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INTRODUCTION

The Statistical Office of the Republic of Serbia, main producer and disseminator of statistics, publishes a large number of releases, indicators, bulletins, etc. A multitude of publications often gives rise to confusion with users who, on the other hand, use data to assess their performances and adapt them to other economic subjects and trends.

As many users, apart from specialists, are statistically and economically illiterate, they may be confused by the diversity of data, unable to understand and prioritize them correctly, which often results in reluctance towards information.

As the statistical system is very complex and generalised, designed to meet the specific sub-sector needs for information, statistical data are often incomprehensible in modern society. Informing the users with „dry" statistical data is often not sufficient as they provide only a partial picture about macroeconomy. Namely, it has been proved that traditional concepts of data (tables, statistical releases, etc.) do not facilitate quick understanding of the socio-economic reality and fail to transmit the key message, particularly when there is a large amount of data.

Having in mind all the above and following world trends in presenting statistical data, as well as the interest shown by professionals, the redesigned Trends traditionally provide quarterly and annual data, but also use new concepts of presenting the most important economic signals via modern and advanced graphical solutions for presenting and dissemination.

The issue for the fourth quarter of 2023 presents a review of major economic trends in this period and in the whole year: Gross domestic product, Industrial production, Construction, External trade, Domestic trade, Prices, Labour market, Salaries and Wages, Tourism, Economic Sentiment Indicator, Regional economic asymmetries and Agriculture.

As always, this issue presents also the forecasts of trends in certain areas in the next period, obtained under ARIMA forecasting models (in the following sections: Industry, Domestic trade and External trade). A set of composite leading indicators, which can anticipate with high reliability the cyclical movements, and serve short-term forecasts, is presented in the section Macroeconomic forecasts.

This issue of *Trends* contains also a paper: Research on margins in trade and the food industry and their impact on food inflation in Serbia *(*authors: Miladin Kovacevic, Milena B. Stevovic and Vladimir Sutic).

In addition to paper presented are the first results of the 2023 Census of Agriculture.

Since 1999, the Statistical Office of the Republic of Serbia has no available data for AP Kosovo and Metohia, therefore they are not included in the data for the Republic of Serbia (total).

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RESEARCH ON MARGINS IN TRADE AND THE FOOD INDUSTRY AND THEIR IMPACT ON FOOD INFLATION IN SERBIA

INTRODUCTION

The Covid-19 pandemic and the war in Ukraine have caused major disruptions in global markets, leading to a significant increase in prices of energy and food, and clearly highlighting the vulnerability of global food supply chains and the need for adaptable and resilient food production and distribution systems. What is particularly concerning is that the component of food has emerged as a leading factor in price increases, intensifying the impact on household living standards, especially in countries where food expenditures constitute a high proportion of total household expenses. According to the Household Consumption Survey from 2021, in Serbia, this proportion amounted to 34.2%, which is 12.3 percentage points higher than the EU average for 2020 (Eurostat, 2020)[1], leading to the logical conclusion that, in Serbia, prices of food products have a dominant influence on the movement of the overall price level.

Although the Report on Inflation by the National Bank of Serbia in February 2023 claimed that inflation in Serbia was largely driven by global cost pressures, certain price movements within specific food supply chains indicated potential price disparities. The most obvious example of this is the situation in the milk market in Serbia, characterized by a highly dispersed primary dairy production sector (a large number of small producers) and a highly concentrated dairy processing industry. As a result, unfavorable procurement conditions and the creation of an oligopolistic market for final processing are evident. Consequently, business entities involved in trade, as subsequent actors in the supply chain, will seek to adjust their sales policies to preserve their profits. Ultimately, these price adjustments are borne by the end consumers. It is precisely because of this that decision-makers should focus their attention on the issue of transmission, or vertical transmission of prices, and whether fair market relations are then violated. One of the key factors that can contribute to rising food prices are trade margins[2].

The Statistical Office of the Republic of Serbia conducted research on revenues from the sale of food products in internal trade, as well as research on the structure of revenue from the sale of food industry products, during the period from June 1 to November 1, 2023, for the needs of the Government of the Republic of Serbia.

The aim of this research was to examine the economic situation of internal trade and the food industry throughout the entire value chain of agricultural and food products in the Republic of Serbia, as well as to determine the significance and role of these market segments in influencing the overall price level. Additionally, the results of this research aimed to provide analytically based arguments regarding the desirability of introducing restrictions on the prices of basic foodstuffs and trading margins, as well as implementing a ban on the export of basic agricultural products.

In order to ensure necessary data, the research was conducted on a representative sample of observation units, i.e., business units engaged in the trade of selected food products or processing of agricultural and food products.

[1] Due to the Covid-19 pandemic, the Statistical Office of the Republic of Serbia interrupted the "Household Consumption Survey" in the field in mid-March 2020, and since the survey was not conducted continuously throughout the year, data for 2020 were not published. On the other hand, on the Eurostat website, the latest available data for the EU relates to the year 2020. Despite the present temporal discrepancy of one year, such a comparison is acceptable considering the dynamics of changes in the share of food expenditures in the structure of household consumption in Serbia, as well as in the EU.

[2] The trading margin represents the difference between the price that traders pay to acquire products and the price at which they sell those products to consumers.

RESEARCH METHODOLOGY

The research on revenues from the sale of food products in internal trade

The research on revenues from the sale of food products in internal trade aimed to determine the impact of trading margins on the prices of basic food products and the overall price level in the Republic of Serbia.

To achieve this goal, a list of 31 basic food products was defined for which data on revenue from the sale of goods, costs of goods sold, and realized margin were collected (Scheme 1 in the Annex). For analytical purposes, the observed products were grouped into the following 8 product groups: Vegetables, Bread and cereals, Oils and fats, Fresh meat, Milk, cheese, and eggs, Fermented dairy products, Fish, and Coffee and sugar.

When defining the list of food products, three criteria were considered: (1) the significance of the product in household consumption, i.e., its share in the consumer basket, (2) the annual growth rate of prices, and (3) the level of price elasticity of demand[3].

Data on the share of products in the total consumer basket were obtained from a weighting scheme based on which the consumer price index is calculated. Simultaneously, the annual growth rate of consumer prices was taken into account to identify products with the highest price growth. Regarding the third criterion - price elasticity of demand - the reason for its introduction lies in the fact that the price increase of low price elastic food products (products with inelastic price demand) can have a strong impact on the standard of living of the population.

The sample comprised of units (legal entities and entrepreneurs) classified according to the Statistical classification of economic activites (NACE Rev. 2) within Retail sale in non-specialised stores with food, beverages or tobacco predominating and Retail sale of food, beverages and tobacco in specialised stores. The sampling frame was formed based on the Statistical Business Register (SBR), annual financial statements data, and information from relevant statistical surveys (Internal Trade Statistics of the SORS).

The chosen method of data collection was reporting, which involved selected business entities, i.e., reporting units filling out a questionnaire based on their accounting records. The data collected through this research relate to the period from January 1 to April 31, 2023.

Research on the structure of revenues from the sale of food industry products

The main goal of the research was to examine the role of the food industry, particularly The manufacture of food products (Division 10), in influencing the overall price level in the Republic of Serbia. To achieve this goal, a list of a total of 49 products was defined, categorized into 8 sectors and 16 activity groups within the production of food products (Division 10), which constitute approximately 81% of the total activity realization within the production of food products (Division 10) (Scheme 2 in the Annex).

The sample comprised of units (legal entities and entrepreneurs) classified according to the Statistical classification of economic activites (NACE Rev. 2) in Manufacture of food products division. The sampling frame was formed based on the Statistical Business Register (SBR), annual financial statements data, and information from the Annual Survey of Industrial Production in the Republic of Serbia.

The chosen method of data collection was reporting, where selected business entities filled out a questionnaire based on their accounting records. Similarly to the research on revenues from the sale of food products in internal trade, in this case as well, data were obtained through reporting units filling out a specially designed web form with the assistance of statisticians from the regional offices of the SORS.

[3] Price Elasticity of Demand (PED) measures the percentage change in the quantity demanded of a product due to a change in price, holding all other demand factors constant (ceteris paribus). It reflects the impact of prices on the quantity demanded of a good and is expressed by the coefficient of price elasticity of demand - $E_{x,p}$. This coefficient is obtained as the ratio of the relative change in the quantity demanded of a product to the relative change in the price of that product. Products of essential importance for everyday life, as well as those with fewer substitutes, typically possess lower elasticity. Such products include basic foodstuffs. Most agricultural and food products fall into the category of goods characterized by low elasticity, or inelastic demand ($E_{x,p} < 1$), such as salt and sugar, milk and bread, cereals, coffee, fish, edible oils and fats, and others. For these products, the percentage change in quantity demanded is smaller than the percentage increase in price.

Real-time monitoring of data entry was conducted using Power BI, after which the final dataset was retrieved using Power Query, and data processing and tabulation were performed using MS Excel Power Pivot and DAX functions, as well as SPSS v.21.

The data collected through the research on the structure of revenues from the sale of food industry products relate to **the period from January 1 to June 30, 2023**, or the first six months of 2023.

When creating the list of products, the same criteria were applied as in the research on margins in internal trade.

RESULTS

The research on revenues from the sale of food products in internal trade

The significance and role of internal trade in agricultural and food products in the economic structure of the country. Internal trade in food products plays a crucial role in the food supply chain and has a significant impact on the economy, population, i.e., consumers, and food producers. From an economic perspective, it generates revenue for retail trades, distributors, vendors, suppliers, food producers, and other stakeholders in the supply chain, thereby contributing to economic growth and development. Additionally, internal trade in food products has the potential to stimulate the labor market in the service sector and create new employment opportunities. Specifically, besides salespersons, this activity employs personnel for storage, inventory management, transportation, marketing, and other functions, thus reducing unemployment and stimulating economic activity. Furthermore, internal trade enables consumers easy access to a diverse range of food products. Through a network of retail trades such as supermarkets, specialty stores, and green markets, consumers can find fresh produce, processed food, and other food items regardless of their location. A very important aspect is also the quality and safety of products. Traders are responsible for providing quality and safe food to consumers for several reasons. Firstly, ensuring high standards of quality and safety of food products is crucial for protecting public health, secondly, for building consumer trust, and finally, for the successful operation of trading entities.

The importance of internal trade in the overall economy of a country is reflected in its contribution to the formation of gross internal product (GDP). Thus, in 2022, the share of GVA from internal trade in the Serbian GDP amounted to 12%, which is 0.2 percentage points higher than in 2021, and a whole percentage point higher than a decade ago, in 2013. In 2000, this share was 7.1%. Retail trade, except for trade in motor vehicles and motorcycles, as an integral part of internal trade, accounted for 4.5% of GDP, which is 0.1 percentage point higher than in 2021, and 0.6 percentage points higher than a decade ago, in 2013. In 2000, this share amounted to 2.7% of GDP.

According to the statistics on internal trade, in the structure of commodity turnover in retail trade in 2022, food products and alcoholic beverages accounted for 34.5%, while fuel for motor vehicles and motorcycles and other non-food products accounted for 19.5% and 46.0%, respectively[4].

Results from the research with discussion. The research on revenue from the sale of food products in internal trade indicated that the average gross margin rate for all observed businesses in retail trade of food products was 14.9%. Simultaneously, aiming to describe the level of market concentration, all observed businesses were classified into two groups - "Top 20" and "Others". Thus, the top twenty (20) leading businesses in retail trade ("Top 20") had a share in the total turnover of food products of around 83%, while the top three (3) subjects had a share of 48.9%. The average gross margin rate (for all products) among the "Top 20" group was 14.6%, with the highest average margin within this group being 23.8% and the lowest being 5.1%. For the "Others" group, the average margin was slightly higher at 16.9%.

Given that significant deviations in average retail prices of the observed products were not observed within the group of "Top 20," higher margins among individual retailers in retail trade, especially among larger retail chains, can be explained by more favourable procurement conditions from suppliers, both domestically and through imports from competitors. At the same time, these results indicate that the rise in retail prices primarily stems from high production costs of these products (high input prices and small economies of scale).

The research results also showed that there are no significant differences between the "Top 20" group and other businesses outside this group ("Others") in terms of the gross margins achieved for the observed groups of products. An exception is fresh

[4] https://publikacije.stat.gov.rs/G2023/Pdf/G20232056.pdf

meat and fish (the "Others" group has higher margins), while for oils and fats, and coffee, businesses from the "Top 20" group achieve higher margins compared to other businesses outside this group.

However, the most significant differences in gross margin levels were observed in the category of fresh meat – especially with fresh pork and poultry (whole chicken). The "Top 20" group achieved an average margin rate of -5.1% and -0.5%, respectively, while other subjects outside the top 20 ("Others") achieved 14.1% and 15.6%, respectively. The same pattern applies to fish – for instance, in carp sales, the top 20 have an average margin rate of 4.0%, while the "Others" group has 21.4%. For trout, the average margin rate is 15.8% in the top 20 group, while it's around 35% for the "Others." Such differences can be explained by the fact that the "Top 20" group consists mainly of large retail chains. Considering the perishable nature of these goods, subjects from this group adjust their sales policy by operating with lower margins on these and similar products.

In contrast to the "Top 20" group, other businesses outside this group include small specialized stores (butchers, fishmongers, etc.), which achieve higher margins in their business operations due to a more diverse offer within the same group of products (fish, meat, etc.). Simultaneously, this group of businesses does not have space to diversify low and negative margins into other groups of products, as is the case with large retail chains (Table 1).

Looking at the product level, the largest range in the fluctuation of gross margin rates was noted in butter, with a maximum value of 76.4% compared to a minimum of 9%. The lowest range was observed in sugar, with a maximum gross margin rate of 17.7% compared to a minimum of 1.9% (Table 1).

Products where the "Top 20" group achieves higher margins compared to other subjects outside this group are butter and coffee. This can be explained by the wider range of offerings in this category of products (a broader assortment), the presence of private labels, more favorable procurement conditions from suppliers (lower procurement costs), and similar factors.

In contrast to the above-mentioned products, for goods with a narrower assortment, such as edible sunflower oil and sugar, there are no significant differences in margin levels between the "Top 20" and other businesses outside this group.

Table 1. Average gross margins[5] and revenue from sales in retail trade in the Republic of Serbia - by products and business entities' groups in retail trade - "Leading 20" and "Others".

Product group	Product description	Average gross margin rates, %			Sales revenue, 000 dinars		
		All	Leading 20	Others	All	Leading 20	Others
Vegetables	Potatoes, white	18.1	18.0	19.7	1 057 693	960 564	97 129
	Potatoes, red	19.1	18.6	24.1	765 654	692 530	73 124
	Beans	24.0	25.1	21.4	475 534	337 841	137 693
	Fresh tomatoes	20.0	19.9	20.7	1 187 995	1 031 923	156 072
	Fresh bell pepper (babura or regular)	18.0	18.1	17.2	530 874	487 800	43 074
	Old onion	19.8	19.7	20.8	845 421	744 803	100 618
Bread and cereals	Wheat flour, type 500	10.4	9.1	12.9	415 003	265 850	149 153
	Bread made from wheat flour T-500	10.7	11.3	9.4	1 906 895	1 380 753	526 142
Milk, cheese and eggs	Homemade cheese, soft, in slices (excl. feta)	28.3	27.2	31.9	644 822	498 340	146 482
	Chicken eggs, A class, weight 60-65 g...	20.6	19.9	23.6	2 086 966	1 693 352	393 614
	Sterilized milk, fat 2.8%...	12.8	12.9	12.1	1 762 096	1 480 553	281 543
	Fresh milk, cows, fat 2.8%	14.5	14.7	13.4	1 486 666	1 290 374	196 292
	Fresh milk, cows, reduced m.m., 1.5% m.m	18.8	20.1	16.2	256 445	174 944	81 501
Fermented milk products	Yogurt, 2.8 - 3.2% mm	17.5	17.6	16.6	3 104 197	2 671 935	432 262
	Sour milk (2.8% - 3.2% mm)	25.4	26.9	19.0	639 579	526 953	112 626
	Sour cream, 12 - 20% mm	16.6	16.3	18.6	2 119 739	1 870 192	249 547
Oils and fats	Edible oil (sunflower)	9.6	9.3	10.9	3 204 353	2 513 625	690 728
	Margarine for spreading (...)	27.0	28.4	22.5	246 236	191 347	54 889
	Margarine table, vitamin., pack. from 250 g	15.7	15.0	18.9	483 034	396 260	86 774
	butter	33.6	34.8	21.8	757 831	694 039	63 792
	Pig fat	30.3	33.3	21.1	142 239	109 265	32 974
Veal and pork	Boneless veal (thigh)	16.2	13.9	24.5	648 782	497 309	151 473
	Pork, fresh	-4.5	-5.1	14.1	508 136	489 529	18 607
	Boneless pork (thigh)	8.5	7.0	17.6	1 729 121	1 460 940	268 181
	Pork with bones (...)	7.9	6.6	16.4	979 945	837 025	142 920
Chicken meat, fresh	Chicken meat fresh (whole chicken)	0.5	-0.5	15.6	1 016 999	943 921	73 078
	Chicken drumstick and tie	9.3	7.8	20.6	870 976	752 387	118 589
Fish	Fresh carp	6.5	4.0	21.4	189 634	157 968	31 666
	Fresh trout	16.6	15.8	34.9	149 511	141 960	7 551
Coffee and sugar	Ground coffee	20.2	20.8	18.0	4 888 120	3 869 067	1 019 053
	Sugar crystal	6.9	6.3	9.0	1 888 532	1 419 225	469 307
	Average gross margin rate, %	**14.9**	**14.6**	**16.2**	36 989 02	30 582 57	6 406 45

[5] Gross Margin Rate = Price Difference / Cost of Goods Sold (excluding VAT) x 100, where:
Price Difference = Revenue from Sales of Goods (excluding VAT) - Cost of Goods Sold (excluding VAT);
Revenue from Sales of Goods = Selling Price (excluding VAT) x Quantity of Goods Sold

Research on the structure of revenues from the sale of food industry products

The significance and role of the food industry in the economic structure of the country. Alongside the structural transformations in the economy of the Republic of Serbia, the significance of the food industry, agro-industry and agro-industrial complex[6] has changed. Over the past two decades, there has been a continuation of the decline in the industry's share from the 1990s - from 32.4% of GDP in 2000 to 20.0% of GDP in 2022, as well as a decrease in the share of manufacturing industry from 27.1% of GDP in 2000 to 13.5% of GDP in 2022, primarily due to inadequately implemented transition during the first decade of this century, as well as the economic crisis of 2008-2009. In the same period, the share of agriculture in GDP decreased from 16.6% in 2020 to 6.2% in 2022.

Due to the reduced share of agriculture, and consequently agro-industry, i.e., the food industry, the share of the agro-industrial complex (agriculture and agro-industry) has seen a significant decline from 22.6% of GDP in 2000 to 9.5% of GDP in 2022. When observed separately, the significance of agro-industry (production of food products, beverages, and tobacco) in GDP declined from 5.6% in 2000 to 3.1% in 2022. Due to inadequate privatization and insufficient incentives in primary agricultural production and agro-industry, the share of gross value added (GVA) of the food industry in GDP is also decreasing and amounted to 2.9% in 2022. Although the food industry and agro-industry are relatively losing importance in terms of their share in GDP, in absolute terms, they are still crucial given their role in ensuring food security and safety in the country (Table 2).

Table 2. Shares of selected sections and divisions in the Gross Domestic Product in the Republic of Serbia in 2000, 2010, 2020 and 2022.

	2000.		2010.		2020.		2022.	
	mill. dinars	%	mill. dinars	%	mill. dinars	%	mill. dinars	%
Gross domestic products	**434 319.0**	**100.0**	3 250 581.3	**100.0**	5 504 430.6	**100.0**	7 097 629.2	**100.0**
Gross value added, total	402 361.6	92.6	2 716 989.8	83.6	4 574 270.1	83.1	5 963 658.7	84.0
Agriculture (A)	74 138.4	16.6	214 618.3	6.3	349 165.3	6.0	458 499.3	6.2
Industry (B+C+D)	141 051.2	32.5	711 154.8	21.9	1 071 116.9	19.5	1 422 995.8	20.0
Manufacturing industry (C)	117 786.5	27.1	497 449.6	15.3	731 204.0	13.3	959 014.8	13.5
Agro-industry (C10+C11+C12)	24 155.8	5.6	115 779.0	3.6	173 901.7	3.2	216 497.0	3.1
Food precessing industry (C10+C11)	***23 410.0***	***27.1***	***111 781.5***	***15.3***	***162 790.1***	***13.3***	***205 764.0***	***13.5***
Manufacture of food products (C10)	18 073.9	4.2	89 986.7	2.8	134 773.8	2.4	170 464.9	2.4
Manufacture of beverages (C11)	5 336.1	1.2	21 794.8	0.7	28 016.3	0.5	35 299.1	0.5
Manufacture of tobacco products (C12)	745.8	0.2	3 997.5	0.1	11 111.6	0.2	10 733.0	0.2
Agro-industrial complex (Agro-industry + Agriculture)	98 294.2	22.6	330 397.3	10.2	523 067.0	9.5	674 996.3	9.5

[6] According to the statistical classification of activities (NACE Rev. 2), the **industry** comprises the sectors of Mining (B), Manufacturing (C), and Supply of electricity, gas, steam, and air conditioning (D). **The food industry** belongs to sector C - Manufacturing, and includes two divisions: 10 - Manufacture of food products (including production of animal feed and other animal products) and 11 - Manufacture of beverages. By adding division 12 - Manufacture of tobacco products, we arrive at the definition of the ***agro-industry***.

The largest share of GVA in the industry is formed in the manufacturing industry, accounting for 67.4% (2022). In 2000, this share amounted to a staggering 83.5%, decreasing to around 70% by 2010. Within the structure of the manufacturing industry, the food industry holds a dominant position with 21.5%, while the production of food products contributes with 17.8% (2022). Both the food industry and the manufacturing industry have been experiencing a constant decline in their participation in the overall economic activity of the country (Table 3). These trends in the movement of Serbia's manufacturing industry are a consequence of the chosen development concept - tertiarization and deindustrialization. Expectations that market mechanisms and free competition would naturally work were not realistic because increased production of privatized enterprises could not compensate for the reduction in production caused by the malfunctioning of most other industrial capacities (Savić, 2017)[7].

Table 3. Gross value added by sectors of the agro-industry (food industry, beverage industry, and tobacco industry) and their share in the gross value added of the manufacturing industry.

