

3. Labour Market

Labour market 2022 results were mixed, with employment and unemployment stagnating while real wages declined for most of 2022. The unemployment rate and employment rate in Q4 2022 remained almost unchanged from the same quarter last year at 9.2% and 50.1%, respectively. Total employment, according to the Labour Force Survey (LFS), decreased by 1% in Q4, while registered employment according to data from the Central Register of Compulsory Social Insurance (CRCSI) increased by 2.4% year-on-year. The rate of informal employment was 12.8%. Informal employment was concentrated in agriculture, where it amounted to 50%. Employment increased in both the public and private sectors, with employment growth in the private sector being higher and amounting to 3% year-on-year. Adjustments in the labour market are seen in the reduction or stagnation of wages in most activities. The average salary was 79 thousand dinars, and in real terms, it was lower in Q4 2022 compared to the same quarter of the previous year by 1.5%. In 2022, compared to 2021, average wages increased by 1.7% in real terms, which was much lower than the real growth rates in previous years (in 2021, the growth was 5.4%, in 2020 it amounted to 7.7%). In 2019 and 2020, wages in real terms grew significantly faster than GDP, so in the last two years wages have been adjusted to the movement of economic activity. Inflation completely devalued the nominal growth of wages in the public sector in Q4 2022, both compared to the previous quarter (a real drop of 2.4%) and compared to the same quarter of the previous year (a real drop of 7.6%), while wages in the private sector increased by 1.3% in real terms. In Q4 2022, the average wage in the public sector was for the first time lower than the average wage in the private sector by about 1,000 dinars. Higher average wages in the private sector compared to the public sector are a consequence of the different dynamics of wage growth in the two sectors. We expect that in the first quarter of 2023, wages in the public sector will be higher on average than in the private sector, given that wages in the public sector increase at the beginning of the year. Labour productivity declined in Q4, while real unit labour costs stagnated.

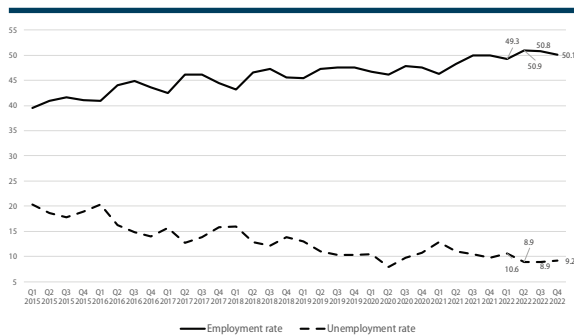
Employment and Unemployment

In Q4, the employment rate was 50.1%, and the unemployment rate was 9.2%

In the period 2010–2022, the structure of the population in the labour market improved, activity and employment increased, while inactivity and unemployment decreased

Basic labour market indicators (employment and unemployment rates) show stagnation (Graph 3. 1). The employment rate was 50.1% and was higher by 0.1 pp compared to the same quarter of the previous year, while the unemployment rate of 9.2% was lower by 0.6 pp compared to the same quarter of the previous year. Although the employment rate was unchanged, there was a drop in the total number of employees by almost 30 thousand, or 1%. The decline in the total population was slightly higher than the decline in the number of employees, 1.2% year-on-year, so the employment rate remained unchanged. The number of unemployed persons also decreased by 26 thousand persons year-on-year. The total number of unemployed in Q4 2022 was less than 300 thousand. The number of unemployed in 2022 was about 50,000 less than the average in 2021, i.e. by 14%.

