

THE EVOLUTION OF THE LABOR MARKET IN THE WESTERN REGION OF ROMANIA IN THE 2011-2021 PERIOD

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Abstract: Unfavorable demographic trends, the massive external migration of skilled and highly skilled labor, the low level of the participation rate and the high rate of inactivity are some of the causes of the labor shortage in Romania. The demographic and economic effects of the reduction in the number of the young population left their mark on the characteristics of the labor market, causing significant changes in the volume and structure of the main labor force indicators. In 2021, the active population in the Western Region numbered 713,800 people, down by 146,200 people compared to 860,000 people in 2011. The total employed population was 688,900 people in 2021, down by 122,100 people compared to 811,000 people in 2011. This paper is based on a content analysis of statistical materials from the period 2012-2023.

Key words: active population, employed population, unemployment, activity rate, employment rate

INTRODUCTION

The Western Region of Romania consists of the counties: Arad, Caraș-Severin, Hunedoara and Timiș and has an area of 32,042 km² (13.4% of the country's area) [11]. It is also composed of 42 cities (of which 12 municipalities), 281 communes and 1,328 villages [12].

In 2021, the population of the Western Region was 1,751,900 inhabitants, out of a total of 19,124,061 people, representing 9.16% of Romania's population. The West Region and the South-West Region are the regions with the lowest population among all regions, with a population of less than two million inhabitants [12]. Compared to 2011, under the combined influence of the different levels of natural growth, internal migratory flows and the intensity of external migration, the population of the region decreased by 158,569 people [6]. For example, during 12 years (2005-2016), the rural population dropped by approximately 700,000 people. This means that nearly 60,000 people have "disappeared" from the countryside each year, respectively the disappearance of 12 cities or 40 communes annually [3].

At the level of year 2011, Timiș county had the largest number of inhabitants in the West Region (679,848 people), followed by Hunedoara (457,932 people), Arad (454,073 people) and Caraș-Severin (318,616 people) counties. [6] (table 1)

Table 1

Population structure of the West Region by counties, sexes and residential areas (2011)

Development region/ County	Total (number of persons)			Urban			Rural		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
West	1,910,469	922,025	988,444	1,197,596	569,940	627,656	712,873	352,085	360,788
Arad	454,073	219,134	234,939	249,991	118,624	131,367	204,082	100,510	103,572
Caraș-Severin	318,616	155,359	163,257	178,526	86,095	92,431	140,090	69,264	70,826
Hunedoara	457,932	221,644	236,288	350,667	168,915	181,752	107,265	52,729	54,536
Timiș	679,848	325,888	353,960	418,412	196,306	222,106	261,436	129,582	131,854
Romania	21,354,396	10,392,537	10,961,859	11,727,153	5,590,187	6,136,966	9,627,243	4,802,350	4,824,893

Source: Statistical Yearbook of Romania, 2012 [6]

At the level of year 2021, Timiș county had the largest number of inhabitants in the West Region (706,095 persons), followed by the counties of Arad (411,174 persons), Hunedoara (370,619 persons) and Caraș-Severin (264,012 persons). [12] (table 2)

Table 2

**Population structure of the West Region by counties, sexes and residential areas
(2021)**

Development region/ County	Total (number of persons)			Urban			Rural		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
West	1,751,900	854,559	897,341	1,046,658	501,249	545,409	705,242	353,310	351,932
Arad	411,174	200,896	210,278	225,792	108,279	117,513	185,382	92,617	92,765
Caraș-Severin	264,012	129,077	134,935	139,820	66,927	72,893	124,192	62,150	62,042
Hunedoara	370,619	181,628	188,991	274,052	132,595	141,457	96,567	49,033	47,534
Timiș	706,095	342,958	363,137	406,994	193,448	213,546	299,101	149,510	149,591
Romania	19,124,061	9,350,654	9,773,407	10,290,896	4,885,702	5,405,194	8,833,165	4,464,952	4,368,213

Source: Statistical Yearbook of Romania, 2023 [12]

From the point of view of the distribution on the two areas of residence, in 2011 and in 2021, the counties of the West Region have predominantly urban population. [6,7,8,9,10,11] In 2021, Hunedoara County has the lowest number of people from the rural environment (96,567 people) [13].