	2000.		2010.		2020.		2022.	
	mill. dinars	%	mill. dinars	%	mill. dinars	%	mill. dinars	%
Manufacturing industry (C)	**117 786.5**	**100.0**	**497 449.6**	**100.0**	**731 204.0**	**100.0**	**959 014.8**	**100.0**
Agro-industry (C10+C11+C12)	24 155.8	20.5	115 779.0	23.3	173 901.7	23.8	216 497.0	22.6
Food precessing industry (C10+C11)	***23 410.0***	***19.9***	***111 781.5***	***22.5***	***162 790.1***	***22.3***	***205 764.0***	***21.5***
Manufacture of food products (C10)	18 073.9	15.3	89 986.7	18.1	134 773.8	18.4	170 464.9	17.8
Manufacture of beverages (C11)	5 336.1	4.5	21 794.8	4.4	28 016.3	3.8	35 299.1	3.7
Manufacture of tobacco products (C12)	745.8	0.6	3 997.5	0.8	11 111.6	1.5	10 733.0	1.1

Although primary agricultural production in Serbia faces numerous challenges, both structural and economic (such as fragmented land ownership, low factor productivity, low share of gross fixed capital formation in agriculture in total gross fixed capital formation – around 2% of GDP, uncertain market sale, etc.), as well as demographic challenges (rural aging and devastation of rural areas, etc.), the agro-industrial complex still has the potential to provide the country with a comparative advantage, while agriculture, as its integral part, represents a factor in balancing the country's external trade and Balance of payment. Specifically, Serbia consistently achieves a surplus in external trade in agricultural and food products.

Results from the research with discussion. According to the research results, at the level of the entire Manufacture of food products (division 10), in the first six months of 2023, an average gross margin rate[8] of 54.1% was achieved (compared to 51.3% in the first six months of 2022) (Table 4).

[7] Savić, Lj. (2017). Economics of the Industry. Faculty of Economics. Belgrade, p.375

[8] Gross margin rate of a manufacturing company, % = Price difference / Direct material costs of the sold product x 100.
Price difference = Revenue from sales of the finished product (excluding VAT) - Direct material costs of the sold product (excluding VAT).
Gross margin rate of retail trade, % = Price difference / Cost of goods sold x 100.
Price difference = Revenue from sales of goods (excluding VAT) - Cost of goods sold (excluding VAT).

Table 4. Business indicators of business entities by branches of activity in the production of food products (division 10), in the first six months of 2023 and 2022, %

Branch code	Branch description	2023			2022		
		Structure of revenue from sales in the domestic market	Gross margin rate	Gross profit rate of the company before tax	Structure of revenue from sales in the domestic market	Gross margin rate	Gross profit rate of the company before tax
101	Processing and preservation of meat and meat products	28,12	34,68	3,27	26,33	28,86	0,06
102	Processing and preservation of fish, crustaceans, and molluscs	0,06	38,32	18,84	0,05	38,20	18,38
103	Processing and preservation of fruits and vegetables	16,63	67,09	18,88	18,54	61,93	18,46
104	Production of vegetable and animal oils and fats	6,27	93,50	44,97	9,25	95,36	46,42
105	Production of dairy products	18,38	45,65	8,22	16,82	52,00	7,91
106	Production of mill products, starches, and starch products	7,28	20,84	9,59	8,24	21,68	10,90
107	Production of bakery products and pasta	8,82	98,81	15,26	7,99	74,84	9,03
108	Production of other food products	14,44	56,02	16,64	12,79	48,81	11,31
	Total	**100,00**	**54,14**	**14,53**	**100,00**	**51,29**	**14,06**

Further analysis at the branch level also revealed that branches of the Manufacture of food products with a high share of indirect costs (compared to the overall activity average) tend to have high gross margin rates. Thus, within the Manufacture of food products (division 10), the highest gross margin rate was observed in the Production of bakery products and pasta (Division 107) at 98.8% (compared to 74.8% in 2022), which is precisely characterized by a high share of indirect costs (40.6% in 2023). The lowest gross margin rate in 2023 was recorded in the Production of mill products, starches, and starch products (Division 106) at 20.8%, which is in line with the lower share of indirect costs of 8.5% in 2023 (Tables 5a and 5b).

Table 5a. Structure of production costs by branches of the Manufacture of food products (division 10), in the first six months of 2023, %

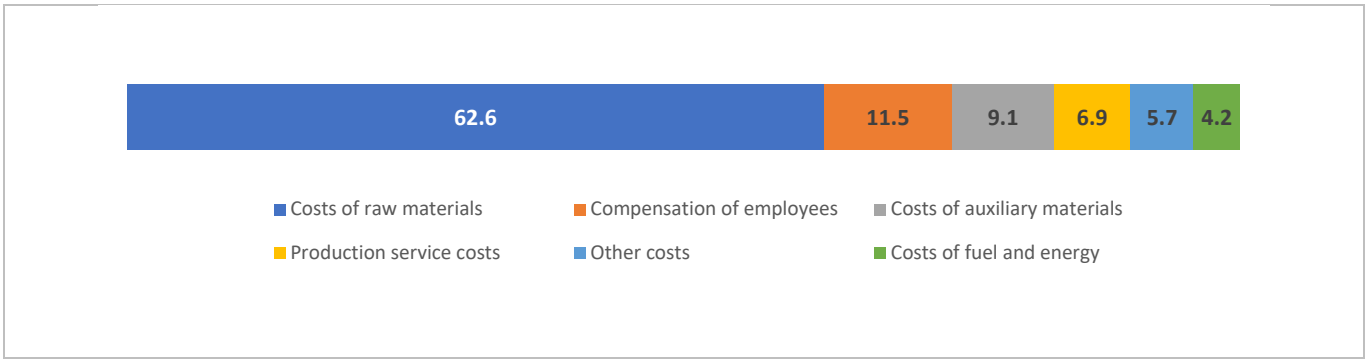
Branch code	Branch description	Share in total production costs in 2023.							
		Costs of raw materials	Costs of auxiliary materials	Costs of fuel and energy	Direct material costs	Compensation of employees	Production service costs	Other costs	Indirect production costs
		(1)	(2)	(3)	(4) = (1)+(2)+(3)	(5)	(6)	(7)	(8) = (5)+(6)+(7)
101	Processing and preservation of meat and meat products	65.45	6.84	4.47	76.76	15.44	4.13	3.67	23.24
102	Processing and preservation of fish, crustaceans, and molluscs	82.26	4.42	2.40	89.08	7.76	2.21	0.94	10.92
103	Processing and preservation of fruits and vegetables	58.62	11.19	3.97	73.78	12.76	6.98	6.49	26.22
104	Production of vegetable and animal oils and fats	87.42	4.70	1.79	93.91	1.94	2.11	2.04	6.09
105	Production of dairy products	56.73	14.52	3.56	74.81	7.13	9.78	8.29	25.19
106	Production of mill products, starches, and starch products	85.50	2.86	3.17	91.53	5.27	1.98	1.22	8.47
107	Production of bakery products and pasta	41.93	9.87	7.55	59.36	18.03	15.19	7.42	40.64
108	Production of other food products	66.69	6.47	3.73	76.88	9.35	6.66	7.10	23.12
	Total	**62.60**	**9.14**	**4.15**	**75.90**	**11.54**	**6.87**	**5.70**	**24.10**

Table 5b. Structure of production costs by branches of the Manufacture of food products (division 10), in the first six months of 2022, %

Branch code	Branch description	Share in total production costs in 2022.							
		Costs of raw materials	Costs of auxiliary materials	Costs of fuel and energy	Direct material costs	Compensation of employees	Production service costs	Other costs	Indirect production costs
		(1)	(2)	(3)	(4) = (1)+(2)+(3)	(5)	(6)	(7)	(8) = (5)+(6)+(7)
101	Processing and preservation of meat and meat products	65.02	6.62	6.00	77.65	13.47	5.28	3.60	22.35
102	Processing and preservation of fish, crustaceans, and molluscs	82.38	3.84	2.44	88.66	8.05	2.32	0.97	11.34
103	Processing and preservation of fruits and vegetables	61.94	10.59	3.21	75.73	11.23	7.00	6.03	24.27
104	Production of vegetable and animal oils and fats	89.47	4.74	1.31	95.53	1.33	1.28	1.85	4.47
105	Production of dairy products	51.03	16.74	3.67	71.44	7.91	10.11	10.53	28.56
106	Production of mill products, starches, and starch products	86.43	3.27	2.54	92.24	4.28	2.18	1.29	7.76
107	Production of bakery products and pasta	47.85	8.85	6.17	62.87	15.94	13.98	7.21	37.13
108	Production of other food products	65.83	6.47	3.47	75.77	9.36	8.20	6.68	24.23
	Total	**63.78**	**9.12**	**4.01**	**76.91**	**10.31**	**7.06**	**5.71**	**23.09**

Looking at the entire activity of the Manufacture of food products (division 10) in the structure of total costs in 2023, costs of acquiring raw materials, labor, and auxiliary materials dominate. Thus, on average, the share of direct material costs is 75.9% (76.9% in 2022), while indirect costs account for 24.1% (23.1% y 2022)[9] (Graph 1).

Graph 1. The average cost structure of production in the activity of manufacturing food products (division 10) in the first six months of 2023, %



Compared to the results obtained from the Research on retail trade of food products, where the average gross margin rate is 14.9%, the activity of Manufacturing Food Products (division 10) records a 3.6 times higher average gross margin rate (54.1%) in 2023. These results are supported by the financial statements for 2022, according to which the gross profit rate (i.e., gross profit rate before tax)[10] for the activity of Manufacturing Food Products (division 10) is 8.6%[11], while in retail trade of food products it is 3.6%. This means that the gross profit rate before tax, for the activity of Manufacturing Food Products (division 10) is 2.4 times higher than that in retail trade of food products (Table 6).

[9] **Direct material costs** represent the sum of costs for basic raw materials, costs for auxiliary materials and fuels, and energy consumed for the production of the finished product/output of the enterprise, and as such, they can be directly attributed to the finished product.
Indirect costs include wages, salaries, and other personnel expenses; costs of production services (rental costs, transportation service costs, maintenance service costs, advertising and propaganda costs, etc.).

[10] The gross profit rate before tax at the company level (a measure of a company's business success), indicates whether the company is operating profitably through its core activities. A company can increase its gross profit rate by raising selling prices, reducing operating expenses, changing its sales assortment, entering new markets, and similar strategies. Companies operating in unstable market conditions often choose to increase selling prices, thereby transferring the risk to the next phase in the supply chain, i.e., their customers.
It is calculated as follows:
Gross profit rate before tax, % = Gross profit (profit before tax) / Revenues from the sale of products and services in the domestic market x 100
Where The gross profit represents the company's profit before tax, while the revenues from sales refer to the revenues from the sale of finished products in the domestic market without VAT, regardless of whether there has been cash flow or receipt on that basis (the principle of invoiced realization, i.e. accrual base).
Gross profit = Revenues from the sale of finished products in the domestic market - Total costs of production of the sold finished product before paid corporate income tax (direct + indirect costs, i.e., full-cost accounting system).
By subtracting the corporate income tax from the gross profit, we arrive at the net profit of the company.

[11] According to the results of the Survey on the structure on income from sales of the products of the food industry, the gross profit rate amounts to 14.5%, but it should be taken into account that this survey covered about 81% of the total output of the food industry.

Table 6. Business indicators of companies in the retail trade of food products (branches of activity 47.1 and 47.2) and Food Product Manufacturing activity (Dvision 10) according to the financial statements in 2022, in thousands of dinars.

Ord. number	Description	Food retail trade (47.1 + 47.2)	Food Product Manufacturing (Division 10)*
1	Total revenue from the operation	824,303,355	930,018,950
2	Revenue from the sale of goods in trade / Revenue from the sale of products and services of a manufacturing company	790,716,128	698,482,861
3	Total expenditur from the operation	788,968,510	868,362,444
4	Cost of goods sold	617,032,665	166,782,281
5	Costs of materials, fuel and energy	26,489,021	518,314,427
6	Operating profit (on. 1- on. 3)	35,334,845	61,656,506
7	Profit before tax	28,470,965	59,869,807
8	**Operating expenses to operating revenues (Cost to income ratio), %**	**95.7**	**93.4**
9	**Gross profit rate before tax, % = Profit before taxation/Revenue from the sale of goods in trade, or final products in manufacturing) * 100**	**3.6**	**8.6**

* Without branch 10.9 - Production of animal feed

The difference in average gross margin rates between the Food Product Manufacturing activity (Division 10) and Retail Trade (Division 47) arises from the low efficiency of the food industry due to high production costs, underinvestment, and underutilized capacities. For these reasons, companies operating in the Food Product Manufacturing activity (Division 10) must apply high gross margin rates to their products when determining selling prices to cover high indirect costs. Additionally, the respondents' answers regarding business conditions indicate that 93.4% of the surveyed entities responded that high material costs significantly or very significantly affect their business, while for 78.1% of them, high distribution costs significantly or very significantly influence their business, and for 74.4% of the entities, it is the unstable supply of raw materials. On the other hand, typical large retail entities of food products in Serbia actually apply a "low margin - high turnover" business strategy.

According to the results of previous analyses conducted by the SORS, the food industry, in terms of the number of employees and the creation of gross value added, has the largest share in the overall manufacturing sector (26.9% and 18.3%, respectively). As such, it has experienced a continuous decline in productivity from 2016 to 2021 (excluding 2020). Consequently, the food industry is positioned only at the 19th place in terms of efficiency compared to other sectors within the manufacturing industry, with a food industry worker generating 39.4% less value added than the average employee in the domestic economy, or 34% below the sector average, which largely affects the efficiency level of the manufacturing industry as a whole (Jelić, Šutić, & Cakić, 2023)[12].

Furthermore, the Serbian food industry is characterized by ***insufficient levels of foreign direct investment (FDI),*** which, even when present, have mostly been directed towards capturing the domestic market instead of raising new capacities and stimulating exports of higher value-added products. Unlike other forms of capital inflow, FDI brings not only capital but also technology, managerial and organizational knowledge, access to foreign markets, etc., and thus are essential not only for the developmental needs of the food industry but also for achieving better economic performance of companies operating in this sector.

[12] Jelić, S., Šutić, V. & Cakić, A. (2023). *Labour Productivity in Manufacturing*. Trends II quarter 2023. https://publikacije.stat.gov.rs/G2023/Pdf/G20238003.pdf

The intensity of the use of production resources (raw materials, labor, and capital) in manufacturing companies is higher compared to companies engaged in retail trade, which makes food production more capital-intensive and requires higher investment. Consequently, companies engaged in food production record higher gross margin rates. In fact, many companies in this sector strive to maintain a high margin in order to finance high sales, marketing, distribution, logistics, etc., costs.

CONCLUSION

Ensuring an adequate supply of safe and wholesome food at affordable prices to the population, along with the smooth functioning of the food market, is vital for the security and well-being of its citizens, economic development, sustainability, and the country's resilience to external challenges. Food policy has a broad spectrum of impacts and interactions with other policies and social issues. One of the most sensitive issues is the impact of agricultural and food price policies on the living standards of citizens as consumers, as well as on the economic position of producers.

In this regard, it is worth mentioning the ban on wheat exports at the beginning of the conflict in Ukraine. At that time, the Government of the Republic of Serbia, fearing shortages, completely banned wheat exports at a time when wheat was being sold at a price of 40 dinars per kilogram, which is almost double the price compared to December 2023 (average price around 22 dinars)[13]. As a reminder, the export ban was officially in effect from March 11 to April 21, 2022, and then, from May 4, exports were allowed in quotas for Albania, Italy, and North Macedonia. The complete ban was lifted only on July 21, 2022, at a time when Russia and Ukraine were signing separate agreements with Turkey and the United Nations on the export of 20 million tons of Ukrainian wheat stranded in war-affected areas[14].

At the same time, agricultural producers in Serbia were faced with very high raw material costs, which further weakened their position in the food supply chain and their price competitiveness. This further emphasizes the problem of high production costs and raw material base, while research results indicate precisely that *inflationary pressures are stronger in the production of food products than in retail trade and that they largely stem from high production costs of primary agricultural products, which otherwise constitute the main raw material in the food industry*. This can be seen from the cost structure of entities in the food industry in the first half of 2023, where **direct material production costs account for 75.90%**, with basic raw material costs accounting for 62.60%, while the **share of indirect production costs is 24.10%,** and wage costs account for 11.54% (Table 5a). Moreover, 93.4% of the entities surveyed responded that high material costs significantly or very significantly affect their business. All of this results in higher retail prices.

According to the latest inflation report from the National Bank of Serbia in February 2024, inflation at the end of 2023 stood at 7.6%, which is nearly half of what it was at the end of 2022. A key factor in reducing inflation has been the slowdown in the monthly price growth of food, especially processed food. The reduction in food prices was also influenced by the high base from the same period the previous year, as well as the continued relaxation of cost pressures in food production and transportation due to the decline in global prices of primary agricultural products and inputs. Additionally, the import of cheaper primary agricultural products (primarily fruits and vegetables) contributes to the amortization of food prices in the domestic market. However, these measures not only fail to address systemic issues in agriculture but also exacerbate them. This is evident from the latest results of the Agricultural Census 2023. The most notable example is the situation in livestock farming (the raw material base for the meat and dairy industry), which is in significantly worse condition than in 2012 when the previous agricultural census was conducted. Namely, there has been a significant decline in the number of livestock, especially pigs and dairy cattle.

The food industry is characterized by declining productivity, hence low efficiency, insufficient utilization of capacity, and inadequate foreign direct investment, which in the previous period were primarily directed towards conquering the domestic market instead of raising new capacities and promoting exports of higher value-added products. Consequently, the price competitiveness of food products on the international market has been reduced.

It is crucial to address the issue of (un)predictability in the operations of entities in the food industry, especially small and medium-sized enterprises, due to the lack of long-term contractual relationships between the food industry and primary agricultural producers. Contractual relationships exist only in the production of industrial crops (sunflower, soybean, sugar beet, etc.), where the purchase of the majority of primary production is ensured. Conversely, production branches and products that

[13] According to https://nscomex.com/proizvodi/psenica/

[14] Additional challenge at that time was the exceptionally low water level of the Danube, making river transport almost impossible. As a result, in August 2022, Serbia had 750 000 tons of cereals trapped on the Danube.

are expected to generate high business revenues and create added value, such as milk and meat production, have a very low share of purchases.

Among other things, there is a lack of specialized support instruments for the food industry, resulting in weaker linkages between primary production and processing, underdeveloped value chains, and a weaker development of human capital, leading to a less dynamic technological and market development.

Only an efficient and predictably regulatory and institutional framework in the agricultural sector can guarantee the provision of quality raw materials for the food industry, promote a supportive and regulated business environment, and encourage more current and competitive food production. This would significantly reduce input prices in trade and narrow the space for transferring high operating costs to final consumers.

Global changes require a stronger and faster development of the food industry and the distribution of agricultural and food products, integrating them into global value chains. The precondition for this is strong social, legislative, and institutional frameworks and policies to maximize the development potential of the entire agro-industrial complex.