Graph T3-1 Employment and Unemployment Rate Trends, 15+



Note: Break in the 2021 series.
Source: SORS, LFS

According to LFS data, the total population decreased by about half a million, or 8% in the period 2010–2022. According to demographic projections, the decrease in the number of inhabitants in Serbia, similar to that in other European countries, represents a long-term trend that will continue in the coming decades. The main drivers

Negative demographic trends have influenced positive changes in the labour market

The rate of informal employment outside agriculture amounted to 6.5%, while in agriculture it was still very high (50.1%)

The trend of employment is in line with the trend of economic activity

Employment decreased significantly in Agriculture according to both LFS and CRCSI

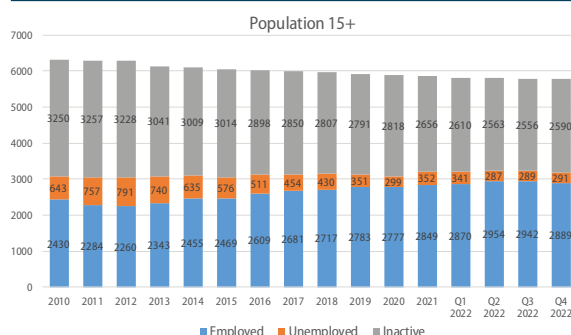
Registered employment increased in Industry, Services, and Construction

Employment increased in both the public and private sectors

of population decline are negative natural growth and, to a lesser extent, net emigration. In addition, an increase in the share of the elderly population in the total population is expected. The reduction in the number of inhabitants and the aging of the population will affect the reduction of labour supply, despite the expected increase in the retirement age and the increase in the participation of pensioners in the labour market. The impact of the mentioned factors on the labour market is difficult to predict because they will occur simultaneously with the substitution of some jobs by machines and artificial intelligence, but also with the creation of new jobs.

Reduction of the total population (15+) in the period 2010-2022 was accompanied by a positive change in the structure, the number of employees increased by about half a million (483 thousand), which was a 20% growth, while the number of unemployed decreased by 341 thousand, i.e.

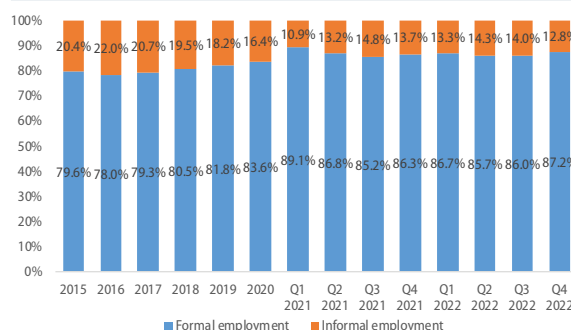
Graph T3-2 Population Trends, 15+, 2010–2022



Note: Break in the 2021 series.

Source: SORS, LFS

Graph T3-3 Formal and Informal Employment in % Out of Total Employment, 15+



Note: Break in the 2021 series.

Source: SORS, LFS

Table T3-1 Trends in the Number of Employees (15+) and Real Gross Value Added by Sectors, Year-On-Year Change

	2017	2018	2019	2020	2021	2022	Q1 2022	Q2 2022	Q3 2022	Q4 2022
Employment CRCSI	3.0%	3.8%	2.4%	2.3%	3.0%	1.8%	1.9%	1.8%	1.2%	2.6%
Total GVA	2.1%	4.3%	4.4%	-0.6%	7.4%	1.9%	3.3%	3.5%	0.7%	0.3%
Employment- agriculture	-0.7%	-1.2%	-5.5%	-1.7%	-1.8%	-5.6%	-4.6%	-5.2%	-6.6%	-6.1%
GVA-agriculture	-11.4%	15.1%	-1.7%	2.3%	-5.7%	-8.3%	-8.4%	-8.6%	-8.5%	-7.8%
Employment-industry	4.7%	5.0%	3.1%	3.3%	2.9%	0.7%	1.2%	1.0%	-0.2%	0.7%
GVA-industry	-0.8%	4.0%	-23.8%	0.5%	6.3%	1.9%	2.0%	4.6%	-0.4%	1.2%
Employment-construction	1.2%	7.9%	9.7%	9.1%	4.8%	1.7%	3.4%	2.1%	0.3%	1.2%
GVA-construction	5.4%	12.4%	33.6%	-3.3%	17.6%	-9.8%	-5.7%	-6.9%	-12.1%	-12.5%
Employment-services	2.5%	3.2%	1.8%	1.5%	2.9%	2.5%	2.1%	2.2%	1.9%	3.6%
GVA-services	5.8%	2.3%	20.1%	-1.1%	8.5%	4.3%	5.8%	5.4%	3.8%	2.6%

