterparts.

Describing the employment in the informal sector, it is necessary to emphasize the lack of legal regulation of social and labor relations and social protection of employees. At the same time, informal employment creates a reserve of labor force, thus satisfying the dynamic needs of the real sector.

Informal employment, with the significantly rigid legislation [19], allows expanding opportunities when a person chooses a comfortable work schedule, depending on family and life circumstances, and becomes a source of income for part of the workforce. In crisis conditions, the role of the informal sector as a shock absorber of the economic recession is unquestionable. But it is necessary to understand that the prevalence of this form of employment practically excludes innovative development of the country.

**Conclusions.** The conducted research has shown that in the sphere of employment, the most acute problems in the Republic of Moldova and Ukraine are the widespread informal employment, the shortcomings in the wage system and unemployment.

1. Based on international experience, we propose the following measures to reduce informal employment in the Republic of Moldova and Ukraine:

- preventive measures to simplify procedures, as well as reduce costs and restrictions that impede the creation and development of business;
- sanctions aimed at strengthening the oversight on and applying appropriate sanctions against those who benefit from hidden / shadow work;
- raising public awareness of the negative effects of informal employment.

2. In the area of labor remuneration, the following measures should be taken:

a) for the Republic of Moldova:

- to ensure the establishment of a minimum wage at the subsistence level of an able-bodied person;
- to develop measures for transition to the definition of a minimum wage in accordance with the principles of the European Social Charter (minimum wage cannot be less than 60% of average);

b) for the Republic of Moldova and Ukraine:

- to provide for the increase in the amount of the 1st category of labor remuneration for workers in the budget funded sector to the level of the subsistence minimum of an able-bodied person;
- to use as a reference point the tariff-wage proportion of no less than 50% as the optimal for the current state of the economy;
- in order to ensure the timely payment of wages, it is necessary to additionally envisage indexing of the amount of delayed wages by the employer in the amount of inflation that has occurred since the moment of the emergence of the wage debt;
- to develop and implement measures to bring closer the levels of remuneration for women and men (measures to promote women's career advancement, to upgrade their skills, to eliminate unjustified reduction of women's pay rate in comparison with men in equivalent jobs);

3. In order to reduce unemployment, it is necessary:

- to encourage the companies' activities on creating new jobs, first of all, in terms of tax privileges to the companies saving and creating economically expedient jobs.
- to improve the mechanism of organizing paid public works in terms of increasing their social status, taking into account the region's needs in the development of social infrastructure, implementation of national projects and financial support for unemployed citizens;
- to promote youth employment through: professional advice and psychological support; vocational training; employment on permanent job; promoting business activities.

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