Regarding the structure of the population by sex, it is noted that, in all the counties of the region, the share of the male population is lower than the share of the female population, in 2011 and in 2021 [6,7,8,9,10,11]. In 2021, the share of the male population, in the rural area, is higher than the share of the female population in Caraș-Severin and Hunedoara counties [12].

In the West Region, at the level of 2021, the birth rate was lower than that at the national level (8.6‰ versus 9.3‰). Regarding the birth rate at the level of the counties in the region, it recorded the lowest value in Caraș-Severin County (7.2‰) and the highest in Timiș county (9.4‰), above the average of the West Region. Mortality at the level of the region (17.6‰), as well as at the level of the component counties, is higher than the birth rate, causing a negative regional natural increase (-9.0‰), a situation also found at the country level (-8.2‰). It is also noted that the West Region has a mortality rate almost equal to that at the national level (17.5‰) [12].

At the level of 2011, in the Western Region, the birth rate was lower than that at the national level (8.5‰ versus 9.2‰). Regarding the birth rate at the level of the counties in the region, it recorded the lowest value in Hunedoara County (7.1‰) and the highest in Timiș County (9.6‰), above the average of the West Region. Mortality at the level of the region (12.2‰), as well as at the level of the component counties, is higher than the birth rate, causing a negative regional natural increase (-3.7‰), higher than at the country level (-2.6‰). It is also noted that the West Region has a higher mortality rate (12.2‰) than at the national level (11.8‰).[6]

Taking into account the evolution of demographic phenomena, characterized by low birth rates and fertility, as well as the aging of generations, the structure of large age groups of the population will continue to change, in the sense of reducing the number of young people and increasing the number of adults and elderly people [18].

The employed population is the effective producer of the goods and services necessary for the existence and functioning of the entire society, giving the measure of the demand for jobs on the specific market. A component of labor resources, the employed population is determined by the evolution of economic phenomena and processes, but also by demographic evolution [2].

MATERIALS AND METHODS

The evolution of the labor market in the Western Region of Romania was strongly influenced by the demographic trends of the analyzed period (2011-2021), which generated significant changes in the structure and dynamics of the workforce. In the context of social-economic developments, the labor market changes extremely quickly and needs qualified personnel in as many fields as possible, in fields that are more adaptable to the needs of sustainable development. From the point of view of the labor market, the main factors that act on the labor force are the civilian employed population, the active population and the employed population. The present paper is based on a content analysis of statistical materials from the period 2012-2023.

RESEARCH RESULTS

The active population of the Western Region counts, in 2021, 713 thousand people, respectively 8.7% of the country's active population, compared to 860 thousand people in 2011. From an evolutionary point of view, in the period 2011-2021, the reduction trend of the active population was manifested both at the level of the West region and at the national level [6,12] (table 3). In the analyzed period 2011-2021, at the national level, can be observed a decrease in the active population by over 1,650 million people.

Table 3

The evolution of the active population in the Western Region (thousands persons)

Specification	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Romania	9,868	9,232	9,202	9,243	9,159	8,979	9,120	9,069	9,033	8,973	8,214.7
West	860	800	802	806	770	751	761	755	754	749	713.8

Source: Statistical Yearbook of Romania, 2012, 2018, 2021, 2023 [6,7,10,12]

Regarding the active population in residential environments, until 2016 in the West Region the active population in the urban environment decreased, from 548 thousand people to 468 thousand people [13,14,15,16]. In the period 2017-2019, an increase of 23 thousand people can be observed in 2019 compared to 2016, from 468 thousand to 491 thousand people. In the year 2020 and in the year 2021, in the urban environment, a decrease in the active population is observed, reaching the lowest value of the analyzed period, 457.4 thousand people. By regarding to the active population in the rural environment, there is a decrease in the population by over 55 thousand people in the analyzed period 2011-2021, from 312 thousand people in 2011 to 256.4 thousand people in 2021. (table 4)