Note: Registered employment excluding registered individual farmers was used for employment (CRCSI). Employment in Q4 2022 and in 2022 are previous data. Quarterly data for GVA for 2022 are previous data, while annual data for VAT is the sum of quarterly data.

Source: SORS, CRCSI and SNA

by 53%. The number of inactive persons also decreased by almost 700 thousand, or by 21%. Although the total population of 15+ has decreased, the number of active and employed persons has increased, and the number of unemployed and inactive persons has decreased (Graph 3. 2), which we assess as a positive trend. Improvements in the labour market in the last 12 years are a consequence of economic growth, emigration and the aging of the population, which leads to pressures on the labour market, i.e. an increase in employment, and a decrease in unemployment and inactivity.

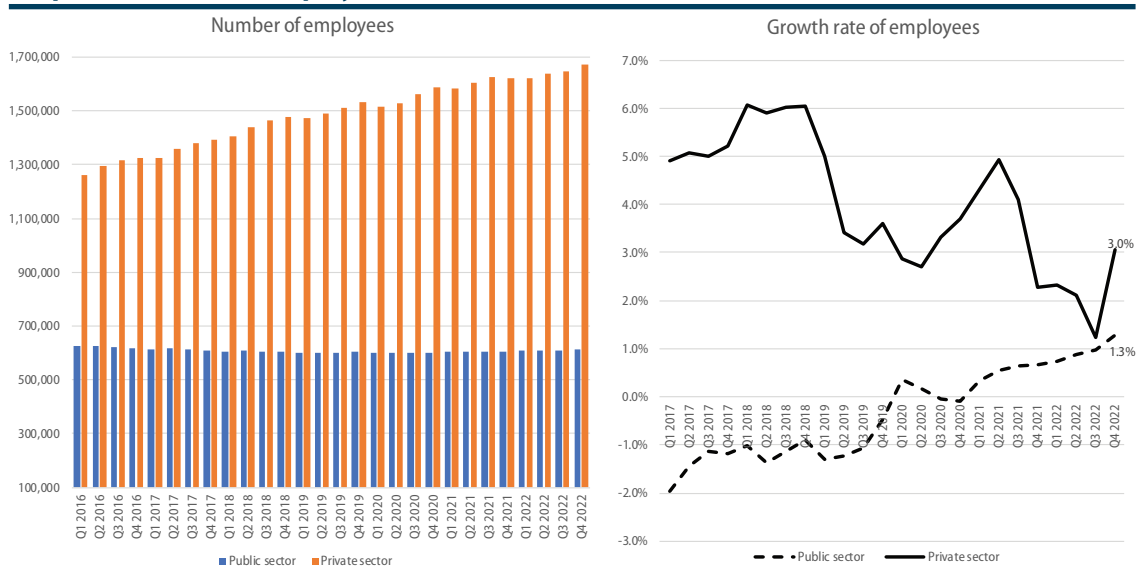
The rate of informal employment is decreasing, and in Q4 2022 it was 12.8% (Graph 3. 3). The rate of informal employment in agriculture was 50.1%, while outside of it, it was 6.5%.

The total employment trend employees at legal entities, entrepreneurs and their employees and persons individually running business, according to CRCSI data was in accordance with the trend of economic activity. In 2022, compared to the previous year, the gross value added (GVA) increased by 1.9% in real terms, and employment increased by 1.8%. Observed by activities

and quarters, we see that Construction, Industry, and Services achieved year-on-year growth in the number of employees, while Agriculture has been constantly recording a decrease in the number of registered employees (Table 3. 1). In the period 2017–2022, the number of registered employees in Agriculture decreased, with the annual decrease in 2022 amounting to 5.6%. According to both data sources, the Construction industry achieved an increase in the number of employees, although the real GDP decreased by as much as 12.5% year-on-year.