ANNEX

Figure 1. Product groups for data analysis from the Survey on Revenue from the Sale of Food Products in Domestic Trade in the Republic of Serbia

Code	Product description	Product group
1099	Potatoes, white	Vegetables
1100	Potatoes, red	Vegetables
1101	Beans	Vegetables
1102	Old black onions	Vegetables
1113	Fresh tomatoes	Vegetables
1114	Fresh peppers (bell or regular)	Vegetables
1400	Fresh carp	Fish
1420	Fresh trout	Fish
1600	Chicken eggs, Grade A, weight 60-65 g, (l-63 to 73 g -3)	Milk, cheese, and eggs
1609	Fresh milk, cow's, reduced fat, 1.5% fat	Milk, cheese, and eggs
1610	Fresh milk, cow's, 2.8% fat	Milk, cheese, and eggs
1611	Sterilized milk, 2.8% fat, shelf life 60 days	Milk, cheese, and eggs
1621	Homemade cheese, soft, sliced (exclude feta)	Milk, cheese, and eggs
2611	Yogurt, 2.8 - 3.2% fat	Fermented dairy products
2612	Sour cream, 12 - 20% fat	Fermented dairy products
2613	Sour milk (2.8% - 3.2% fat)	Fermented dairy products
2011	Wheat flour, type 500	Bread and cereals
2022	Bread from wheat flour T- 500	Bread and cereals
2311	Boneless beef (thigh)	Beef and pork
2330	Pork with bones (neck with bones, pork chop)	Beef and pork
2331	Boneless pork (thigh)	Beef and pork
2332	Fresh pork	Beef and pork
1800	Fresh chicken meat (whole chicken)	Fresh chicken meat
1802	Chicken drumstick and thigh	Fresh chicken meat
2500	Lard	Oils and fats
2510	Edible oil (sunflower)	Oils and fats
2511	Table margarine, vitaminized, package of 250g	Oils and fats
2513	Spreading margarine (Rama, Good Morning, etc.)	Oils and fats
2640	Butter	Oils and fats
2701	Granulated sugar	Coffee and sugar
2730	Ground coffee	Coffee and sugar

Figure 2. List of products covered by the survey on the structure of revenue from the sale of products in the food industry in the Republic of Serbia

Branch code	Branch description	Group code	Product group description	Product code	Code description
101	Processing and preservation of meat and meat products	1011	Processing and preservation of meat	10111	Pork meat, fresh (pork)
101	Processing and preservation of meat and meat products	1011	Processing and preservation of meat	10112	Pork meat, fresh
101	Processing and preservation of meat and meat products	1011	Processing and preservation of meat	10113	Veal meat, fresh
101	Processing and preservation of meat and meat products	1011	Processing and preservation of meat	10114	Beef meat, fresh
101	Processing and preservation of meat and meat products	1011	Processing and preservation of meat	10115	Lamb meat, fresh
101	Processing and preservation of meat and meat products	1012	Processing and preservation of poultry meat	10121	Chicken meat, fresh
101	Processing and preservation of meat and meat products	1013	Production of meat products	10131	Fermented sausages
101	Processing and preservation of meat and meat products	1013	Production of meat products	10132	Cured meat products
101	Processing and preservation of meat and meat products	1013	Production of meat products	10133	Smoked products
101	Processing and preservation of meat and meat products	1013	Production of meat products	10134	Boiled sausages
101	Processing and preservation of meat and meat products	1013	Production of meat products	10135	Bacon
101	Processing and preservation of meat and meat products	1013	Production of meat products	10136	Pork fat
101	Processing and preservation of meat and meat products	1013	Production of meat products	10137	Pork cracklings (homemade and smoked)
102	Processing and preservation of fish, crustaceans, and mollusks	1020	Processing and preservation of fish, crustaceans, and mollusks	10201	Frozen whole sea fish
102	Processing and preservation of fish, crustaceans, and mollusks	1020	Processing and preservation of fish, crustaceans, and mollusks	10203	Frozen fish fillets
103	Processing and preservation of fruits and vegetables	1032	Production of fruit and vegetable juices	10321	Natural fruit juice, clear, non-carbonated
103	Processing and preservation of fruits and vegetables	1032	Production of fruit and vegetable juices	10322	Mixed fruit juice (pulp) in a tetra pack
103	Processing and preservation of fruits and vegetables	1032	Production of fruit and vegetable juices	10323	Fruit syrup (concentrated)
103	Processing and preservation of fruits and vegetables	1039	Other processing and preservation of fruits and vegetables	10391	Fruit processing and preservation products
103	Processing and preservation of fruits and vegetables	1039	Other processing and preservation of fruits and vegetables	10392	Vegetable processing and preservation products
104	Production of vegetable and animal oils and fats	1041	Production of oils and fats	10411	Edible refined oil (sunflower)
104	Production of vegetable and animal oils and fats	1042	Production of margarine and edible fats	10421	Spreadable margarine (Rama, Good Morning, etc.)
104	Production of vegetable and animal oils and fats	1042	Production of margarine and edible fats	10422	Table margarine, fortified with vitamins
105	Production of dairy products	1051	Processing of milk and cheese production	10511	Heat-treated cow's milk
105	Production of dairy products	1051	Processing of milk and cheese production	10512	Fermented cow's milk products

Figure 2. List of products covered by the survey on the structure of revenue from the sale of products in the food industry in the Republic of Serbia (continued)

Branch code	Branch description	Group code	Product group description	Product code	Code description
105	Production of dairy products	1051	Processing of milk and cheese production	10513	Sour cream (whether sour or sweet)
105	Production of dairy products	1051	Processing of milk and cheese production	10514	Butter
105	Production of dairy products	1051	Processing of milk and cheese production	10515	Clotted cream (whether young or mature; excluding cream clotted cream and spreads)
105	Production of dairy products	1051	Processing of milk and cheese production	10516	Soft cheese like fresh acidophilic cheeses
105	Production of dairy products	1051	Processing of milk and cheese production	10517	Feta cheese
105	Production of dairy products	1051	Processing of milk and cheese production	10518	Powdered milk
106	Production of milling products, starch, and starch products	1061	Production of milling products	10611	Wheat flour (regardless of type)
106	Production of milling products, starch, and starch products	1061	Production of milling products	10612	Corn flour
107	Production of bakery products and pasta	1071	Production of bread, bakery products, and fresh pastries	10711	Wheat bread
107	Production of bakery products and pasta	1071	Production of bread, bakery products, and fresh pastries	10712	Rye bread (including whole grain rye bread)
107	Production of bakery products and pasta	1071	Production of bread, bakery products, and fresh pastries	10713	Corn bread
107	Production of bakery products and pasta	1071	Production of bread, bakery products, and fresh pastries	10714	Toast bread
107	Production of bakery products and pasta	1073	Production of macaroni, noodles, and similar flour products	10731	Regular pasta
107	Production of bakery products and pasta	1073	Production of macaroni, noodles, and similar flour products	10732	Durum wheat pasta
107	Production of bakery products and pasta	1073	Production of macaroni, noodles, and similar flour products	10733	Soup noodles, homemade (including noodles)
108	Production of other food products	1081	Production of sugar	10811	White granulated sugar (from sugar beet juice)
108	Production of other food products	1082	Production of cocoa, chocolate, and confectionery products	10821	Chocolate
108	Production of other food products	1082	Production of cocoa, chocolate, and confectionery products	10822	Milk chocolate
108	Production of other food products	1083	Tea and coffee processing	10831	Roasted ground coffee and coffee blends
108	Production of other food products	1084	Production of spices and other food additives	10841	Mayonnaise (at least 75% oil)
108	Production of other food products	1084	Production of spices and other food additives	10842	Salad mayonnaise (at least 40% oil)
108	Production of other food products	1084	Production of spices and other food additives	10843	Mustard
108	Production of other food products	1084	Production of spices and other food additives	10844	Concentrated soup (chicken, beef, etc.)
108	Production of other food products	1084	Production of spices and other food additives	10845	Ground paprika (ground spice pepper)

OVERVIEW OF THE FIRST RESULTS OF THE 2023 CENSUS OF AGRICULTURE

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2023 CENSUS OF AGRICULTURE

The 2023 Census of Agriculture was prepared, organised and carried out by the Statistical Office of the Republic of Serbia, in compliance with the Law on the 2023 Census of Agriculture ("Official Gazette of the RS", No 76/21) and under the pre-accession fund of the European Union project IPA 2018 (Instrument Pre-accession Assistance 2018).

The applied tools, coverage, topics and standardization of the concepts and definitions are compliant with the World Programme for the 2020 Census of Agriculture (FAO, UN), Regulation [EC] No 2018/1091 of the European parlament and of the Council of 18 July 2018, on integrated farm statistics) and Eurostat methodology.

HISTORY OF THE CENSUS OF AGRICULTURE, WITH AN OVERVIEW OF THE FIRST RESULTS OF THE 2023 CENSUS OF AGRICULTURE

At the time of the Kingdom of Serbia, the first attempts to organize a census of agriculture date back to the period between two world wars. However, those early undertakings were limited in terms of volume and were not regular. After World War II, in the Socialist Federative Republic of Yugoslavia, the censuses of agriculture became a key element of the planned approach to the economy. During the second half of the past century censuses were conducted regularly, providing basic information on agriculture.

The creation of the regular system of agriculture statistics of Serbia dates back in 1945, when regular statistical services were introduced and the statistics on areas and yields, i.e. crop production started to be compiled. It was in 1960 that the first comprehensive census of agriculture was conducted, collecting data not only on natural indicators and stocks but also on the operating results, processing capacities, labour force and production output, which made it possible to analyze the profitability of certain categories of social farms (holdings).

The next censuses of agriculture were partly conducted every ten year:

- In 1969, on a sample of 20% households, the data that were collected enabled to have a broader picture of natural and financial indicators, but for the purpose of developing the methodology and of checking the accuracy of the regular surveys additional data were gathered concerning the number of tractors, agricultural implements, etc.
- In 1981, the census of agriculture was conducted in the scope of the census of population. Specifically, in the census of population there was a set of five questions concerning the agricultural statistics: cooperative relationships, i.e. own and used land area, number of livestock by species, number of poultry and beehives, tractors and harvesters.
- In 1991, a comprehensive census of agriculture was conducted along with the census of population. This census included 103 questions, organised in seven chapters – land area, livestock and poultry, beehives, land used by households by category of use, orchards and vineyards, agricultural machinery and transport means, agricultural techniques and agricultural buildings and other facilities.
- The nineties of the last century were marked by turbulences caused by the dissolution of the SFR Yugoslavia, which affected regular conducting of the census of agriculture and led to its partial suspension. In 2022, in the scope of the census of population there were two chapters with approximately 40 questions concerning agriculture: a chapter where the data on land were collected and a chapter regarding livestock, poultry, beehives and machinery.

However, after the political changes in 2000, the Republic of Serbia was specially dedicated to modernise the system of collection of data on agriculture.

The most important step was the 2012 Census of Agriculture. This census was the turning point because it provided exhaustive and detailed information on the structure of agriculture in the country, harmonized with Eurostat standards and international requirements. This important undertaking was essential for making strategic decisions and orienting the support to agricultural production.

The 2018 Farm Structural Survey served as a complement to the data from the census of agriculture, providing a refreshed insight in the dynamics of the agricultural sector. This survey was also used to update the data as it ensured a comprehensive overview of the agricultural structure. Namely, conducting the survey on a representative sample makes it possible to collect data more efficiently with optimal use of resources and no need to enumerate farms.

After successful conduction of the 2012 Census of Agriculture and 2018 Farm Structural Survey, continuity in collecting key structural agricultural data is ensured by the 2023 Census of Agriculture. The goal of this census is to maintain consistency in monitoring the development of the sector of agriculture. The collected data provide an in-depth insight in the current state of agriculture and will be used as the basis for statistical analysis, which, on the other hand, will enable decision-making regarding support to agricultural production and its further development.

The units of observation in the 2023 Census of Agriculture were different farms located on the territory of the Republic of Serbia, whatever their legal status (family farms, farms of agricultural persons and entrepreneurs). Therefore, the 2023 Census of Agriculture is an important tool for collecting relevant information on the structure, size and characteristics of farms. This systematic insight serves as a basis to understand the changes in the sector, to identify major challenges and to create a strategy of support to agriculture. All of this aims at creating a more sustainable and more efficient agricultural sector.

Electronic questionnaires and real-time methodology, a novelty in the 2023 Census of Agriculture, were used for the first, enabling successful digitalization of the whole census. The applied tools, coverage and standardization of the concepts and definitions are compliant with the World Programme for the 2020 Census of Agriculture and regulation of the European Parliament and of the Council on Integrated Farm Statistics.

From 1 October to 15 December there 253 municipal coordinators and 2 842 interviewers engaged in the Census during field work, who visited about 740 000 farms – family farms, farms of legal entities and entrepreneurs.

The data were collected by interview method on the field, based on the address book of farms, and the farms of legal entities and agricultural cooperative filled in by themselves the web questionnaire, which could be accessed from 1 June 2023.

The results of the Census will be published successively in the dissemination database of the Statistical Office of the Republic of Serbia during this and next year.[15]

[15] Note: The results of the Census of Agriculture and Farm Structure Survey can be compared. However, it is worth mentioning that these data are not directly comparable with regular annual surveys carried out by SORS, mainly due to key differences in the period of time when those data are collected.

2023 CENSUS OF AGRICULTURE: OVERVIEW OF THE FIRST RESULTS COMPARED WITH THE 2018 FARM STRUCTURE SURVEY

The periodicity of the census of agriculture is 10 years. In order to improve the dynamics of monitoring the changes in this sector, in periods between two censuses, the Farm Structure Survey is carried out on a sample of about 20% of farms.

The Farm Structure Survey contains questions similar to those in the Census, enabling thus continuous monitoring of key parameters.

According to recent data of the census of agriculture the Republic of Serbia is facing an evident downwards trend in the number of farms, agricultural areas and livestock. As shown by the 2023 Census of Agriculture 508 365 farms were registered in the country, a fall of 10% compared to the data from 2018. It is extremely important to mention that even 99.6% of these farms are family households.

The average farm covers 6.4 hectares of agricultural and wooded land. The average area in Vojvodina is 13.2 hectares and in South Serbia 4.4 hectares. The structure of livestock indicates that the average farm has one head of cattle, five pigs, three sheep, 43 poultry heads and three beehives. It is interesting to know that 61.7% farms are engaged in livestock growing and the number of goats and pigs saw a fall of -31.5% and -30.7%, respectively.

Besides the fall in the number of farms, negative trends affected also labour force in agriculture. Between 2018 and 2023, the number of persons dealing with agricultural production decreased by 14%, whereas the average number of permanently employed members on a farm amount to 2.2, and the average age of the farm head is 60 years. Particularly disquieting is the data that only one of 11 farm heads belongs to the category under 40 years of age.

These alarming trends require attention and adequate measures to be taken in order to support the sustainability and prosperity of the agricultural sector in Serbia. The tables below contain major indicators obtained from the 2023 Census of Agriculture and 2018 Farm Structure Survey, as well as their comparison.

Table 1. Family farms (number)

	2018 Survey	2023 Census	Change (%)
Farms, total	564 541	508 365	-10.0
Of which:			
Family	562 896	506 323	-10.1
Legal entities and entrepreneurs	1 645	2 042	24.1

Table 2. Farm land (in hectares)

	2018 Survey	2023 Census	Change (%)
Available land, total	5 178 692	4 073 703	-21.3
Of which:			
Utilised agricultural land	3 475 894	3 257 100	-6.3
Non-utilised agricultural land	289 953	122 257	-57.8
Wooded area	972 283	504 104	-48.2
Other land	440 562	190 242	-56.8

Table 3. Livestock (number of livestock and beehives)

	2018 Survey	2023 Census	Change (%)
Cattle	881 152	725 408	-17.7
Pigs	3 266 102	2 263 705	-30.7
Sheep	1 799 814	1 702 682	-5.4
Goats	218 397	149 558	-31.5
Poultry	23 184 387	22 022 439	-5.0
Beehives	914 134	1 261 323	38.0

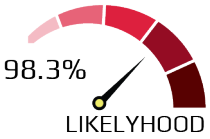
Table 4. Agricultural labour force on farms (number of persons)

	2018 Survey	2023 Census	Change (%)
Total	1 336 714	1 150 653	-13.9
Men	774 919	662 943	-14.5
Women	562 020	487 710	-13.2

1. MACROECONOMIC FORECASTS

The developed SORS system of leading composite indicators is, on average, one to two quarters at most ahead of economic activity cycles. When combined with econometric models, it allows making a quantitative evaluation of the dynamics of the economic activity growth rate, in the short term. The results of the forecast of the leading indicators of consumer prices, inflation expectations, impact of inflation on net salaries and wages, and of the forecast of industry GVA, service GVA and construction GVA will be presented below.

1.1. FORECAST OF CONSUMER PRICE TRENDS[16]



MODEL OF THE LEADING INDICATOR (SORS CPI P3C)

Chart 1.1. Comparison of the cycle of the SORS consumer price leading indicator (SORS CPI) and total consumer prices in the Republic of Serbia, seasonally adjusted, detrended and standardized data, deviation from the average for the period, Q1 2007 – Q2 2024 (%)

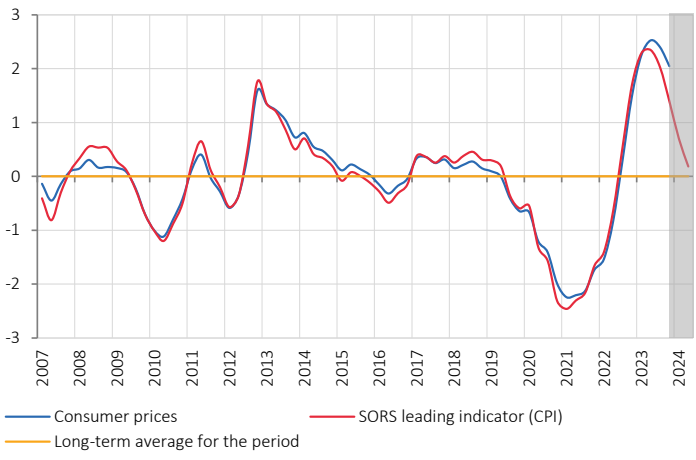
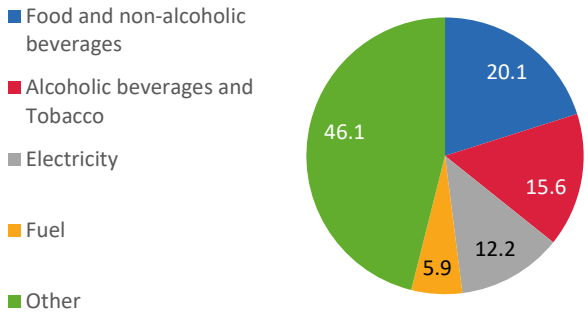


Chart 1.2. Structure of the forecast year-on-year growth rate of consumer prices for Q2 2024 (4.0%), (total 100) (%)



[16] The leading SORS consumer price indicator (SORS CPI) is a result of a research and analytical work by the SORS. The indicator consists of the coverage of previously developed composite food price indicators (IPC-H, i.e. CPI – F), fuel price (IPC-G,, i.e. CPI-F) and tobacco price (IPC-D, i.e. CPI-T), as the largest generators of inflation on the long-term. Taking into account the considerable change in the structure of consumer prices when generating the year-on-year growth rate (primarily, the significant growth of the influence of its energy component starting from the second half of 2022), the SORS consumer price leading indicator (SORS CPI), with the existing long standing biggest strategic elements of consumer price growth (food , tobacco and fuels for passenger cars), has been modified by directly including additional factors of price growth of electricity, gas and solid fuels.

THE RESULTS OF THE MODEL OF SORS CONSUMER PRICE LEADING INDICATORS

When applied, the model of consumer price leading indicator (SORS CPI) indicates further slowing down of the year-on-year growth rate of consumer prices in the second quarter (Q2 2024 – on an average level of about 4.0%).

- **Even besides the general trend of deceleration food prices are still the dominant factor of price growth.** The action of retail chains and the Government of Serbia, "Better Price" since October 2023, which was active till the end of February 2024, contributed rather less to this slowing down than in the months of the fourth quarter of 2023. Based on the leading indicator of food price (CPI – H), dairy products and vegetables, which contribution to the growth of food prices was considerably smaller in Q1 2024, are expected to have the largest influence on food prices deceleration in Q1 and Q2 2024. The results of the quantitative analysis of the SORS consumer price indicator (CPI – H)[17] indicate that further deceleration of the year-on-year growth rate of the price of food and non-alcoholic beverages of about 2.6% is to be expected in Q2 2024, driving down considerably its share in the growth rate of total consumer prices to about 20.1%, compared with previous quarters.
- **January growth of excises on cigarettes, tobacco products** (with the imputed inflation of tobacco production costs from 2023 of 92.6 dinars per pack of cigarettes) will drive the year-on-year growth of the prices of cigarettes and alcoholic beverages to be higher by 7.6% in Q1 2024, i.e. by 8.9% in Q2 2024. In Q2 2024 (but also in next quarters) the growth of the prices of cigarettes and alcoholic beverages will have a considerably larger share in the total structure of the year-on-year growth of consumer prices than in previous quarters, due to a faster deceleration of the growth of food prices.
- **Even though the agreement with the IMF foresees another growth of the prices of electricity for households and gas (in May 2024) these price rise will not happen, as stated by Government of Serbia.** Consequently, the level of the prices of electricity for households and gas (with the latest increase in November 2023 of 7.3% and 9.4%, respectively, compared with October 2023) drove the year-on-year growth of electricity in Q1 2024 to be 15.0% and in Q2 2024 9.8% (with a share in the structure of growth rate of total consumer prices of 12.2%).
- **Since January 2024 the price of *Brent* oil on the world market** has been slightly dropping and in mid-March 2024 it amounted to 84.9 dollars per barrel, an increase of 6.0% when compared with January. Generally, from January 2024 to mid-March the price of fuels in Serbia went up, on average, by the same amount (5.2%). Such trends of the price of fuels since January will result in a year-on-year growth of the price of fuels in Q1 2024 of about 2.0%, while according to the expectations of the SORS leading indicator of the price of fuels (CPI - G[18]) this price is expected to be approximately 4.0% in Q2 2024.

[17] The analysis of the trends of food price in the Republic of Serbia by the SORS has allowed deriving the composite leading indicator of food price **(CPI – H)**, which main goal is to forecast food prices in the next three months. After having analyzed a large number of variables several variables with the best forecasting features on the food price in the Republic of Serbia were identified: harmonized food price in Hungary, average purchase price of crop producers, imports of the section of manufacture of food products, imports of milk, dairy products and eggs, stocks of fresh beef and veal, and index of retail prices of the whole basket of vegetables.

[18] **CPI-G** is a weighted composite leading indicator that contains information on the movement of the most relevant indicators influencing oil price in Serbia, and that in its movement is ahead of the price of fuels and lubricants in Serbia by about two months. The indicator covers: the world price of *BRENT* crude oil, value of *WTI* crude oil futures (type *Cushing Oklahoma*), average price of American *WTI* crude oil (in first purchase from oil fields) dollar to euro ratio, stocks in the production of crude oil in the territory of Serbia and import of oil, oil refined products in Serbia.

INFLATION EXPECTATIONS IN Q2 and Q3 2024

The research and analytical department of the SORS has developed a wide range of indicators and methods of forecasting consumer price inflation, which are constantly improved, thus two interesting indicators of inflation expectations will be presented regarding: **average consumer and retail sector**[19], compiled and processed also by the SORS according to the methodology of the European Commission. Having in mind that they show very similar signals **for the next two quarters**, in further analysis the data of both indicators have been weighted in one indicator of inflation expectations.