Table 4

The evolution of the active population in the Western Region in the urban and the rural environment (thousands persons)

Specification	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
urban											
Romania	5,563	5,037	5,022	5,078	5,013	4,962	4,994	4,995	4,951	4,920	4,746.3
West	548	502	502	508	486	468	479	483	491	481	457.4
rural											
Romania	4,305	4,195	4,180	4,165	4,146	4,017	4,126	4,114	4,082	4,053	3,468.4
West	312	298	300	298	284	283	282	272	263	268	256.4

Source: Statistical Yearbook of Romania, 2012, 2018, 2021, 2023 [6,7,10,12]

According to statistical data, in Region 5 West, the active population in 2021 consisted of 713,800 people, of which 422,600 were men and 291,200 were women. The active male and female population in the region are decreasing during the analyzed period, from 487 thousand to 422.6 thousand male persons, respectively from 373 thousand to 291.2

thousand female persons. (table 5)

Table 5

**The evolution of the active population in the West Region by gender
(thousands persons)**

Specification	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
male											
Romania	5,457	5,181	5,191	5,228	5,243	5,145	5,184	5,186	5,181	5,165	4,807.1
West	487	469	466	473	453	447	443	445	444	443	422.6
female											
Romania	4,411	4,051	4,011	4,015	3,916	3,834	3,936	3,883	3,852	3,808	3,407.6
West	373	331	336	333	317	304	318	310	310	306	291.2

Source: Statistical Yearbook of Romania, 2012, 2018, 2021, 2023 [6,7,10,12]

The evolution of the activity rate in the 5 West region was placed on an oscillating trend, of decrease (2011-2016), increase (2017-2020) and decrease (2021) (table 6) evolving from 62.0% in 2011 to 61.5% in 2021, the highest rate being in 2020, of 63.1%. It is noted that the activity rate remained higher for men (72.1% in 2021) than for women (50.8% in 2021), maintaining the oscillating value, decrease (2011-2016), increase (2017-2020) and decrease (2021), during the analyzed period 2011-2021. (table 7)

Table 6

The evolution of the activity rate in the West Region (%)

Specification	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Romania	63.3	64.8	64.9	65.7	66.1	65.6	67.3	67.8	68.6	69.2	65.6
West	62.0	61.6	61.8	62.4	61.0	60.1	61.7	62.0	62.7	63.1	61.5

Source: Statistical Yearbook of Romania, 2012, 2018, 2021, 2023 [6,7,10,12]

Table 7

The evolution of the activity rate in the West Region by gender (%)

Specification	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
male											
Romania	70.7	73.2	73.4	74.3	75.3	74.8	76.2	76.9	78.0	78.7	75.6
West	71.4	72.7	72.2	73.5	71.6	71.2	71.4	72.7	73.3	73.7	72.1
female											
Romania	56.0	56.4	56.3	56.9	56.7	56.2	58.2	58.3	58.9	59.3	55.3
West	52.9	50.7	51.4	51.3	50.3	49.0	51.9	51.1	51.9	52.4	50.8

Source: Statistical Yearbook of Romania, 2012, 2018, 2021, 2023 [6,7,10,12]

The employed population of the Western Region, representing approximately 9% of the employed population of Romania, numbered 688.9 thousand people in 2021. Throughout the period 2011-2021, the employed population in the region experienced a similar evolution to the active population, registering on an oscillating trend, period of decrease (2011-2017), increase (2019) and decrease (2019-2021). (table 8)

Table 8

Evolution of the employed population in the Western Region (thou persons)

Specification	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Romania	9,138	8,605	8,549	8,614	8,535	8,449	8,671	8,689	8,680	8,521	7,755.5
West	811	760	761	767	729	714	727	727	729	714	688.9

Source: Statistical Yearbook of Romania, 2012, 2018, 2021, 2023 [6,7,10,12]