The total number of registered employed persons according to CRCSI data was 2 million and 342 thousand in Q4 2022. The number of registered employed persons was higher compared to the previous quarter by 2.4%, i.e. by about 50 thousand employees. Looking at the structure, the number of employees in legal entities has also increased, as well as the number of entrepreneurs and their employees and persons who perform their activities independently. The number of registered individual farmers has decreased. Compared to the same quarter of the previous year, employment increased in both the public and private sectors, with the relative growth in the private sector being higher and amounting to 3% year-on-year. The number of employees in the public sector was 614 thousand, while in the private sector, there were 1 million and 673 thousand employees in Q4 2022. The total registered employment increased in 2022 compared to 2021 by 36 thousand, and the annual growth of employment amounted to 1.8%. The activity with the highest annual growth was Information and Communications, where the number of employees increased by 12 thousand, i.e. 14.2%. Significant annual employment growth was also achieved in Mining (6.7%), Administrative and Auxiliary Services (5.6%), Professional, Scientific, and Technical activities (6.2%), and Real-Estate Business (5.1%). Observed by ownership, compared to the previous year, employment in 2022 increased by 1% in the public sector and 2.2% in the private sector.

Graph T3-4 Trends in Employment in the Public and Private Sector



Note: The data for Q4 2022 is the provisional data. Employment includes the number of employees in legal entities, entrepreneurs and their employees, as well as persons who perform activities independently.
Source: SORS, CRCSI

Wages

The average net wage in Q4 was lower in real terms by 1.5% year-on-year, while in the whole of 2022, it increased by 1.7%

The average net wage in Q4 2022 was RSD 79,302. Year-on-year nominal wage growth was 13.4%, while real wage decreased by 1.5% in Q4 2022. In 2022, compared to 2021, the real wage was 1.7% higher, which is in line with the movement of real GVA (1.9%). In 2022, the lowest real annual wage growth was recorded compared to the previous period (2018–2021). The adjustment of real wages is expected, given that wages have grown faster than GDP and productivity in the past few years.

In 2022, a lower real annual growth of wages was observed compared to the previous three years

Median wages in 2022 were 18 thousand dinars less than the average in 2022, i.e. 24% lower

In the period 2018–2022, median wages grew slightly slower than the average

Wages in the private sector in Q4 2022 were for the first time higher than wages in the public sector

Real wages in Q4 2022, compared to the same quarter of the previous year and the previous quarter, were lower in real terms in the public sector, while increasing in the private sector

Graph T3-5 Real Wage Index, 2009=100



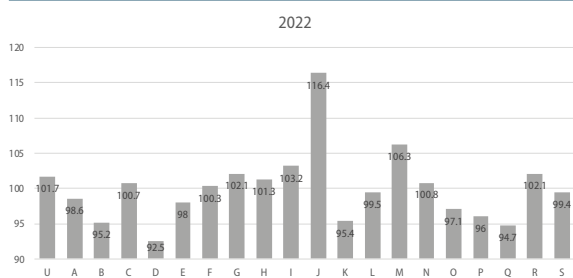
Note: Break in the 2018 series.
Source: SORS.