Chart 1.3. Cyclically harmonized cycles of the indicator of inflation expectations and of the year-on-year growth rate of total consumer prices, (HP) filter, standardized data, deviation from the average for the period, Q1 2019 – Q3 2024

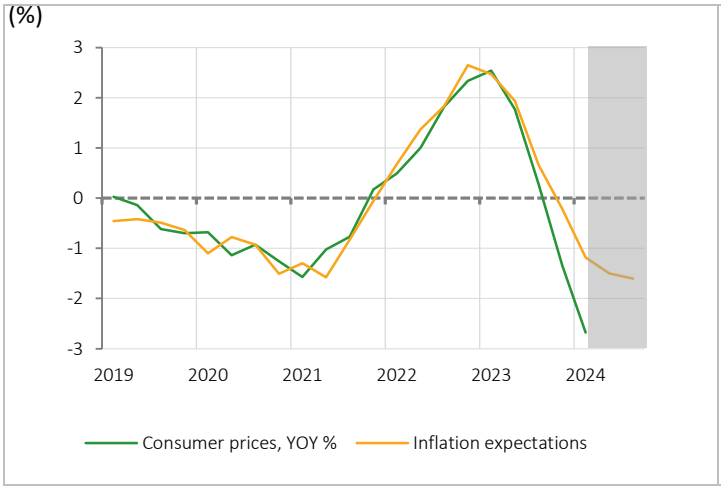
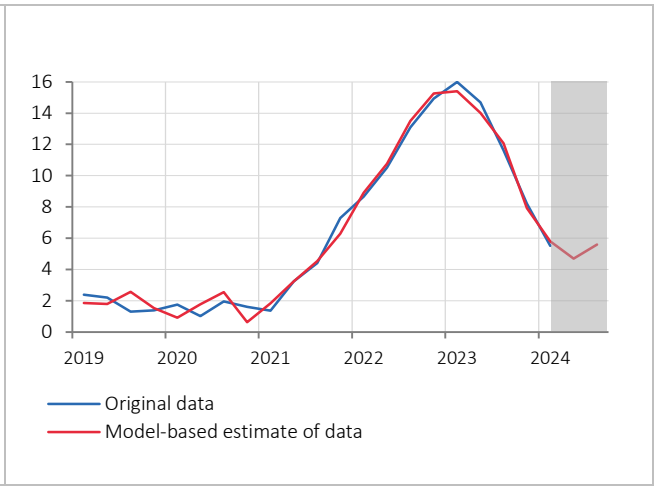


Chart 1.4. Year-on-year consumer price rates, original and model-based estimate (forecast) of values, (%), Q1 2019 – Q3 2024



The indicators of inflation expectations proved to be a good indicator since 2019, **with signals showing the direction of movement of the year-on-year growth rate of consumer prices, on average, up to the second quarter before the realization.** Of five failures concerning the direction of inflation movement, two belong to the period of 2020 (the first and second quarter) and two to 2021 (also the first and second quarter), when, due to epidemiological reasons, it was clear that the indicator of expectations was not a good tool for perceiving inflation for the next period. In the observed period, **the signals of the indicator of inflation expectations** (of consumers and retail sector) **proved particularly to be good from mid-2021 up to the first quarter of 2024.**

The obtained results can be further processed quantitatively (using VAR model), by deriving the forecast of year-on-year consumer price rates for the next two quarters, i.e. Q2 and Q3 2024 (year-on-year consumer price growth for Q1 2024 of about 5.5% in compliance with the forecast given in the previous quarter). **By applying the model of inflation expectations** (of consumers and retail sector) **the year-on-year consumer price growth is expected to be 4.7% in Q2 2024 and 5.6% in Q3 2024. These results indicate that in the whole 2024, according to this indicator, the average consumer price growth can preliminary be expected to range between 5.0-5.5%.**

[19] **Consumers' inflation expectations** are based on the weighted numbering of consumers' perceptions, taking into account the respondents' age limit, amount of earnings, educational level, type of occupation, working hours and sex. The survey of inflation expectations is a monthly survey. For each month, the consumers give answers about their expected perceptions about consumer price inflation in the next period by selecting one of the following options: "grow a lot", grow slowly", "grow slightly", "unchanged", "is dropping" and "don't know".
Inflation expectations of the retail sector group monthly inflation expectations in the next period: in sale of food, non-food products, motor vehicles and fuels by retailer chains selected in the sample.

INFLATION AND NET SALARIES AND WAGES

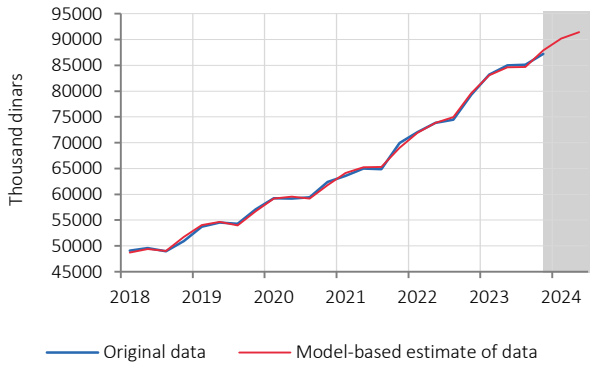
1. Over 2018 – 2023 (2018=100), **total consumer prices** increased by 34.8% with an average annual growth rate of 6.2%.
2. This led the **growth of real net salaries and wages** to be 28.5% in the same period, with an average annual growth of 5.1%. The total growth of real net salaries and wages in the private sector for the period 2018-2023 was completely harmonized with the growth of consumer price inflation, in contrast with the public sector where the growth of real net salaries and wages was twice lower than the total inflation growth, which was most evident in 2022 when even a real fall of net salaries and wages of -4.1% was recorded in the public sector. Thus, starting from 2021 real net salaries and wages in the private sector were growing faster annually than those in the public sector, on average by about 5.0 percent points. Over 2018-2023, salaries and wages in the private sector were going up almost twice faster than salaries and wages in the public sector.
3. Over 2018-2023, total real unit labor costs increased by 23.3%, where the dynamics of the average annual growth rate (4.3%) was slightly slower than the growth of total real net salaries and wages. Real unit labor costs in the private sector were, on average, covered by the growth of real net salaries and wages, in contrast with the public sector where the real growth of salaries and wages exceeded by far the dynamics of real unit labor costs. The analysis of the structure of real unit labor costs in the observed period showed that slower growth of real unit labor costs in the public sector was affected by faster productivity growth than that in the private sector due to slower growth of the number of employees, as opposed to the private sector. This drove labor cost rates in the public sector to become even negative starting from 2021.

Table 1.1. GDP, inflation, net salaries and wages, employment and unit labor costs, growth rates (%), 2018-2023

Growth rates, %	2018	2019	2020	2021	2022	2023	Average growth rate 2018-2023, %	Total growth 2018-2023, %
GDP	4.5	4.3	-0.9	7.7	2.5	2.5	3.2	17.1
Household consumption	3.1	3.7	-1.9	7.9	3.9	0.8	2.8	15.0
Gross capital consumption	17.5	17.2	-1.9	15.7	1.9	3.9	7.1	40.8
Consumer prices, average	2.0	1.7	1.6	4.0	11.9	12.1	6.2	34.8
Real net salaries and wages	4.4	8.8	7.7	5.4	1.7	2.4	5.1	28.5
Public sector	*4.8*	*8.9*	*8.9*	*2.9*	*-4.1*	*1.1*	3.4	18.2
Private sector	*4.6*	*9.1*	*7.4*	*6.9*	*4.5*	*3.0*	6.2	34.9
Employees	*3.8*	*2.4*	*2.3*	*3.0*	*1.8*	*2.4*	2.4	12.4
Public sector	*-1.1*	*-1.0*	*0.1*	*0.5*	*1.0*	*0.4*	0.2	1.0
Private sector	*6.0*	*3.8*	*3.1*	*3.9*	*2.2*	*3.1*	3.2	17.2
Real unit labor costs	3.8	6.7	11.1	0.8	1.0	2.2	4.3	23.3
Public sector	*-0.8*	*3.3*	*9.9*	*-3.9*	*-5.6*	-1.0	0.4	2.0
Private sector	*6.1*	*8.6*	*11.8*	*3.1*	*4.2*	3.6	6.2	35.0

Source: Statistical Office of the Republic of Serbia.

Chart 1.5. Model of nominal net salaries and wages, original and model-base estimate of the series, Q1 2018 – Q2 2024 (%)



Based on the results of the forecasting model for prices and nominal net salaries and wages in the next two quarters (Q1 and Q2 2024) **the year-on-year growth of real net salaries and wages is expected to be 2.8% in Q1 and 2.7% in Q2.**

The forecasting model of growth of net salaries and wages is made of two models, the model of salaries and wages in the public sector (as a simultaneous"*stress test*" depending on the announced percent growth of each modality in the public administration) and the model of salaries and wages in the private sector, which are as mentioned above, much more dependent on the movements of inflation and GDP.

1.2. FORECAST OF INDUSTRY GVA

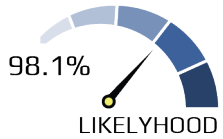
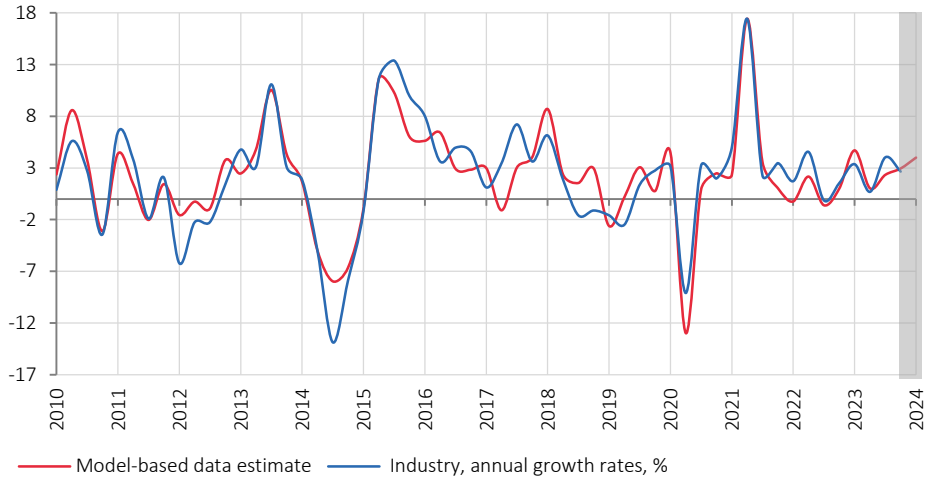


Chart 1.6. Results of the model of the leading industry indicator (INDIPAS) Original data and model-based estimate of data of the annual growth of industry physical volume, Q1 2001 – Q1 2024 (%)



In Q1 2024 the year-on-year **growth** of industry GVA is estimated at **about 4.0%.** It is expected that tis growth will **mostly influenced** by the activities in the Manufacture of basic metals, Electricity supply, Manufacture of food products, Manufacture of computers, electrical and optical products, and Manufacture of electrical equipment.

Chart 1.7. Comparison of realized and forecast annual growth rates of industry GVA (%), Q1 2020 – Q4 2023

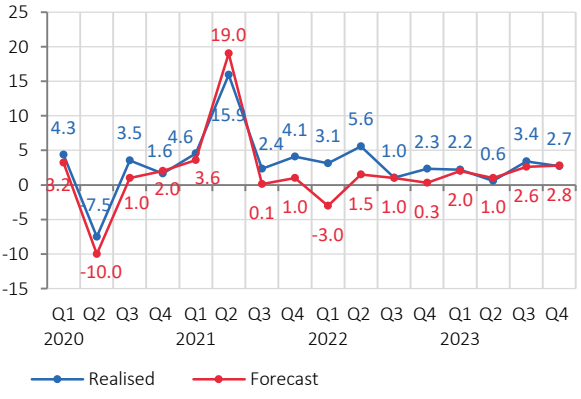
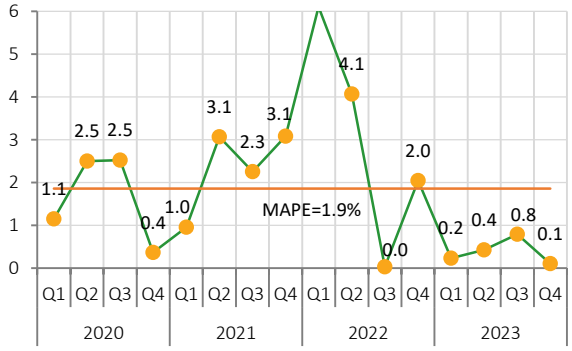


Chart 1.8. Mean Absolute Percentage Error - *MAPE*[20], forecast of industry GVA (%), Q1 2020 – Q4 2023



[20] Mean Absolute Percentage Error – MAPE is a measure of the simplified interpretation an error of a forecasting model in statistics. It is defined as the ratio $\mathrm{MAPE} = \frac{100\%}{n}\sum_{t=1}^{n}\left|\frac{A_t - F_t}{A_t}\right|$, where A т is the real value, and F т the forecast value. Their difference is divided by the real value A т . The absolute value of this ratio is added up for each forecast point in time and divided by the total number of time points n. **The relative deviation of the real values from the forecast ones by (+/-) 5% has been determined by the interval limit of validity of the given forecast (95-percentage indicator reliability interval), which we have defined after having derived MAPE as the likelyhood of the model by the formula (v=100-(MAPE)) expressed in percentage.** Absolute values are non-negative values. The forecast values in the chart were published in the previous issues of *Trends.*

1.3. FORECAST OF SERVICE

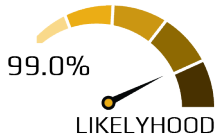
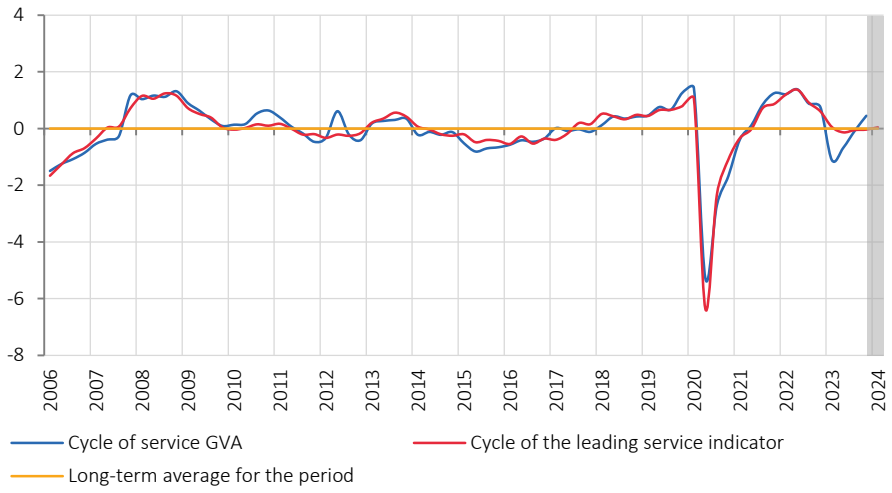


Chart 1.9. Comparison of the leading service indicator and service GVA, seasonally adjusted, detrended, leveled out and standardized data, deviation from the average for the period, Q1 2006 – Q1 2024 (%)



By applying the model of total services, it is estimated that the **growth of service GVA will go up by 6.7% in Q1 2024.** This growth is expected to be generated primarily by the increase in the divisions of General government (public administration and defense; compulsory social insurance), Retail trade, tourism and catering trades, and Professional, scientific, innovation and technical activities

Chart 1.10[21] Comparison of realized and forecast annual service GVA growth rates (%),Q1 2020 – Q4 2023

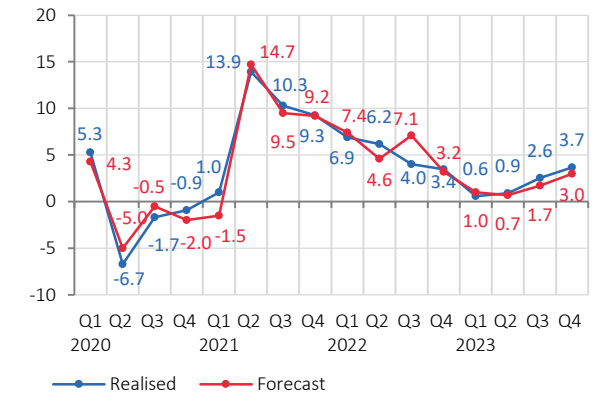
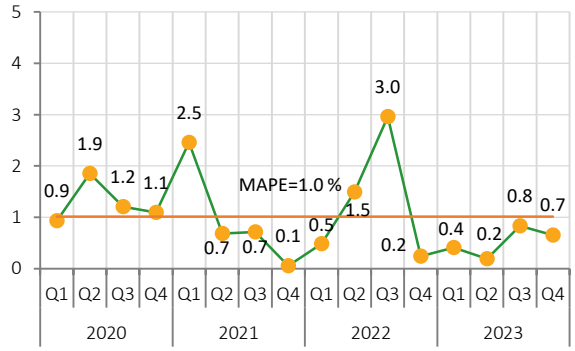


Chart 1.11. Mean Absolute Percentage Error - *MAPE*, forecast of service GVA growth (%), Q1 2020 – Q4 2023



[21] Forecast values mentioned in the chart are always published one quarter before the realized data are available and are presented in the previous issues of *Trends*.

1.4. FORECAST OF CONSTRUCTION GVA

The year-on-year construction GVA growth amounted to 8.7% in 2023. **The activities on the construction of the transport infrastructure and pipelines, communication and electrical power lines were the major initiators of construction GVA growth in 2023**. The most important activities for the transport infrastructure were the works on the construction of the Morava Corridor, Fruska Gora Corridor, highway Belgrade – South Adriatic and modernization of the railway of the Hungarian-Serbian Railway line. On the other hand, the activities on the construction of pipelines, communication and electrical power lines referred to the construction of the municipal sewage infrastructure under the project "Clean Serbia".
Based on the SORS forecasting model construction GVA is expected to go up in Q1 2024 by about 6.1%.

Table 1.2. Structure of the contribution to the annual construction GVA growth rate

	2021				2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Construction GVA, annual growth rate, % (1+2)	**20.5**	**18.9**	**20.0**	**15.1**	**-5.6**	**-6.8**	**-12.1**	**-12.5**	**-1.6**	**14.8**	**13.0**	**7.4**
1. Buildings, pp. (1a+1b)	**13.8**	**7.5**	**5.5**	**6.0**	**-5.2**	**-2.6**	**-6.3**	**-4.4**	**-10.7**	**4.4**	**1.8**	**-0.3**
1a. Residential buildings	*10.7*	*3.8*	*1.1*	*-0.1*	*-5.9*	*-1.5*	*-2.0*	*-0.1*	*-3.9*	*2.2*	*2.3*	1.2
1b. Non-residential buildings	*3.1*	*3.7*	*4.3*	*6.1*	*0.7*	*-1.1*	*-4.3*	*-4.3*	*-6.8*	*2.2*	*-0.5*	**-1.5**
2. Other buildings, pp. (2a+2b+2c+d)	**6.6**	**11.4**	**14.6**	**9.1**	**-0.4**	**-4.2**	**-5.8**	**-8.1**	**9.1**	**10.4**	**11.2**	**11.4**
2a. Transport infrastructure	*1.1*	*14.4*	*14.8*	*13.4*	*4.3*	*-1.8*	*-2.7*	*-6.2*	*8.8*	*5.4*	*8.0*	**8.2**
2b. Pipelines, communication and electric power lines	*3.0*	*-4.7*	*1.5*	*-2.4*	*-5.5*	*-2.4*	*-3.8*	*-3.6*	*0.6*	*4.2*	*4.6*	**5.2**
2c. Complex construction on building sites	*2.2*	*1.8*	*-0.5*	*-2.6*	*0.0*	*-0.1*	*1.0*	*2.0*	*0.3*	*0.6*	*-1.6*	-1.5
2d. Other civil engineering, not elsewhere classified	*0.3*	*-0.1*	*-1.2*	*0.6*	*0.8*	*0.0*	*-0.3*	*-0.3*	*-0.6*	*0.3*	*0.2*	-0.5
Contribution to construction GVA growth rate, pp.	**0.9**	**1.0**	**1.1**	**1.0**	**-0.3**	**-0.4**	**-0.8**	**-0.9**	**-0.1**	**0.7**	**0.8**	**0.5**

Chart 1.12. Comparison of realized and forecast[22] annual construction GVA growth rates (%)

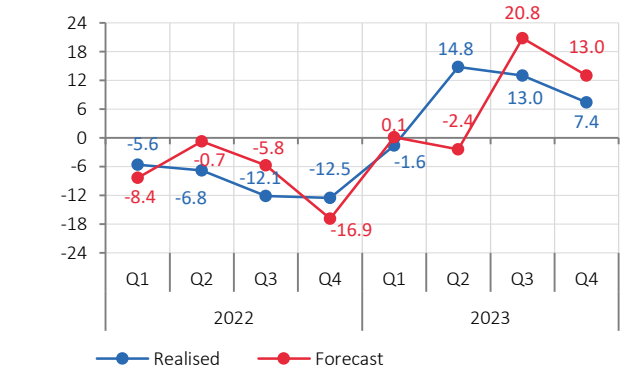
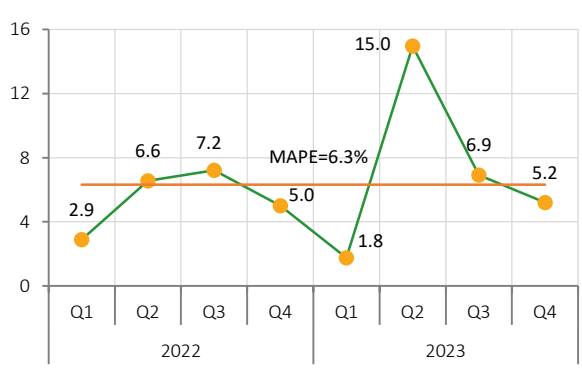


Chart 1.13. Mean Absolute Percentage Error - *MAPE*, forecast of construction GVA growth, Q1 2020 – Q4 2023 (%)



1.5. SUMMARY OF OBTAINED RESULTS OF FORECAST LEADING INDICATORS BY GVA SECTORS FOR Q1 2024

Table 1.3. Forecasts of GVA of selected sectors and their estimated contributions to GDP, Q1 2024

Q1 2024	Agriculture	Taxes and contributions	Industry	Construction	Services
Quarterly growth rates, %	0.0	4.6	4.0	6.1	6.7
Contribution to the growth rate of GDP (pp.)	0.0	0.8	0.8	0.3	3.5

[22] The forecast data presented in chart 1.11 are obtained by simulating the forecast based on a repeated sample from Q1 2022 (by successively repeating the forecasting procedure after every "new" data of the leading construction indicator GRIPAS. The data from Q4 2022 are officially published in the publication *Trend* (December 2022).