The distribution by residential environment of the employed population in the Western Region also has an oscillating trajectory [13,14,15,16]. If until 2016, both in the

urban and rural areas the employed population decreased, starting from 2017, the employed population increased modestly until 2020, and in 2021 it decreased in both residential environments. (table 9)

Table 9
The evolution of the employed population in the Western Region in the urban and in the rural environment (thousands persons)

Specification	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
urban											
Romania	5,072	4,618	4,587	4,669	4,662	4,684	4,769	4,769	4,783	4,703	4,584
West	513	472	471	483	463	450	458	468	479	465	442.4
rural											
Romania	4,066	3,987	3,962	3,945	3,873	3,765	3,902	3,920	3,897	3,818	3,171.5
West	298	288	290	284	266	264	269	259	250	249	246.5

Source: Statistical Yearbook of Romania, 2012, 2018, 2021, 2023 [6,7,10,12]

The employed population in the West region registers oscillating trends for both sexes. Until 2016, both males and females in the employed population decreased, and starting from 2017, it increased modestly until 2020, and in 2021 it decreased again for both sexes. (table 10)

Table 10
The evolution of the employed population in the Western Region by gender (thousands persons)

Specification	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
male											
Romania	5,026	4,800	4,791	4,844	4,848	4,806	4,894	4,941	4,958	4,892	4,519.8
West	457	447	443	448	428	421	418	423	426	422	406.6
female											
Romania	4,112	3,805	3,758	3,770	3,687	3,643	3,777	3,748	3,722	3,629	3,235.7
West	354	313	318	319	301	293	309	304	303	292	282.3

Source: Statistical Yearbook of Romania, 2012, 2018, 2021, 2023 [6,7,10,12]

The occupancy rate, at the level of the 5 West region, had an oscillating trend, throughout the analyzed period 2011-2021, the lowest value was in 2016, of 57.2%. (table 11) In 2011, the employment rate is much higher for males compared to females (66.9% versus 50.1%). These differences between the sexes, regarding the activity rate and the employment rate, are present throughout the entire analyzed period. (table 12)

Table 11
The evolution of the employment rate in the Western Region (%)

Specification	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Romania	58.5	60.2	60.1	61.0	61.4	61.6	63.9	64.8	65.8	65.6	61.9
West	58.4	58.4	58.6	59.4	57.7	57.2	58.9	59.7	60.6	60.3	59.4

Source: Statistical Yearbook of Romania, 2012, 2018, 2021, 2023 [6,7,10,12]

Table 12

The evolution of the employment rate in the West Region by gender (%)

Specification	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
male											
Romania	65.0	67.6	67.6	68.7	69.5	69.7	71.8	73.2	74.6	74.4	71.1
West	66.9	69.1	68.6	69.6	67.6	67.1	67.4	69.1	70.3	70.2	69.3
female											
Romania	52.0	52.8	52.6	53.3	53.2	53.3	55.8	56.2	56.8	56.5	52.5
West	50.1	47.9	48.6	49.2	47.7	47.2	50.4	50.2	50.6	50.1	49.2

Source: Statistical Yearbook of Romania, 2012, 2018, 2021, 2023 [6,7,10,12]

The number of unemployed people in the Western Region represents 5.4% of the total number of unemployed people in Romania, numbering 24.9 thousand people in 2021. (table 13) In 2021, the BIM unemployment rate by gender was as follows: men 3.8%, and women 3.0%. (table 14) This indicator remained constantly higher with regard to male BIM unemployed, throughout the analyzed period.