Table T3-2 Median and Average Wage Trends, 2018–2022

	Median (in RSD)	Average (in RSD)	Absolute difference, median and average wage (in RSD)	Relative difference, median and average wage (in % of average wage)
2018	38,749	49,643	-10,894	-21.90%
2019	42,037	54,908	-12,871	-23.40%
2020	45,721	60,057	-14,336	-23.90%
2021	49,931	65,844	-15,913	-24.20%
2022	56,618	74,913	-18,295	-24.40%

Source: SORS

Graph T3-6 Real Wage Indices by Activities, 2022



Legend: U - total, A - Agriculture, Forestry and Fishing, B - Mining, C - Manufacturing Industry, D - Electricity, Gas, Steam and Air Conditioning Supply, E - Water Supply; Wastewater Management, Controlling the Process of Waste Removal, and similar activities, F - Construction, G - Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles, H - Traffic and Storage, I - Accommodation and Food Services, J - Information and Communications, K - Financial Activities and Insurance, L - Real-Estate Business, M - Professional, Scientific and Technical Activities, N - Administrative and Auxiliary Service Activities, O - State Administration and Defense; Compulsory Social Insurance, P - Education, Q - Health and Social Care, R - Art, Entertainment and Recreation, S - Other Service Activities

relatively high increase in wages in the public sector at the beginning of this year.

The real year-on-year decrease in wages in the public sector in Q4 2022 was 7.6%, while in the private sector, there was a growth of 1.3%. Compared to the previous quarter, wages in the private sector rose by 4.3% in real terms, while in the public sector, wages fell in real terms by 2.4%. Wages in the public sector decreased in real terms both compared to the previous quarter and to the same quarter of the previous year.

The average wage in euros was 676 euros, which was 13.6% higher than in the same period last year. The growth of wages in euros corresponds to the growth of wages in dinars (13.4% nominal), due to the unchanged dinar exchange rate. Therefore, the growth of average wages in

The median wage in 2022 was 57 thousand dinars, while the average wage was 75 thousand dinars. The median wage was lower than the average wage by 18 thousand dinars or 24.4% in 2022. The median wages have been growing slightly slower than average wages since 2018, so the gap has even widened slightly over the past 5 years. This suggests that the wages of employees in the upper part of the salary distribution grew faster than the salaries of employees in the lower part of the distribution. In Q4 2022, median wages amounted to 59 thousand dinars and were 25.6% lower than the average.

Observed by activities, we see that most activities in 2022 had a real decrease in wages or stagnation/slight growth. The real growth of average wages in Serbia of 1.7% in 2022 was the result of relatively high growth of wages in several industries such as Information Technologies and Communications, Professional, Administrative and Scientific activities, while wages in other industries have also declined or stagnated in real terms.

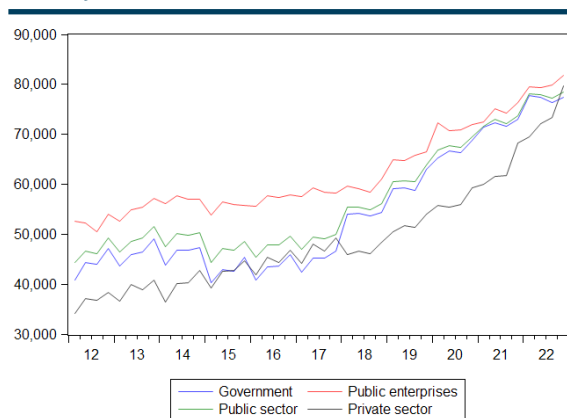
In the private sector, for the first time, the average wages were higher than in the public sector, 80 thousand in the private sector and 79 thousand in the public sector, but they were slightly less than the wages in public companies (82 thousand dinars). The slightly higher wages in the private sector in Q4 were the result of a more significant increase in December in the private sector wages compared to the public sector. The dynamics of wage increases differ in the private and public sectors. In the entire public sector, wages increase at the beginning of the year, while wages in the private sector increase throughout the year. Therefore, we expect that in Q1 2023, wages will again be higher on average in the public sector compared to the private sector, as a consequence of the

The average wage in euros was 676 euros

The growth of wages in euros corresponds approximately to the nominal growth of wages in dinars due to the fixed dinar exchange rate

Labour productivity in Q4 2022 declined year-on-year, while real unit labour costs were unchanged