2. GROSS DOMESTIC PRODUCT

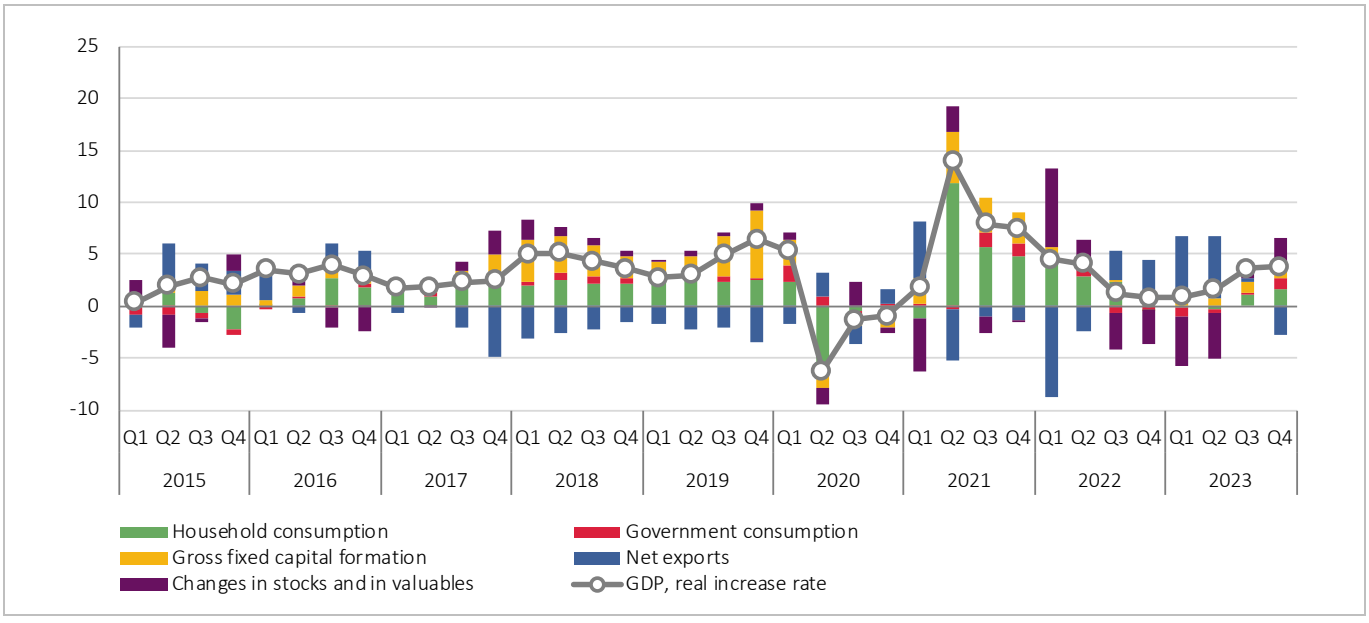
In the fourth quarter of 2023, GDP real increase of 3.8% was recorded relative to the same period last year. The dominant growth carrier in this quarter related to the section of services, excluding trade and the section of agriculture, with 1.5 .p. and 0.6 p.p., respectfully.

Observed by expenditure aggregates, in the fourth quarter of 2023, relative to the same period last year, household consumption recorded real growth of 2.5% and positively contributed to GDP trend with 1.7 p.p. Gross fixed capital formation recorded real growth of 5.2%, relative to the same period of the previous year (GDP contribution of 1.5 p.p.). Export and import increased by 0.3% and 4.2% and resulted in contribution to GDP trend with 0.2 p.p. and 2.9 p.p., respectively (Table 2.1).

Table 2.1. GDP – expenditure aggregates, real inter-annual growth rates, Q1 2021 – Q4 2023 (%)
(comparison with the same period of the previous year)

	2021				2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
GDP	**1.9**	**13.9**	**7.9**	**7.5**	**4.5**	**4.0**	**1.2**	**0.8**	**0.9**	**1.6**	**3.6**	**3.8**
Household consumption	-1.9	17.5	8.4	7.4	7.1	4.1	3.5	1.6	-0.1	-0.6	1.5	2.5
Government consumption	1.6	-1.4	9.3	7.2	2.6	5.0	-3.8	-1.8	-5.1	-1.6	1.8	5.9
Gross fixed capital formation	11.4	24.9	15.6	12.6	3.3	4.5	0.8	-0.3	1.9	3.9	4.1	5.2
Exports	9.5	37.4	23.4	15.1	18.5	20.5	16.2	12.1	8.4	2.7	-1.0	0.3
Imports	-1,3	42,4	21,7	15,3	32,9	21,2	9,5	5,1	-1,6	-5,6	-1,3	4,2

Chart 2.1. Contributions to inter – annual GDP growth rate – expenditure aggregates (p.p.)

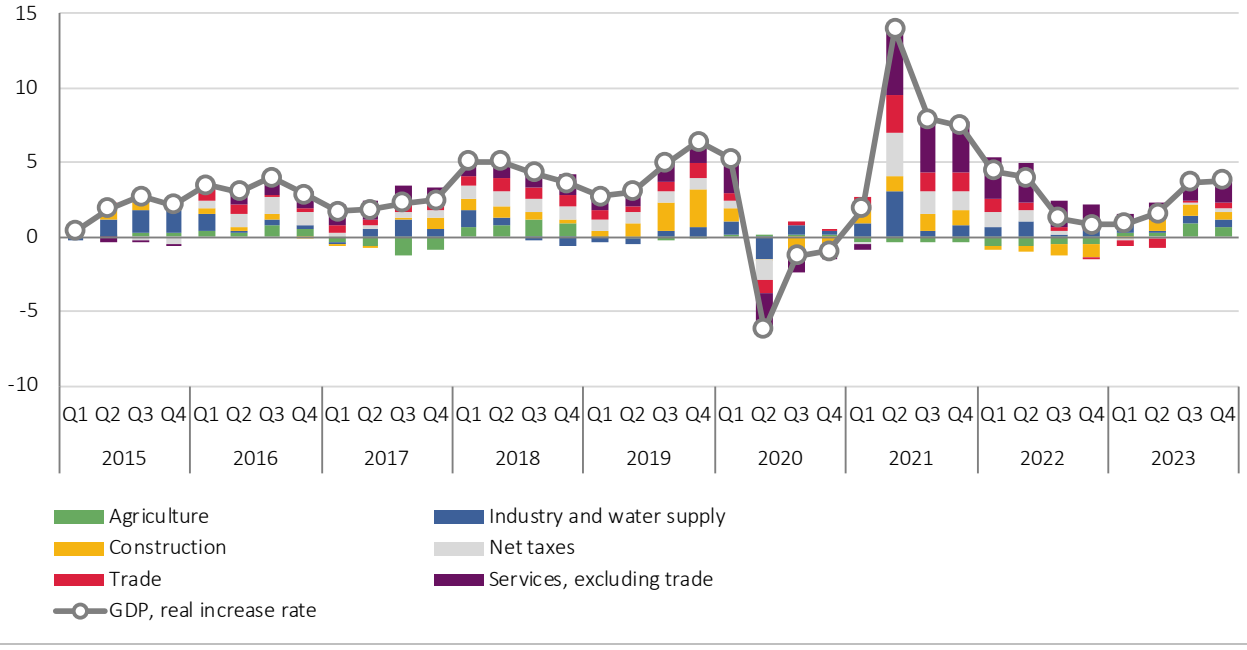


Observed from the **production side**, the greatest positive contribution to GDP increase in Q4 2023 resulted from increased activity in service section (excluding trade), 1.5 p.p. and section of agriculture, 0.6 p.p., respectively.

Table 2.2. GDP– production side, real inter-annual growth rates, Q1 2021 – Q4 2023 (%)
(comparison to the same period of the previous year)

	2021				2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
GDP	**1.9**	**13.9**	**7.9**	**7.5**	**4.5**	**4.0**	**1.2**	**0.8**	**0.9**	**1.6**	**3.6**	**3.8**
Agriculture	-5.7	-5.2	-5.4	-5.6	-8.3	-8.6	-8.5	-7.8	8.6	7.3	8.9	7.7
Industry and water supply	4.6	15.9	2.4	4.1	3.1	5.6	1.0	2.3	2.2	0.6	3.4	2.7
Construction	20.5	18.9	20.0	15.1	-5.6	-6.8	-12.1	-12.5	-1.6	14.8	13.0	7.4
Trade	8.5	23.7	10.9	10.4	7.2	4.9	2.5	-0.3	-3.0	-5.3	0.5	2.9
Services, excl. trade	-1.0	11.3	10.2	9.0	6.8	6.6	4.5	4.6	1.7	2.8	3.2	3.9
Net taxes	-0.9	16.8	9.2	8.3	6.7	3.8	1.3	-0.2	-1.2	-0.1	0.9	1.6

Chart 2.2. Contributions to inter – annual GDP growth rate – production side (p.p.)



3. INDUSTRIAL PRODUCTION

3.1. TOTAL INDUSTRIAL PRODUCTION

Total industrial production in the Republic of Serbia, in 2023 increased by 2.5% relative to the same period of 2022. Growth was noted in the sections of *Manufacturing* (0.7%) and *Electricity, gas, steam and air conditioning supply* (12.7%), while *Mining and quarrying* recorded fall (-0.1%).

Chart 3.1. Cumulative trend of total industrial production and its sections, growth rates (%) (2023 relative to 2022)

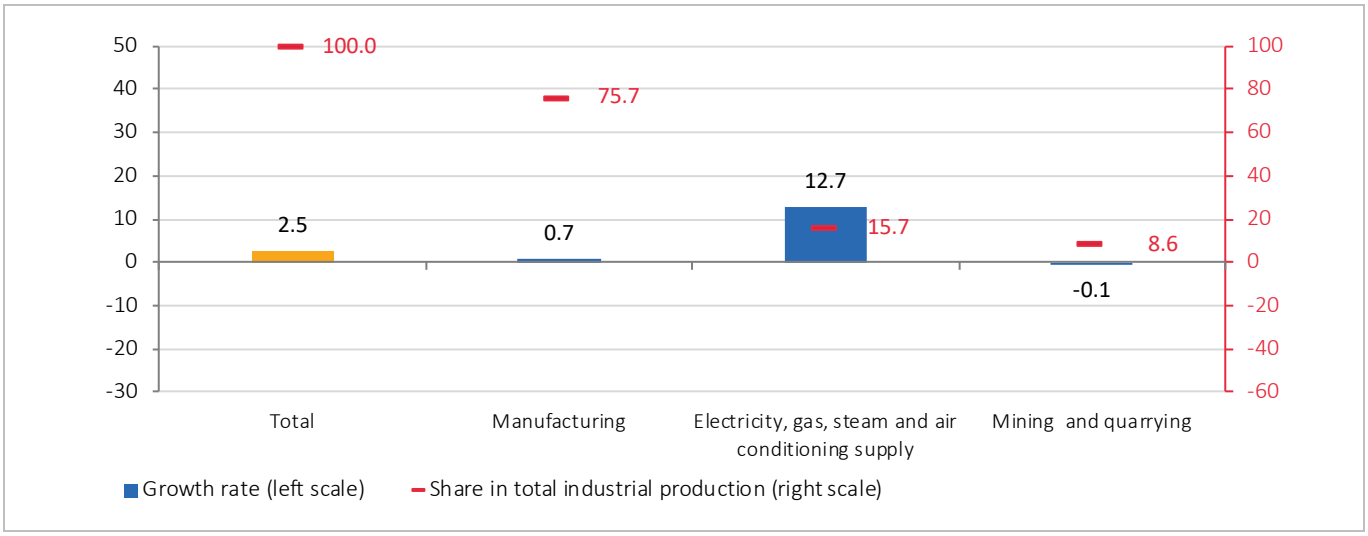
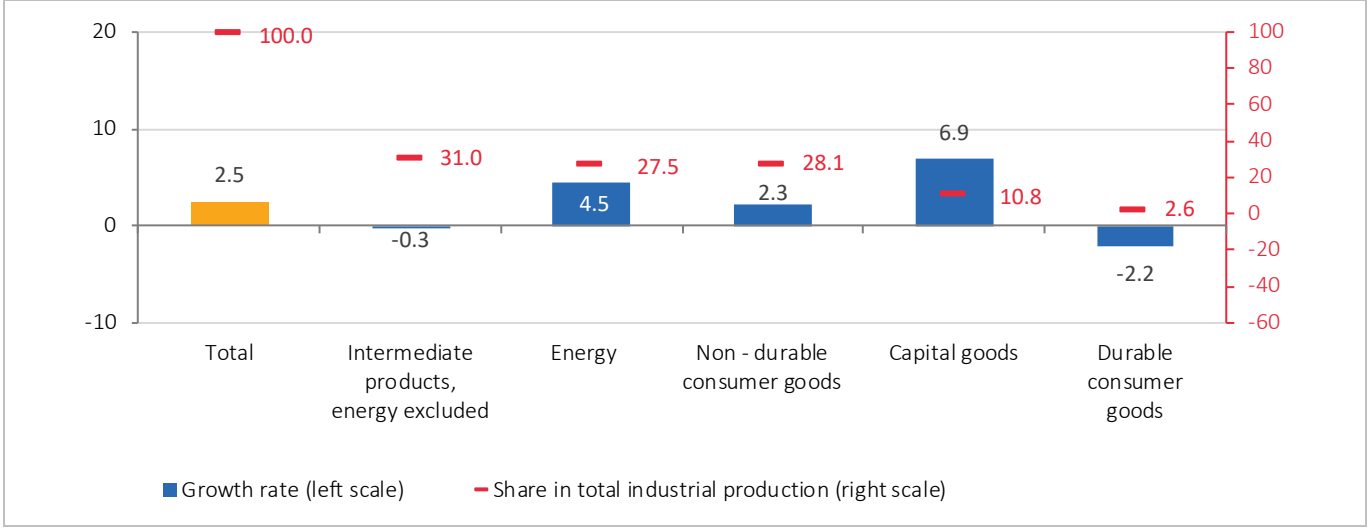


Chart 3.2. Industrial production growth rates by MIGs (%) (2023 relative to 2022)



In the period January – December 2023/ January - December 2022, the section of **Electricity, gas, steam and air conditioning supply** contributed to industry growth with 2 p.p., followed by **Manufacturing** (0.5 p.p.), while **Mining and quarrying** noted no contribution to industry trend.

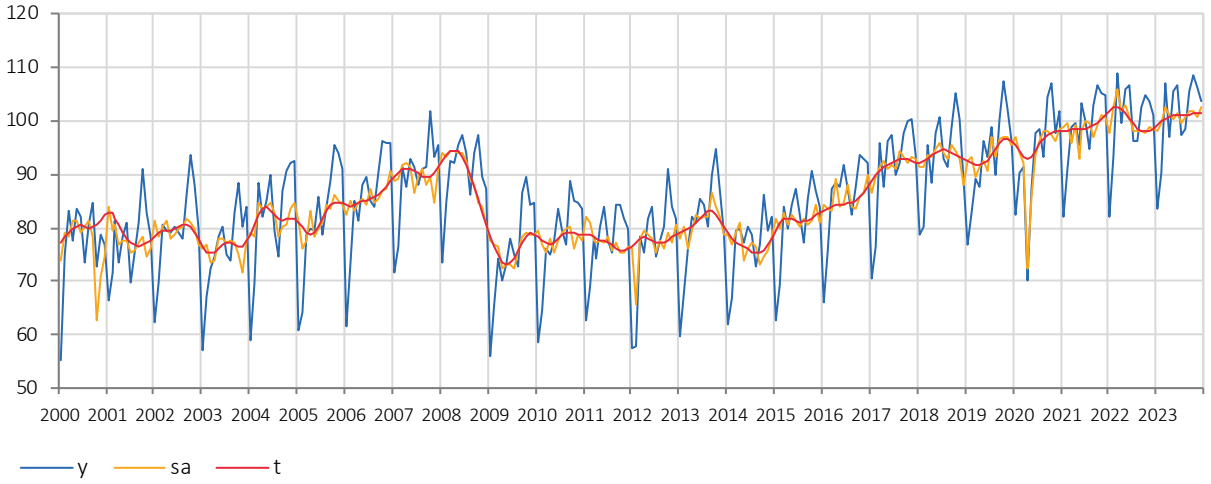
Table 3.1. Industrial production, indices (comparison with the same period of the previous year)

	2021				2022				2023				2024
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1[1]
Industrial production – total	104.2	116.0	102.6	103.7	101.9	104.8	99.4	100.7	102.5	100.9	103.7	102.8	**102.5**
Manufacturing	103.2	117.0	100.4	102.9	104.1	104.7	99.1	97.8	98.5	99.0	102.1	102.8	**102.0**
Electricity, gas, steam and air conditioning supply	109.1	107.5	96.0	90.6	80.9	91.8	95.8	106.2	118.6	114.8	111.1	106.6	
Mining and quarrying	109.0	124.6	140.8	142.9	139.0	132.4	108.5	116.5	104.5	94.3	105.8	95.3	

[1] Prognoses (obtained on the basis of time series analysis models).

3.2. MANUFACTURING (C) (share of 75.7% total industrial production index) Trend-cycle component of Manufacturing in 2023, records increasing trend (chart 3.3).

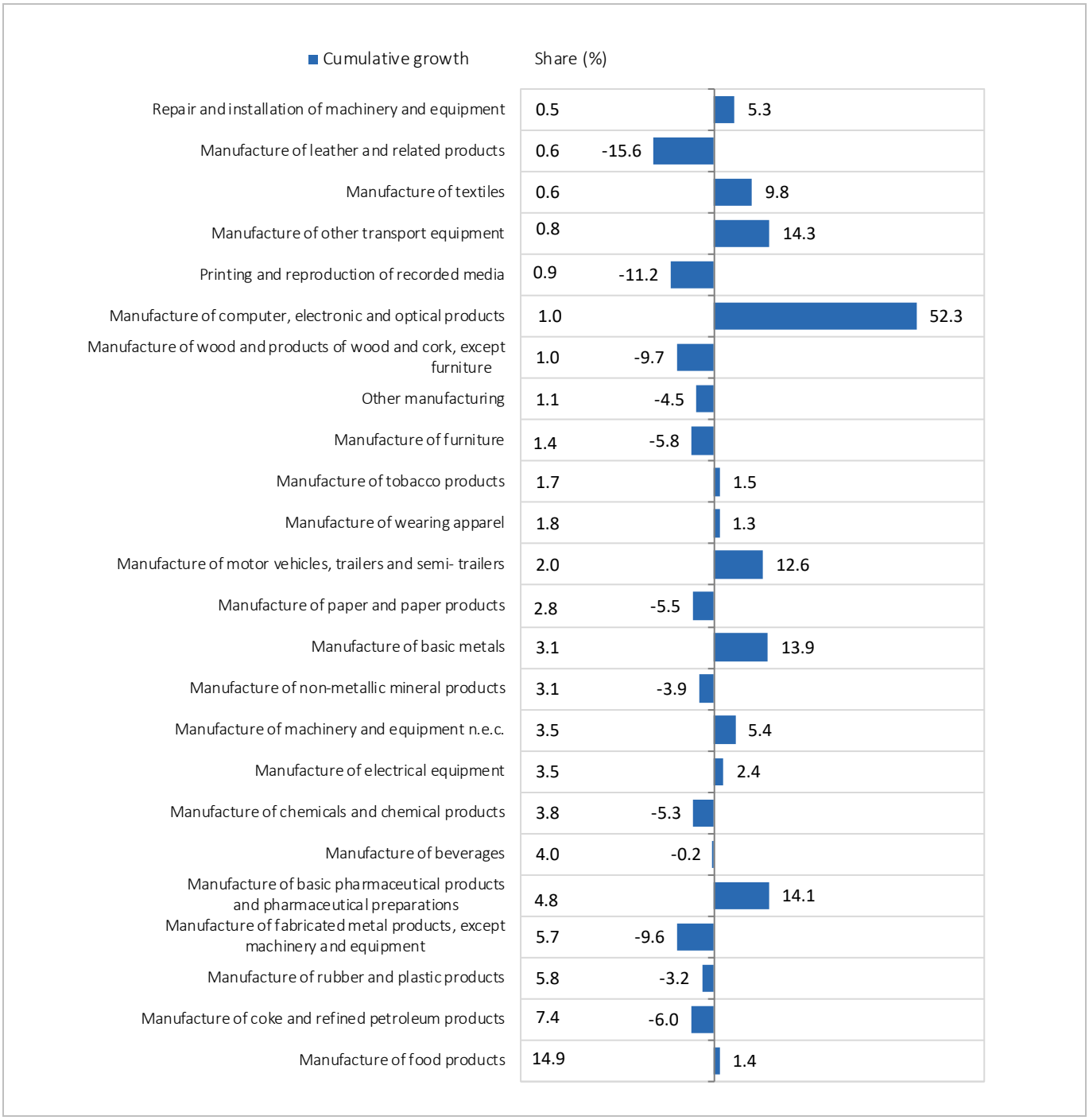
Chart 3.3. Components of Manufacturing time series, indices (y – original series, sa – series with excluded seasonal component, t – trend-cycle component, average 2022 = 100)



Observed by divisions, Manufacturing in 2023 increased in 12 out of 24 divisions (mutually participating with 38.2% in total industry), if compared with 2022. The most significant divisions – measured by the share in total industrial production - in which positive results were noted in 2023 were: Manufacture of food products (growth of 1.4%), Manufacture of basic pharmaceutical products and pharmaceutical preparations (growth of 14.1%), and Manufacture of electrical equipment (growth of 2.4%).

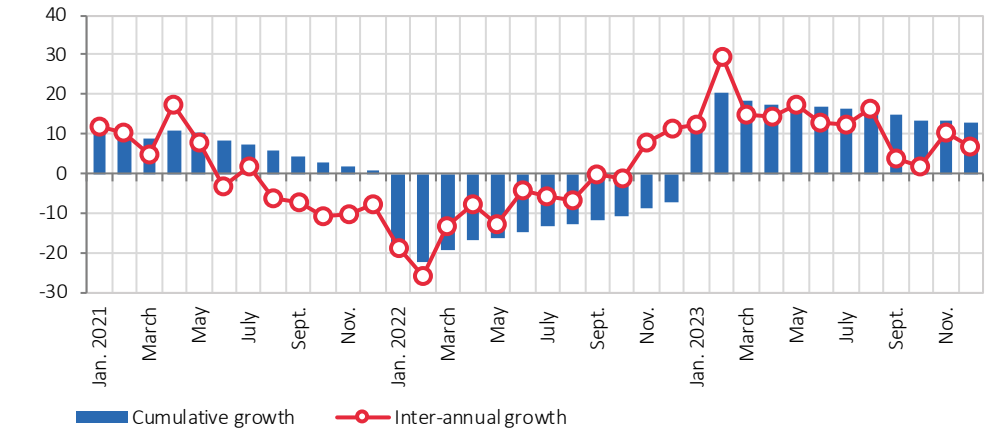
Decrease was recorded in 12 divisions (mutually participating with 37.6% in total industry): Manufacture of coke and petroleum derivatives (fall of -6%), Manufacture of rubber and plastic products (fall of -3.2%), and Manufacture of metal products, except machinery (fall of -9.6%).