Table 13

The evolution of the unemployed in the Western Region (thousands persons)

Specification	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Romania	730	627	653	629	624	530	449	380	353	452	459.2
West	49	40	41	39	41	37	34	28	25	35	24.9

Source: Statistical Yearbook of Romania, 2012, 2018, 2021, 2023 [6,7,10,12]

Table 14

The evolution of the unemployment rate in the West Region by gender (%)

Specification	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
male											
Romania	7.9	7.4	7.7	7.3	7.5	6.6	5.6	4.7	4.3	5.3	6.0
West	6.2	4.9	5.0	5.3	5.6	5.8	5.6	5.0	4.1	4.7	3.8
female											
Romania	6.8	6.1	6.3	6.1	5.8	5.0	4.0	3.5	3.4	4.7	5.0
West	5.1	5.5	5.4	4.1	5.0	3.6	2.8	1.7	2.4	4.3	3.0

Source: Statistical Yearbook of Romania, 2012, 2018, 2021, 2023 [6,7,10,12]

In 2021, the BIM unemployment rate for residential environments was as follows: urban 3.3%, and rural 4.9%. (table 15)

Table 15

The evolution of the unemployment rate in the West Region in the urban and in the rural environment (%)

Specification	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
urban											
Romania	8.8	8.3	8.7	8.1	7.0	5.6	4.5	3.8	3.4	4.4	3.4
West	6.4	6.3	6.2	5.0	4.8	3.8	4.4	3.1	2.4	3.4	3.3
rural											
Romania	5.5	5.0	5.2	5.3	6.6	6.3	5.4	4.7	4.5	5.8	8.6
West	4.6	3.2	3.5	4.5	6.4	6.8	4.4	4.7	5.2	6.7	3.9

Source: Statistical Yearbook of Romania, 2012, 2018, 2021, 2023 [6,7,10,12]

In Romania, as well as in the Western Region, immediate labor force activation programs should focus on: improving the flow of foreign workers, reducing unemployment among young people, extending active life expectancy and increasing employment among inactive segments, especially of women, with childcare support [17].

The essential priority of the human resources development strategy must go towards active employment policies, towards the creation of new jobs. Human resources and employment policy must help overcome the current difficulties which the regions are facing. Complementary to the jobs offered by companies, especially private ones, other employment possibilities must be developed by initiating active policies for the employment of the unemployed [4].

Knowing the dynamics of the population, its likely evolution according to certain characteristics, especially the evolution of labor resources and the active population, is very important for the foundation of social-economic development programs, strategies and policies in the field of the insertion of young people into the labor market [1].

The demographic and economic effects of the reduction in the number of the young population left their mark on the characteristics of the labor market, causing significant changes in the volume and structure of the main labor force indicators (activity rate, employment rate, unemployment rate, etc.). The activity rate represents the ratio between the active population and the total population aged 15-64, expressed as a percentage. The employment rate represents the ratio between the employed population and the total population aged 15-64, expressed as a percentage.

CONCLUSIONS

It would be necessary for Romania to develop a strategy in the field of employment, emphasizing the implementation of effective measures to increase the potential of the economy, the development of a sustainable economy for the benefit of every citizen [5].

The labor market in the western region of Romania has evolved considerably between 2011 and 2021, going through periods of economic growth, challenges caused by labor migration and the impact of the COVID-19 pandemic. However, continued investment in the industrial and IT sector, along with improvements in infrastructure and the education system, have strengthened the region as an important economic center of the country.

The reduction of the young population and the demographic aging led to a significant decrease in the active population, which determined a decrease in the available labor force resource. This decrease has created difficulties in covering demand in sectors such as industrial production, construction and services.

Demographic aging has put additional pressure on the labor market as more and more people reach retirement age, reducing the available labor force base. This phenomenon particularly affected Caraș-Severin and Hunedoara counties, where the transition to new industries was slower and the aging population represents a larger proportion.

Unfavorable demographic trends, such as declining youth population and external migration, have had a significant impact on the labor market in the Western Region. However, investments in education, training and advanced technologies, together with improved working conditions, can help mitigate these effects and strengthen the labor market in the long term.

While Timiș County remains an economic engine of the region, counties such as Caraș-Severin or Hunedoara face greater difficulties in attracting investments and creating jobs. Vocational training and retraining programs are becoming increasingly important to meet labor market demands.

The labor market in the Western Region of Romania is moving towards an increasingly competitive and innovation-oriented model, but it faces challenges related to the shortage of qualified labor and regional imbalances. Solutions will include continued investment in education, training, and public policies that support a more equitable distribution of economic opportunity.

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