Graph T3-7 Average Wage Trends in the Public Sector, Public Enterprises, State and Private Sector, RSD



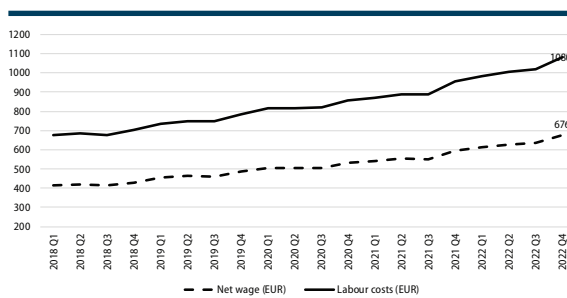
Note: Break in the 2018 series.
Source: SORS

euros and in Serbia during the previous years does not even remotely reflect the change in their purchasing power. For example, wages in euros from 2016 to 2022 increased by 70%, while in the same period their real growth, i.e. the increase in purchasing power, was 32%. Similarly, the growth of wages in euros from 2012 to 2022 was 74%, while real wages increased by 28% in the same period.

Labour Productivity

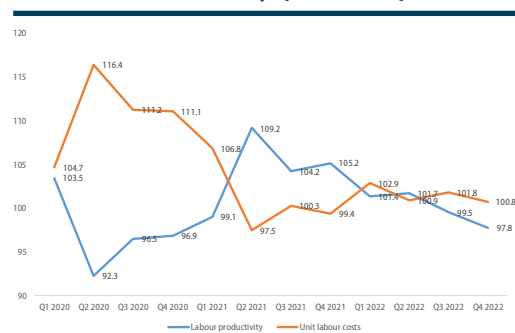
Registered employment in Q4 2022 (excluding individual farmers) increased by 2.6% year-on-year, while real GDP increased by 0.3%. In Q4, labour productivity decreased by 2.2% in real terms compared to the same quarter of 2021, while unit labour costs increased by 0.8%. In the second half of 2022, labour productivity experienced a year-on-year decline, while unit labour costs stagnated. In 2022, labour productivity was unchanged compared to the previous year, while real unit labour costs increased by 1.6%.

Graph T3-8 Average Net Wages and Employer Costs in EUR



Source: SORS for wages, NBS for exchange rates.

Graph T3-9 Trends in Labour Productivity and Real Unit Labour Costs, Q1 2020 – Q4 2022



Note: Registered employment excluding registered individual farmers was used for employment (CRCSI). Employment in Q4 2022 is preliminary data. Quarterly data for GVA for 2022 are provisional data.
Source: Author's calculations using SORS data.

Appendix

Table D3-1 Basic Labour Market Indicators

	2017	2018	2019	2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022
Activity rate (%)	54.0	54.5	54.6	54.0	53.1	54.3	55.8	55.4	55.2	55.8	55.8	55.1
Employment rate (%)	46.7	47.6	49.0	49.1	46.3	48.3	50.0	50.0	49.3	50.9	50.8	50.1
Unemployment rate (%)	13.5	12.7	10.4	9.0	12.8	11.1	10.5	9.8	10.6	8.9	8.9	9.2
Informal employment rate (%)	20.7	19.5	18.2	16.4	10.9	13.2	14.8	13.7	13.3	14.3	14.0	12.8

Note: Break in the 2021 series.
Source: SORS.

Table D3-2 Average Net Wages and Employer Costs in EUR

	2018	2019	2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022
Average net wages, total, (€)	420	466	511	541	553	552	595	613	628	634	676
Average net wages, industry, (€)	413	454	485	502	519	514	546	553	575	579	617
Labour costs, total (€)	684	754	827	869	890	888	955	981	1006	1017	1080
Labour costs, industry (€)	672	734	784	807	835	828	877	884	923	930	988

Note: Industry includes activities B, C and D, weighted average wages. Exchange rate of the dinar against the euro, period average (NBS).
Source: Author's calculation using SORS and NBS data.