Chart 3.4. Manufacturing by divisions, cumulative growth rates (%) (2023 relative to 2022); divisions are presented in ascending order according to shares in total industrial production)



3.3. ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY (D)
(share of 15.7% in total industrial production index)

Chart 3.5. Cumulative and year-on-year growth rates in energy section (%) (cumulative – period relative to the same period of the previous year; year-on-year – month relative to the same month of the previous year)

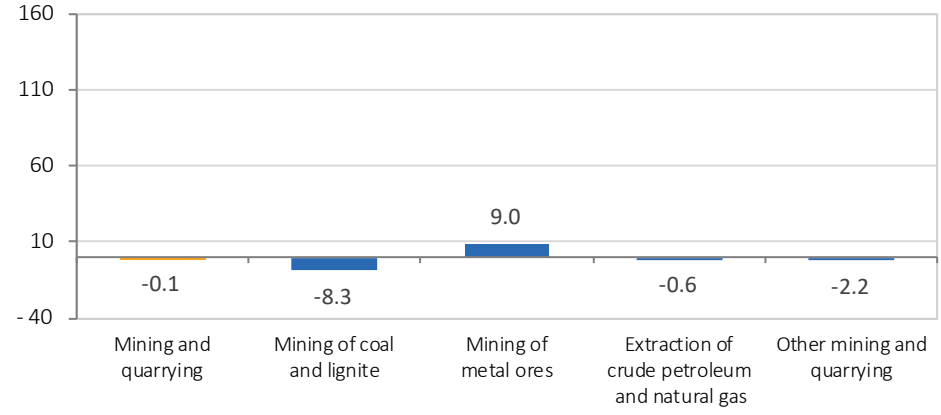


Section of Electricity, gas, steam and air conditioning supply recorded growth of 12.7% in 2023 relative to 2022.

In the fourth quarter of 2023 production increased in all three months (relative to the same months 2022): in October (1.8%), November (10.3%), and in December (6.9%).

3.4. MINING AND QUARRYING (B)
(share of 8.6% in total industrial production index)

Chart 3.6. Cumulative growth rates in Mining and quarrying section (%) (2023 relative to 2022)



Production of the section of Mining and quarrying recorded insignificant fall of -0.1% in 2023 relative to the same period 2022.

Observed by months of the fourth quarter 2023, growth was recorded (relative to corresponding months 2022) in October (1.7%), there was no growth or fall in November, while in December, fall was noted (-15%).

HOW TO INTERPRETE THE SERIES?

Seasonal effects can provoke distortions in time series trend, and in such way camouflaging its "real" nature and significant characteristics necessary for precise and detail analysis of the phenomena. When selecting the indicators that will be used for analysis (original, seasonally adjusted or trend), the nature of the observed series and point of the performed analysis should be taken into account. Three separate components (obtained by series' disaggregation), together with the original series, describe various aspects of a single phenomenon and are used for versatile analytic purposes – depending on the researcher's interest. Seasonally adjusted values are used for comparison of the consecutive periods and for estimation of potential value of a series when calendar effects and season effects would not exist, as is the case with industrial production.

4. CONSTRUCTION

4.1. CONSTRUCTION ACTIVITY

Construction activity on the territory of the Republic of Serbia in 2023, compared to 2022 increased by 11.2% at constant prices.

Observed by type of constructions, the value of construction works on buildings decreased by 2.4%, and on civil engineering (transport infrastructure, pipelines, complex industrial constructions, etc.), increase amounted to 19.3%, at constant prices.

Table 4.1. Value of performed construction works, quarterly indices (%) (comparison with the same period of the previous year)

	2021				2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices	116.7	124.7	128.8	127.1	110.3	108.4	102.7	99.9	109.2	121.1	119.3	113.9
Constant prices	117.4	114.9	115.0	110.4	94.1	91.2	86.5	86.3	99.5	117.9	115.8	111.1

Chart 4.1. Components of time series of Indices of performed construction works on the territory of the Republic of Serbia, at constant process, indices (y – original series, sa – series with excluded seasonal component, t – trend cycle component average 2015 = 100)

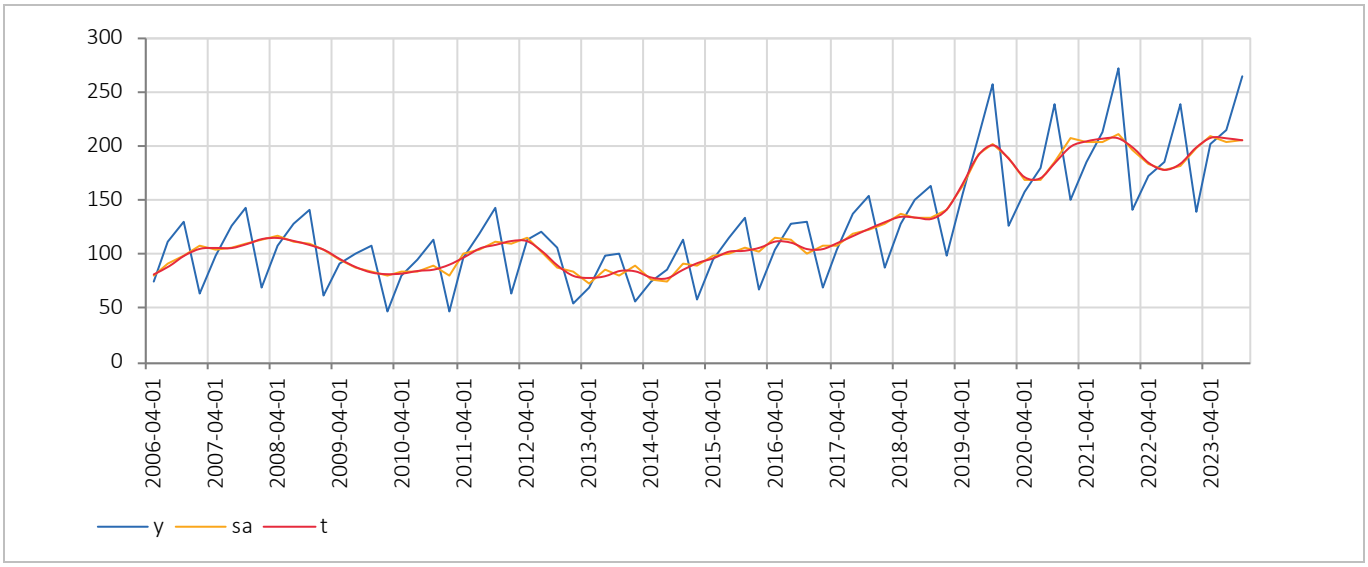
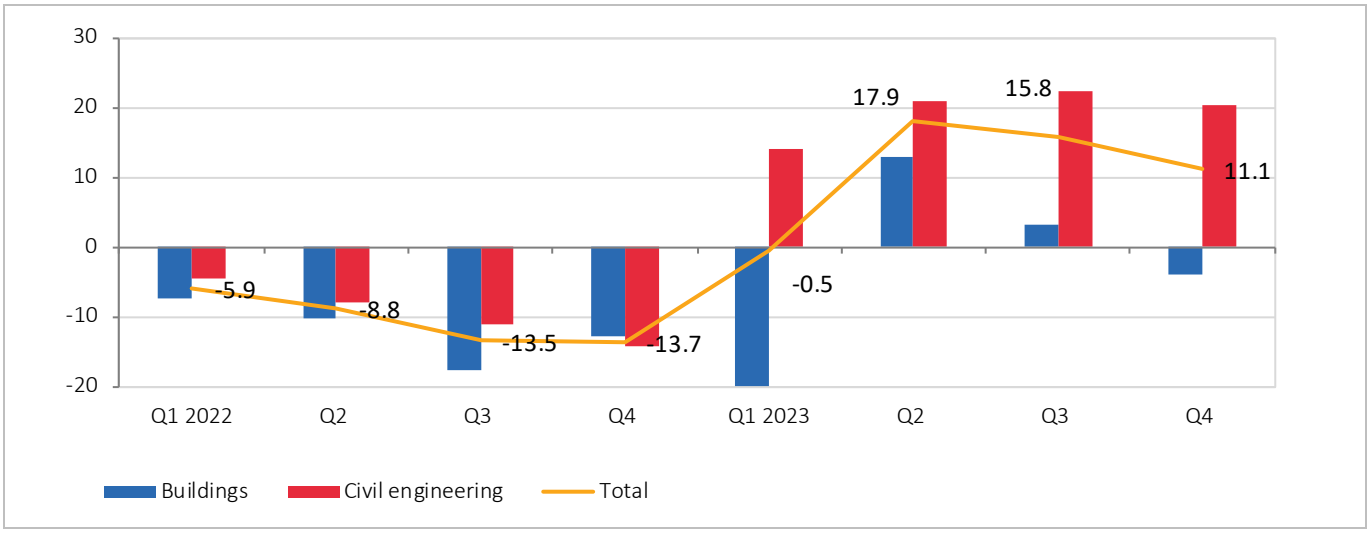


Chart 4.2. Value of performed construction works at constant prices, growth rates (%) (quarter relative to the same quarter of the previous year)



Observed by regions (chart 4.3), in the fourth quarter of 2023, the highest growth rate was, compared to the same period of the previous year, recorded in the **Region of Southern and Eastern Serbia** and amounted to 22.6% at constant prices. The increase can be seen in the construction of traffic infrastructure, first of all Požarevac-Golubac high-speed road, then pipelines (construction of Niš-Dimitrovgrad gas interconnector and communal infrastructure in Vranje and Svrljig), and several production and storage complexes are also being built, influencing the increase of value index of the works performed on non-residential buildings.

In **Belgrade region**, the value of construction works at constant prices increased by 20.3% compared to the fourth quarter of 2022. The increase in value was mostly influenced by the construction of non-residential buildings and transport infrastructure. In addition to Belgrade waterfront and several larger residential and business complexes ("Depo", "Duke`s gates - Voždove kapije", "Wellport", "Viva Residences", "Zelena Avenija"), in this quarter, the construction sites of "Centre for Inclusion", new bus station, preparatory works for Belgrade Expo Centre, as well as the construction of the plateau for the Belgrade Metro depot.

In the **Region of Vojvodina**, growth of 16.4% was achieved, at constant prices. The most significant contribution to the growth of construction activity in this region is, in all four quarters of 2023, the construction of the Hungarian-Serbian railway (Novi Sad - Subotica section). Additionally, the activity in the fourth quarter was significantly affected by the work on the construction of Fruškogorsk corridor (Novi Sad - Ruma section). The increase in the value of the works carried out in this region can also be seen in residential buildings.

The only region in which the value of completed works decreased in the fourth quarter was the **Region of Šumadija and Western Serbia** (-7.9%, at constant prices). In this region, works carried out on buildings and transport infrastructure constructions were slightly less intensive than in the fourth quarter of the previous year.

Chart 4.3. Value of performed construction works by regions, at constant prices, growth rates (%)
(quarter relative to the same quarter of the previous year)

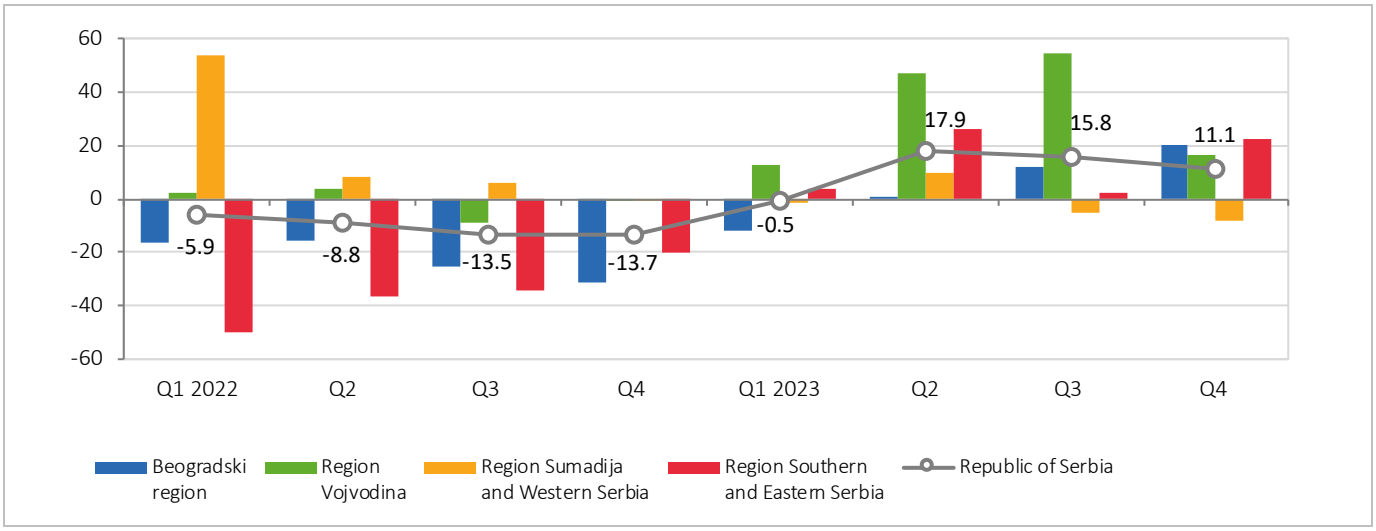


Chart 4.4. Value of performed construction works and hours of work on construction sites, comparative overview, indices
(quarter compared to the same quarter of the previous year)

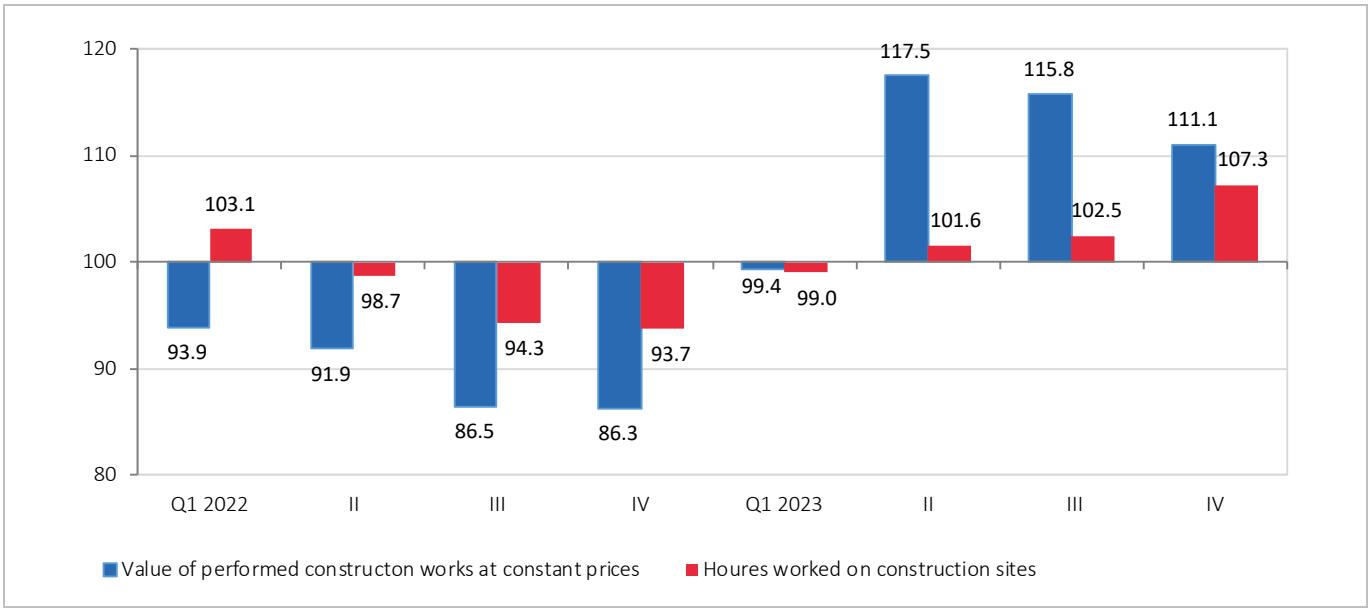


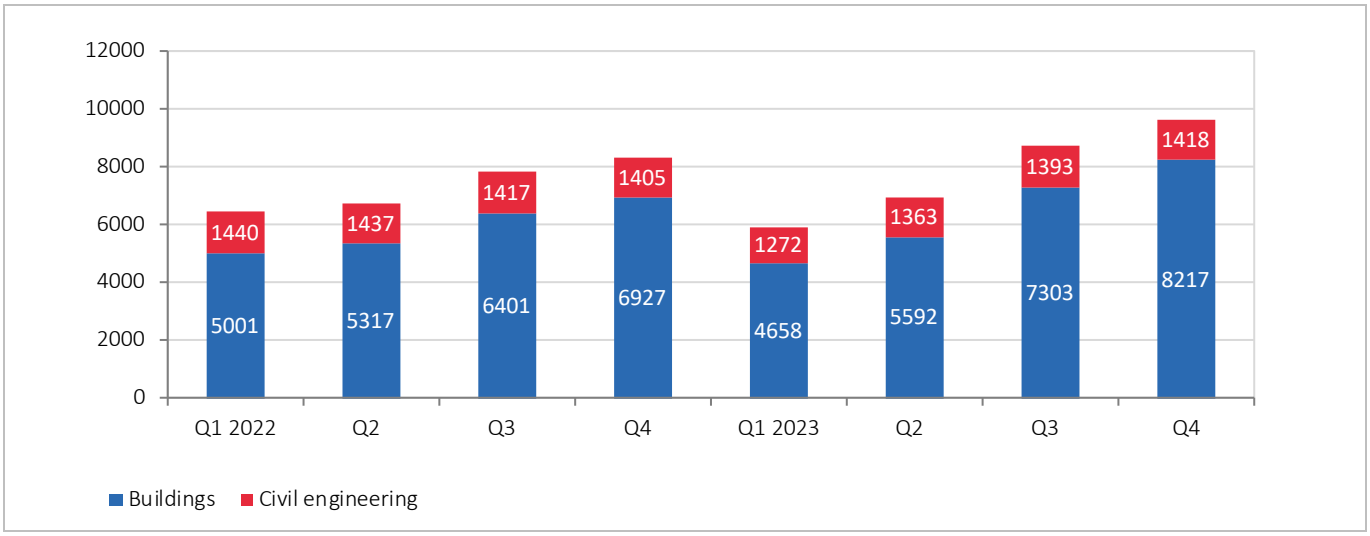
Chart 4.4 shows a comparative overview of the movement of working hours and the value of the works performed on construction sites. During 2023, in addition to the value of completed works, another indicator of construction activity, from the second quarter of 2023, shows the growth of construction activity. Working hours decreased only in the first quarter of 2023, and the highest growth (7.3%) was recorded in the fourth quarter.

4.2. BUILDING PERMITS

In addition to the value of works performed and hours of work on construction sites, the statistics of construction keep a monthly record of the issued **building permits and decisions**, which approve the implementation of construction works in the Republic of Serbia and which show the future trend of construction activity.

In **the fourth quarter 2023,** 9 635 building permits were issued. The greatest part of permits (8 217) related to construction works on buildings, while the rest (1 418) related to transport infrastructure works, pipelines, complex industrial structures, etc. Total number of issued permits in the fourth quarter 2023 increased by 15.6% related to the same period of the previous year.

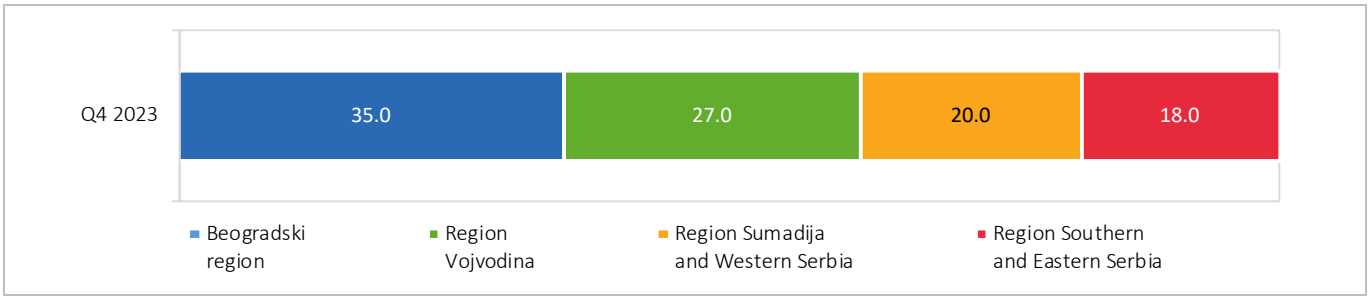
Chart 4.5. Number of issued building permits for buildings and civil engineering



The anticipated value of works, according to the issued permits, in the fourth quarter, amounts to RSD 262 166 million, which represents an increase of 16.6% compared to the same quarter of the previous year.

The greatest share in estimated value in the fourth quarter is seen in Belgrade region (35%), followed by Vojvodina region (27%), Šumadija and Western Serbia region (20%) and Southern and Eastern Serbia region (18%).

Chart 4.6. Anticipated value of works according to issued permits, by regions; share in %[23]



[23] Note: Instead of the previously published data on the percentage share of the number of permits by region, in the future we will show the share of the anticipated value of the works according to the issued permits. Namely, the value of works is a better indicator of the volume of construction activity in the future, while the number of permits does not provide key information about the value of the planned investment, which is the most important for assessing the value of future construction works.

GLOSSARY

Value of performed construction works – the most significant indicator of construction activity trend in Serbia. It presents the value of performed works on construction that the reporting unit performed with workers directly engaged for execution of works.

Value of performed works includes: value of work, value of built in material and finished products for incorporating, consumed energy commodities and other expenditures related to performing works on construction. Value of performed works excludes: value of subcontractors' works, expenditures of land purchase, design, supervision and VAT.

According to *Classification of Types of Constructions*, applied since 2004, which is completely harmonized with the same Classification of Eurostat, all constructions can be classified into: buildings and civil engineering.

Value on buildings includes value of performed works, both on residential and non-residential buildings.

Civil engineering, besides transport infrastructure (roads, railways, bridges, etc.) involves also works carried out on pipelines, complex industrial structures and other civil engineering n.e.c. (e.g. sport constructions).

5. EXTERNAL TRADE

5.1. EXPORTS OF GOODS (EUR current exchange rate)

Total value of goods export in the Republic of Serbia in 2023 increased by 3.7%, relative to 2022. Total export results were mostly influenced by manufacturing increase of 5.4%, as it presents 86.2% of total export, and increase of 48.8% in the section of electricity, gas and steam, presenting 4.5% of total export in 2023.

Chart 5.1. Components of export's time series, indices (y – original series, sa – series with excluded seasonal component, t – trend cycle component, average 2022 = 100)

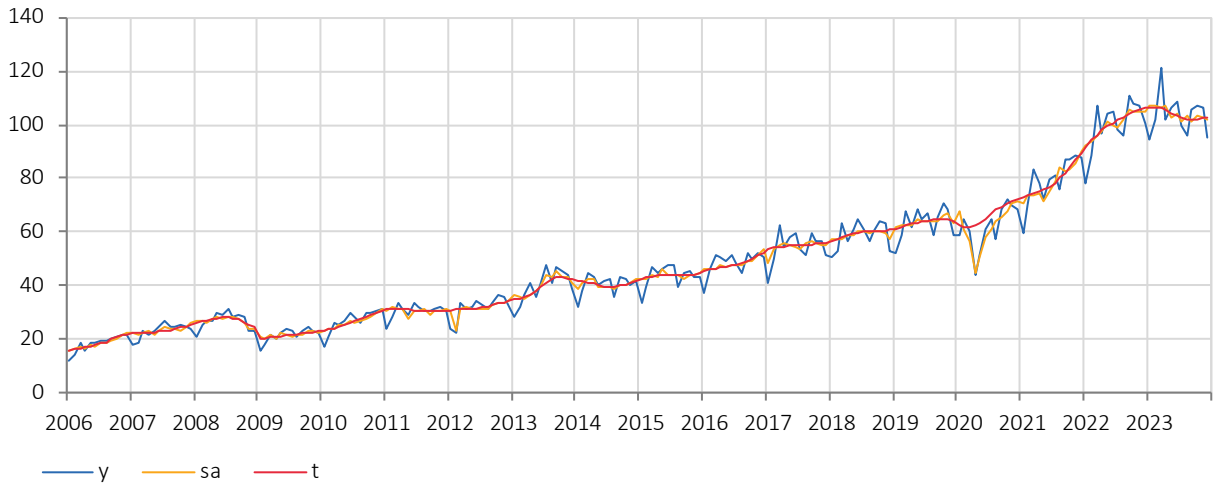
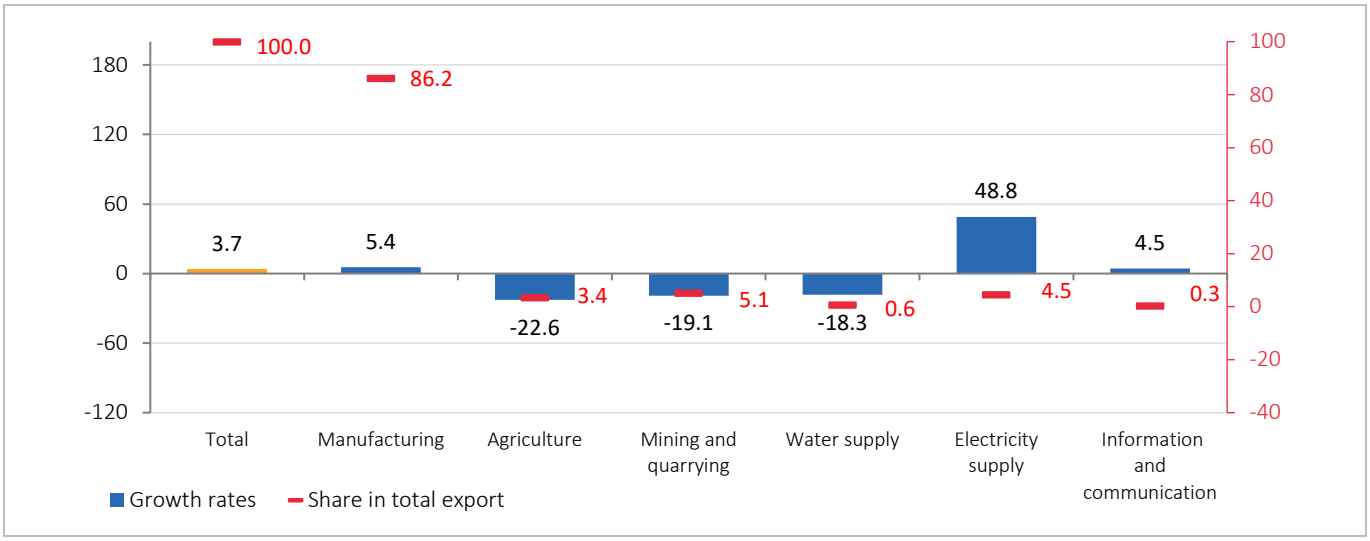


Table 5.1. Export of goods by CA (2010) sections, quarterly indices (comparison with the same period of the previous year)

	2021				2022				2023				2024
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1[1]
Export – total	114.2	145.6	127.2	123.4	128.5	132.7	122.9	119.5	115.8	103.5	98.4	98.0	**97**
Manufacturing	111.5	145.4	122.4	122.4	125.9	126.3	122.3	117.5	112.0	107.4	101.8	101.1	...
Agriculture, forestry and fishing	132.7	97.1	119.2	73.5	76.3	117.6	98.0	95.6	72.4	56.1	72.1	115.6	...
Mining and quarrying	202.8	916.1	1369.6	366.8	1129.0	330.3	160.1	122.2	129.4	56.9	81.0	65.1	...

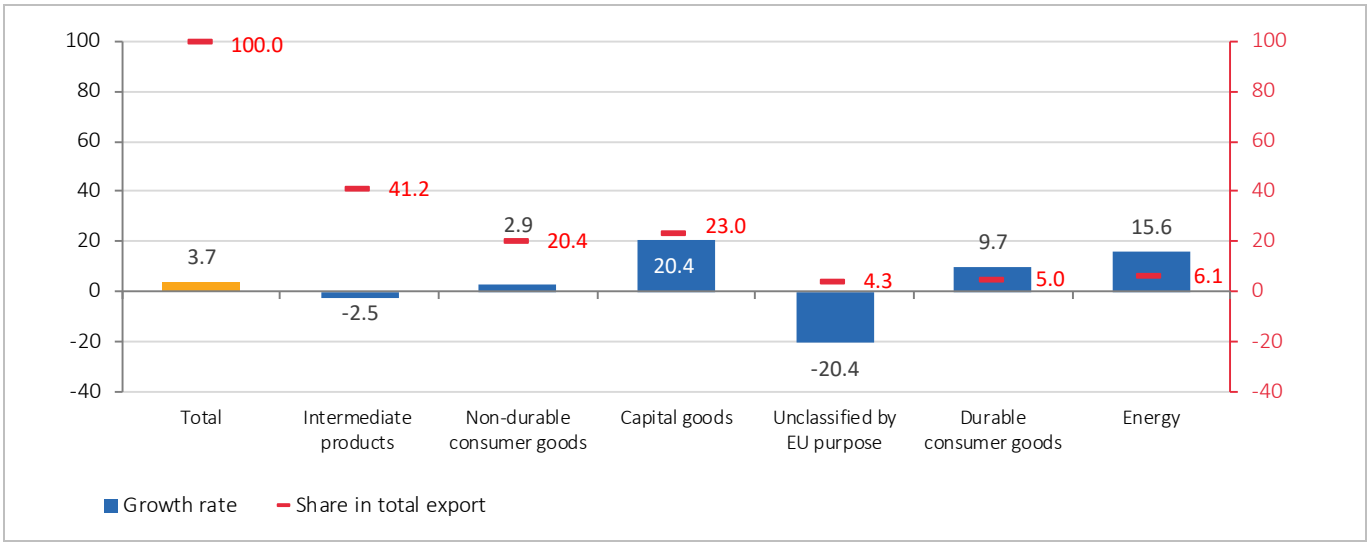
[1] Prognosis (obtained on the basis of a time series analysis model).

Chart 5.2. Cumulative growth rates of export by CA (2010) sections and sections' share in export (%)
(2023 relative to 2022)



Observed by economic purpose, total export results in 2023 were mostly influenced (contribution of 4.0 p.p.) by increased exports of **capital goods** (share of 23% and increase of 20.4%) and **energy** (share of 6.1%, increase of 15.6% and contribution of 0.9 p.p.).

Chart 5.3. Cumulative growth rates of exports according to the economic purpose of the European Union (%)
(2023 relative to 2022)



5.2. IMPORTS OF GOODS (EUR current exchange rate)

Total value of goods import in Serbia in 2023 decreased by 5.5% relative to the same period 2022.

Import results were mostly influenced by the section of manufacturing (decrease of 4.7%), as it presents 71.6% of total imports, and 9.8% increase in the section of unclassified products according to the economic purpose of the European Union (12.4% of total imports) in 2023.

Chart 5.4. Components of import's time series, indices (y – original series, sa – series with excluded seasonal component, t – trend cycle component, average 2022 = 100)

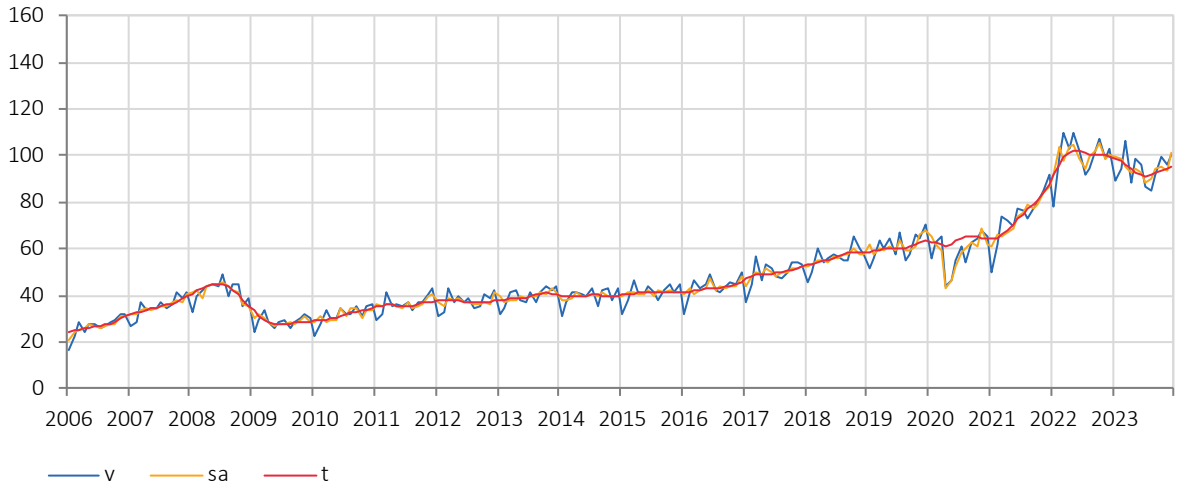
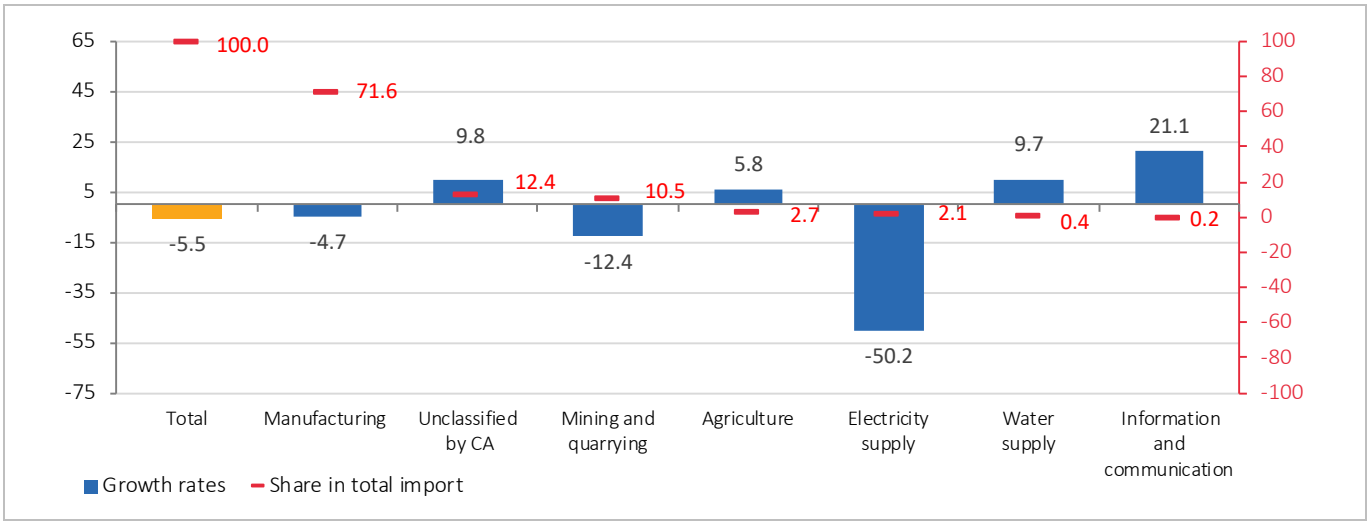


Table 5.2. Import of goods by CA (2010) sections, quarterly indices (comparison with the same period of the previous year)

	2021				2022				2023				2024
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1[1]
Import – total	100.5	149.4	125.9	127.5	148.5	143.8	123.1	119.7	100.7	89.5	91.2	96.1	**98.5**
Manufacturing	104.8	148.9	120.6	123.3	130.6	134.2	119.6	112.5	101.3	87.4	92.1	98.3	...
Agriculture, forestry and fishing	102.3	101.0	113.6	143.8	127.6	123.5	134.5	127.0	124.5	110.3	98.4	89.3	...
Mining and quarrying	58.2	206.4	181.1	158.2	373.7	210.8	140.0	186.3	95.4	81.2	86.6	84.4	...

[1] Prognosis (obtained on the basis of a time series analysis model).

Chart 5.5. Cumulative growth rates of import by CA (2010) sections and sections' share in import (%)
(2023 relative to 2022)



Observed by MIGs, the greatest influence (negative contribution of -4.4 p.p.) on total import in 2023 related to **energy** (share of 13.9%, decrease of 25%) and **intermediate products** (share of 34.3%, decrease of 7%, and negative contribution of -2.4 p.p.).

Chart 5.6. Cumulative growth rates of imports according to the economic purpose of the European Union (%)
(2023 relative to 2022)

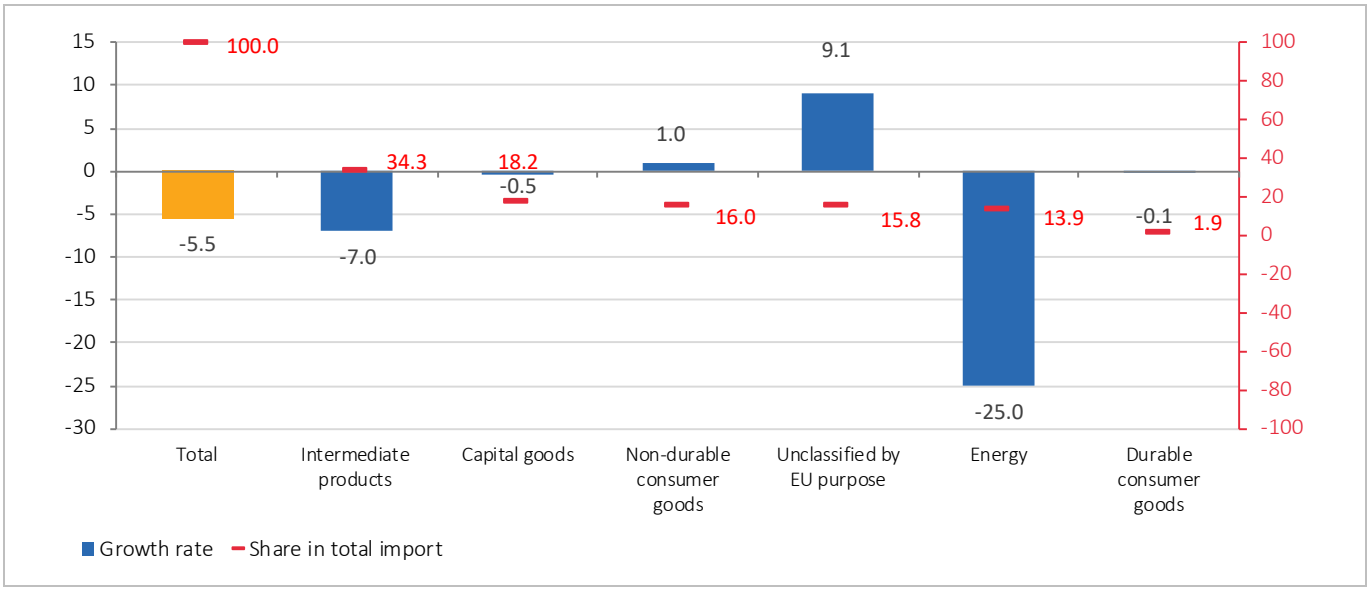
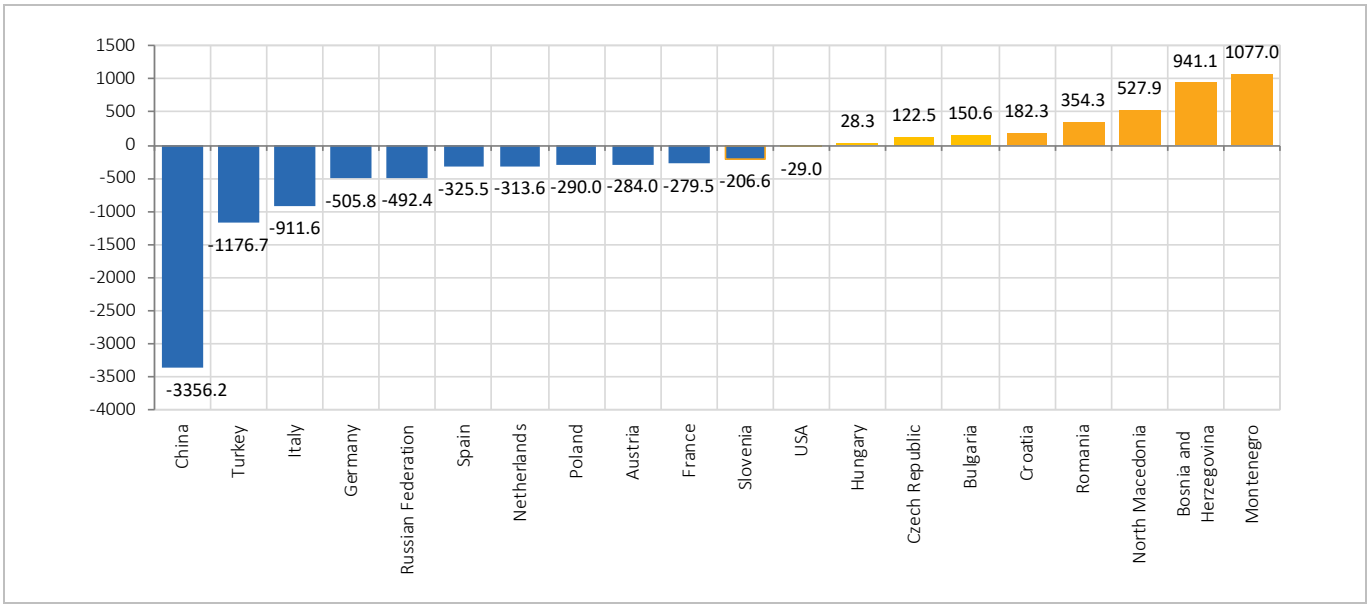


Chart 5.7 shows the 20 largest external trade partners of the Republic of Serbia, which account for 79.1% of the total external trade exchange. The Republic of Serbia achieved a positive external trade balance in 2023, i.e. a surplus, with eight European countries (a total of about EUR 3.4 billion), of which Montenegro is on the first place (a surplus of EUR 1.1 billion). In this period, the Republic of Serbia exported the most food products to Montenegro (17.1% of total export to MNE), electricity, gas and steam (10.8% of total export to MNE) and beverages (6.6% of the total export to MNE).

On the other hand, a negative external trade balance, i.e. deficit, was also recorded in 12 countries and amounts to a total of -EUR 8.2 billion. The largest external trade deficit in 2023 was recorded in trade with China (EUR -3.4 billion) and Turkey (balance EUR -1.2 billion). Observed by CA product activities (2010), product imports from China mostly consisted of unclassified products (18.6% of total imports from China), imports of computers, electronic and optical products (17.7% of total imports from China), as well as n.e.c. machinery and equipment (14.9% of total imports from China). With Turkey, the negative external trade balance is the result of the high value of basic metals import (13.8% of total imports from Turkey) and electrical equipment (12.5% of total imports from Turkey). Italy (deficit of EUR -911.6 million), Germany (EUR -505.8 million), and the Russian Federation (EUR -492.4 million) follow.

Chart 5.7. External trade balance of the Republic of Serbia by countries, 2023 (EUR mill.)



5.3. THE MOST SIGNIFICANT EXTERNAL TRADE PARTNERS

Table 5.3. The major external trade partners

Export	EUR mill.	Import	EUR mill.
Germany	4 315.3	Germany	4 821.1
Bosnia and Herzegovina	1 967.1	China	4 502.2
Italy	1 771.6	Italy	2 683.2
Hungary	1 562.4	Turkey	1 731.2
Romania	1 444.6	Russian Federation	1 598.4

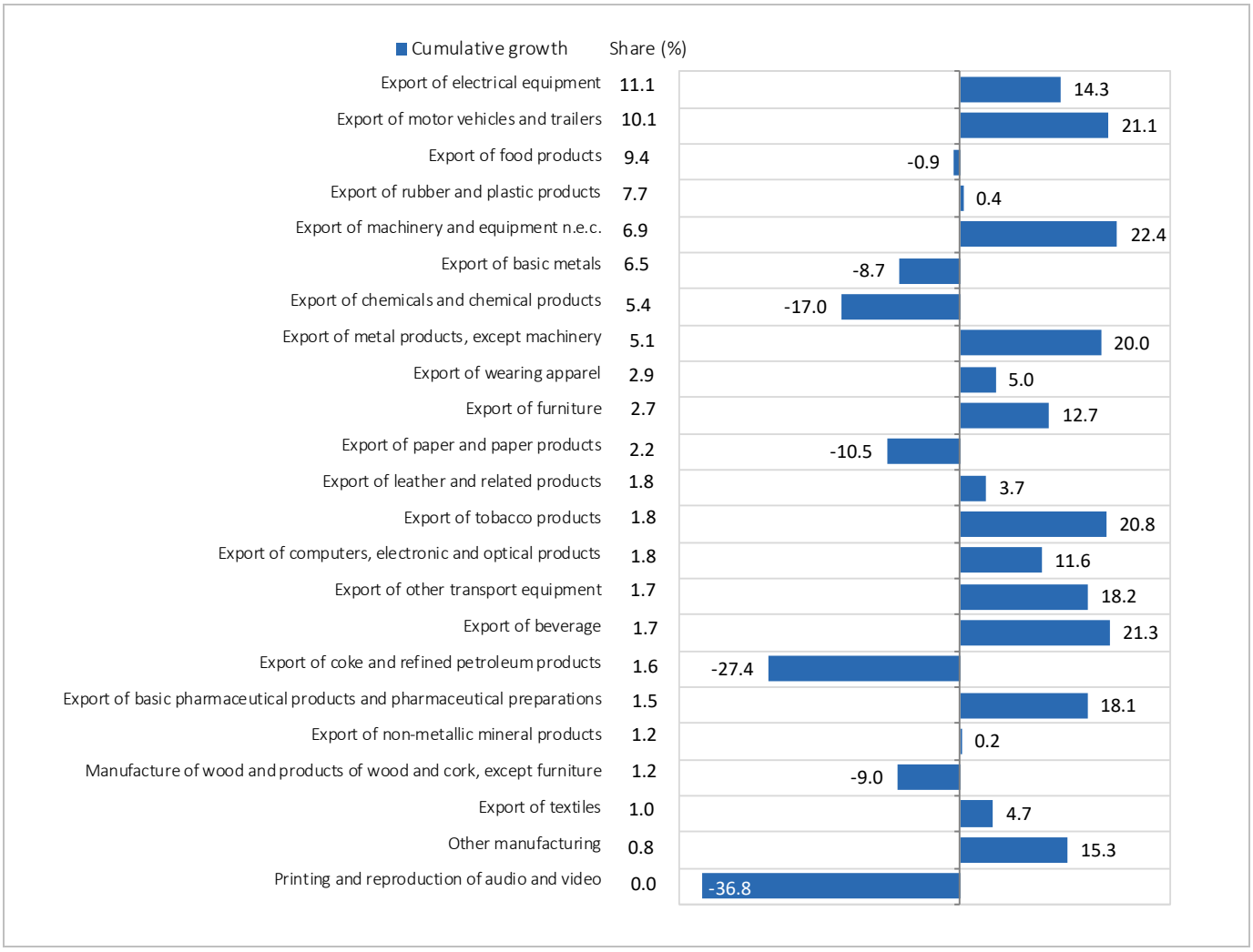
The most significant external trade partners in 2023 were the countries with which Serbia has signed agreements on free trade. The EU member countries account for 59.7% of total external trade, followed by Asia – Pacific Economic Cooperation, APEC, with share of 17.8%. The major external trade partners are separately presented in Table 5.3.

5.4. MANUFACTURING (C) (share of 86.2% in total export and 71.6% in total import)

Export of manufacturing recorded growth of 5.4% in 2023, relative to 2022. Out of 23 divisions, cumulative growth was recorded in 16 divisions, mutually participating with 59.8% of total export.

The export of **electrical equipment**, the division with the greatest separate export value (EUR 3.2 bill.) recorded a cumulative growth of 14.3%, with a share of 11.1% in total exports (10.1% in 2022). Export of **motor vehicles and trailers**, division with an export value of EUR 2.9 billion and a share of 10.1% in total exports (8.6% last year), recorded a cumulative growth of 21.1%. The export of **food products**, the division with the export value of EUR 2.7 billion and share of 9.4%, achieved a cumulative fall of 0.9%. The export of **rubber and plastic products** with the export value of EUR 2.2 bill. and share of 7.7% in total exports, recorded cumulative growth of 0.4%. Export of **machinery and equipment n.e.c.**, positioned on the fifth place, with a participation in total exports of manufacturing with 6.9%, records a cumulative growth of 22.4% and an export value of EUR 2.0 billion.

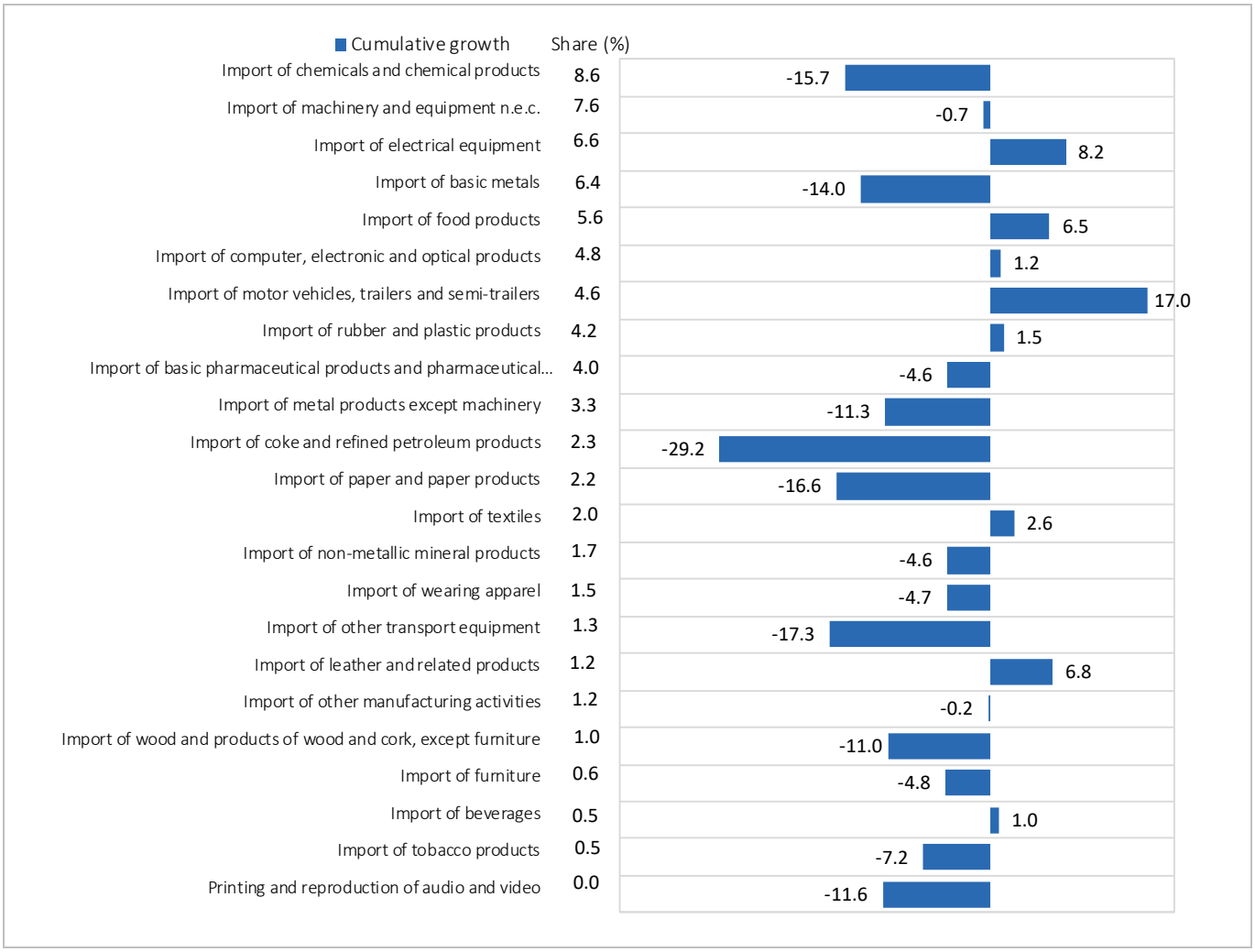
Chart 5.8. Export of manufacturing by divisions, cumulative growth (%) (2023 relative to 2022)



Imports of manufacturing in 2023, compared to the same period of the previous year, achieved a decrease of 4.7%. Out of 23 divisions, cumulative growth was recorded in 8 divisions, which together make up 29.5% of total manufacturing imports.

Import of **chemicals and chemical products** with the import value of EUR 3.2 bill, recorded cumulative fall of 15.7% (with the share in total imports of 8.6%, 9.6% was the share in 2022). Import of **machinery and equipment n.e.c.** (cumulative fall of 0.7% and import value of EUR 2.8 bill. and share of 7.6% in total imports (7.2% in 2022). Import of **electrical equipment**, with the value of EUR 2.4 bill. and share of 6.6% in total import achieved cumulative growth of 8.2%. Import of **basic metals** had the import value of EUR 2.4 bill. and share of 6.4% recorded cumulative fall of 14%. Import of **food products** is the division positioned on the fifth place according to the import value in total imports of manufacturing, had the share of 5.6%, and recorded cumulative growth of 6.5% and import value of EUR 2.1 bill.

Chart 5.9. Import of manufacturing by divisions, cumulative growth (%) (2023 relative to 2022)



5.5. AGRICULTURE, FORESTRY AND FISHING (A) (share of 3.4% in total export and 2.7% in total import)

Export in this section in 2023 realized decrease of 22.6%, as well as decreased share from 4.6% to 3.4% relative to the same period 2022. The cumulative drop of 31.7% in exports of cereals (except rice), leguminous crops and oil seeds, a group that makes up 57.2% of the entire section's exports in the observed period, contributed the most to this result. Export fall was achieved in export of pome and stone fruits, the next group by share (14.3%), as it recorded fall of 12.4% in 2023 relative to 2022.

Import recorded growth of 6.4% in 2023 relative to 2022, as well as the share of 2.7% in total imports. The group with the largest participation in the section (20.9%) - Cereals (except rice), leguminous and oil seeds - achieved an import growth of 5.6% in 2023. The next group, according to realized share (18.0%) related to Growing of vegetables, root and carotid plants - recorded a growth of 26.1% in 2023, as well as tobacco growing- that noticed growth in the import of this section of 12.6% and share of 10.7%.

5.6. MINING AND QUARRYING (B) (share of 5.1% in total export and 10.5% in total import)

The section of Mining and quarrying records the decrease in total export, from 6.5% in 2022 to 5.1% in 2023. The realized value of exports in 2023 is EUR 1 448.4 million, which is by 19.1% less than exports in 2022. This result is a consequence of the fall in the export of metal ores, a group that accounts for 98.5% of the exports of the entire section, and which achieved a fall of 18.9% compared to 2022.

Import of this section in 2023 amounts to EUR 3,9 billion, presenting the share of 10.5% in total import (11.3% in the same period 2022). In 2023 in the section of Mining and quarrying, recorded was import decrease of 12.4% relative to the same period 2022.

The fall in import was largely caused by 19.9% decrease in the import of crude oil and natural gas, a group that accounts for 78.8% of the entire sector's imports.

GLOSSARY

Unclassified goods by CA (2010), involves storage goods, goods in free zone, as well as goods for which customs tariff is not entered/ filled.

6. DOMESTIC TRADE

6.1. RETAIL TRADE TURNOVER (Division 47 of the Classification of Activities)

Retail trade turnover in 2023, relative to the same period 2022, increased by 8.7% at current prices and decreased by 1.9% at constant prices.

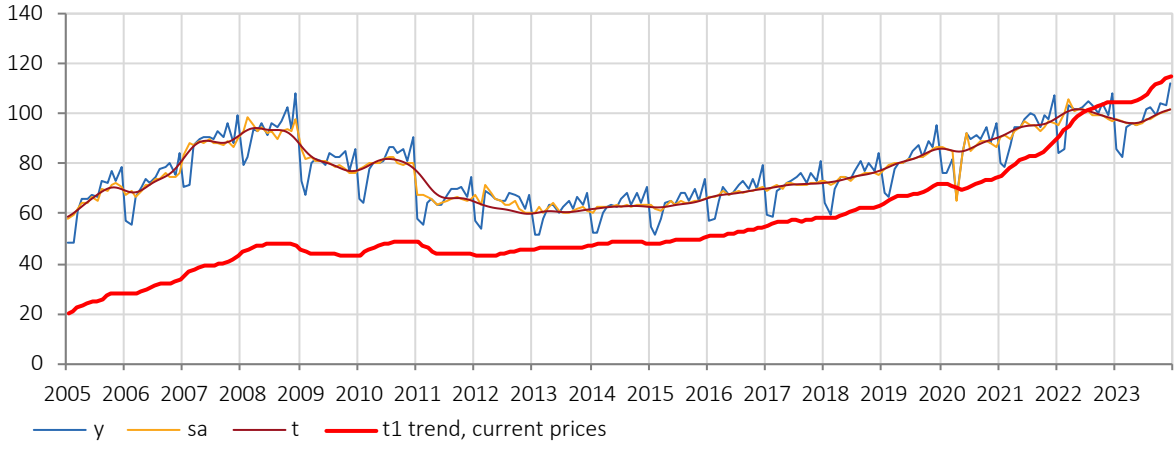
Table 6.1. Retail trade turnover, indices (comparison with the same period of the previous year)

	2021				2022				2023				2024
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1[1]
Current prices	104.8	124.2	114.3	118.9	124.0	121.4	123.0	120.1	111.7	106.1	107.8	109.5	**101.0**
Constant prices[2]	104.7	118.6	107.7	108.4	111.0	106.2	105.0	102.2	96.6	93.9	98.4	102.9	**97.0**

[1] Prognosis (obtained on the basis of time series model analysis).
[2] Indices are recalculated through monthly indices at constant prices.

The trend of growth in retail trade, which has been present for the last ten years, continues. After a stable level in the first half of 2023, in the third and fourth quarter, the trend of turnover of goods in retail trade at current prices records further growth. Turnover growth rates at current prices are significantly higher than at constant prices, which is a consequence of accelerated inflation.

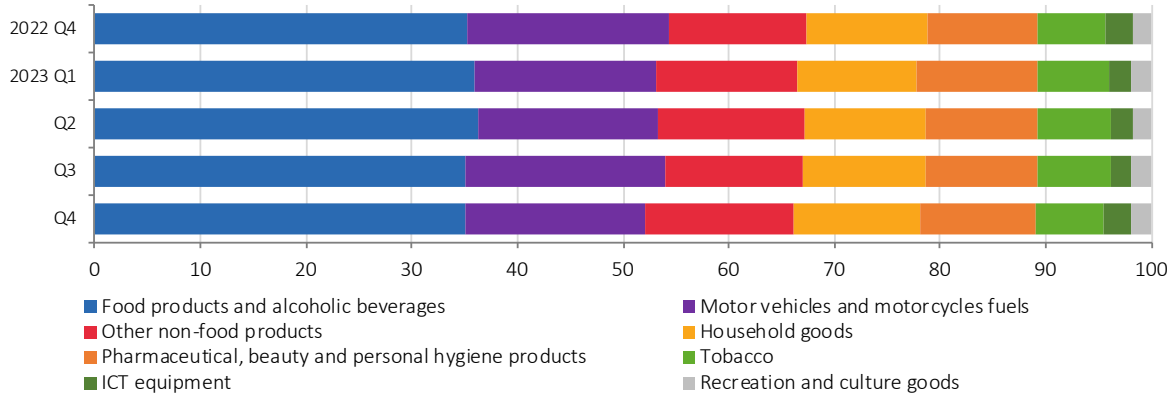
Chart 6.1. Components of time series of retail trade turnover at constant prices, indices
(y – original series, sa – series with excluded seasonal component, t – trend cycle component, average 2022 = 100)



Observed according to the basic aggregates of CA (2010), **in 2023**, compared to 2022, the highest turnover growth was achieved in trade of Food, beverages and tobacco (12.9%), followed by trade of Non-food products except motor fuels (11.2%). On the other hand, the category of Motor fuels recorded fall of 4%. In contrast to current prices, all observed commodity groups, in 2023, compared to 2022, recorded a drop at constant prices. The largest decrease in trade at constant prices was recorded in the categories Food, beverages and tobacco (decrease of 2.8%), Motor fuels (decrease of 2.2%), while the smallest decrease was recorded in the category Non-food products, except motor fuels (decrease of 0.8%).

Observed by the structure of trade divisions and commodity groups, **in the fourth quarter 2023,** the most notable were Food products and alcoholic beverages (35%), followed by Motor vehicles and motorcycles fuels (17.1%) and Other non-food products (14.1%).

Chart 6.2. Structure of retail trade turnover by trade divisions and commodity groups (%)



6.2. WHOLESALE TRADE TURNOVER (Division 46 of the Classification of Activities)

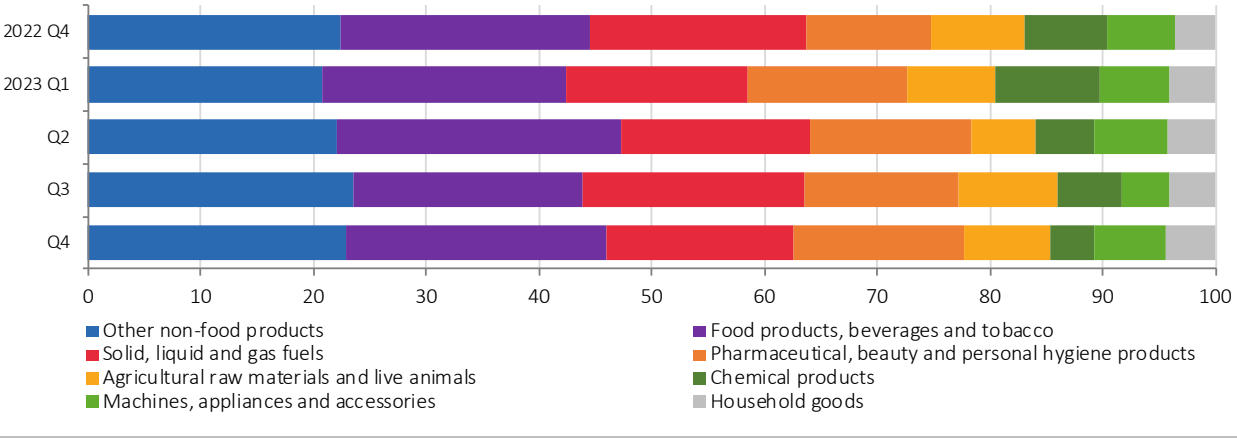
Wholesale trade turnover **in the fourth quarter 2023**, compared with the same quarter 2022 noted decrease of 0.4% at current prices. **In 2023**, wholesale trade turnover decreased by 1.1% relative to 2022.

Table 6.2. Wholesale trade turnover, indices (comparison with the same period of the previous year)

	2021				2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices	110.9	133.5	123.6	126.5	120.1	122.6	115.2	111.4	104.3	93.2	98.9	99.6

Observed by trade divisions and commodity groups, in wholesale trade turnover, in the fourth quarter of 2023, the most notable were Food products, beverages and tobacco (23.1%), Other non - food products (22.9%), and Solid, liquid and gaseous fuels, (16.6%).

Chart 6.3. Structure of wholesale trade turnover by trade divisions and commodity groups (%)



6.3. TURNOVER IN WHOLESALE AND RETAIL TRADE AND MOTOR VEHICLES REPAIR
(Division 45 of the Classification of Activities)

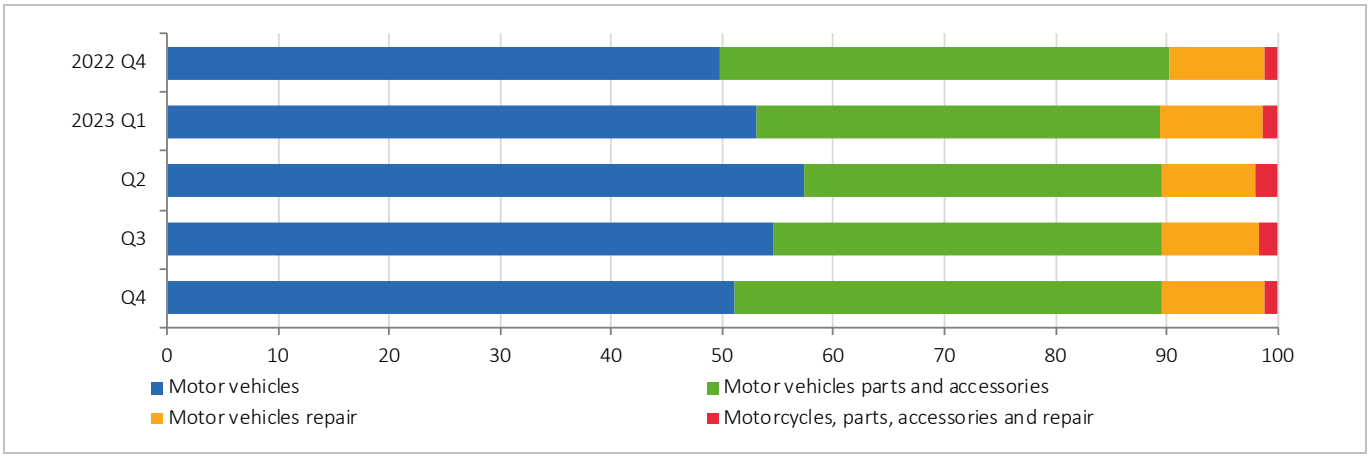
Turnover of goods in wholesale and retail trade and repair of motor vehicles in the fourth quarter 2023, relative to the same quarter 2022, recorded increase of 12.1% at current prices. In 2023, this division recorded increase of 12.0% relative to 2022.

Table 6.3. Turnover in wholesale and retail trade and motor vehicles repair, indices
(comparison with the same period of the previous year)

	2021				2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices	111.1	138.4	113.6	116.1	124.5	124.8	118.8	121.3	112.5	111.7	111.7	112.1

Observed by trade divisions and commodity groups, in the fourth quarter 2023, similarly to the previous quarters, in the structure of wholesale and retail trade turnover and motor vehicles repair, the most notable were Motor vehicles (51.1%), and Motor vehicles parts and accessories (38.4%).

Chart 6.4. Structure of wholesale and retail trade turnover and motor vehicles repair by trade divisions and commodity groups (%)



NOTE:

Goods turnover indices of retail trade at constant prices are obtained by deflating the indices at current prices with appropriate consumer price indices, which exclude: water (from public utilities systems), electricity and motor vehicles, motorcycles and parts thereof.

7. PRICES

In 2023, consumer prices saw an averge year-on-year growth of 12.1%. The largest influence on the growth of consumer prices was that of the prices of dairy products, vegetables, meat, electricity for households, bread and cereals.

Table 7.1. Consumer prices, year-on-year inflation rate (%) (quarter to the same quarter of the previous year)

	2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Consumer prices	8.7	10.6	13.3	15.1	16.0	14.5	11.4	8.0

Chart 7.1. Inflation rate measured by consumer price indices (%), (**monthly** – month to the previous month, with seasonal effect excluded; **annual** – month to the same month of the previous year)

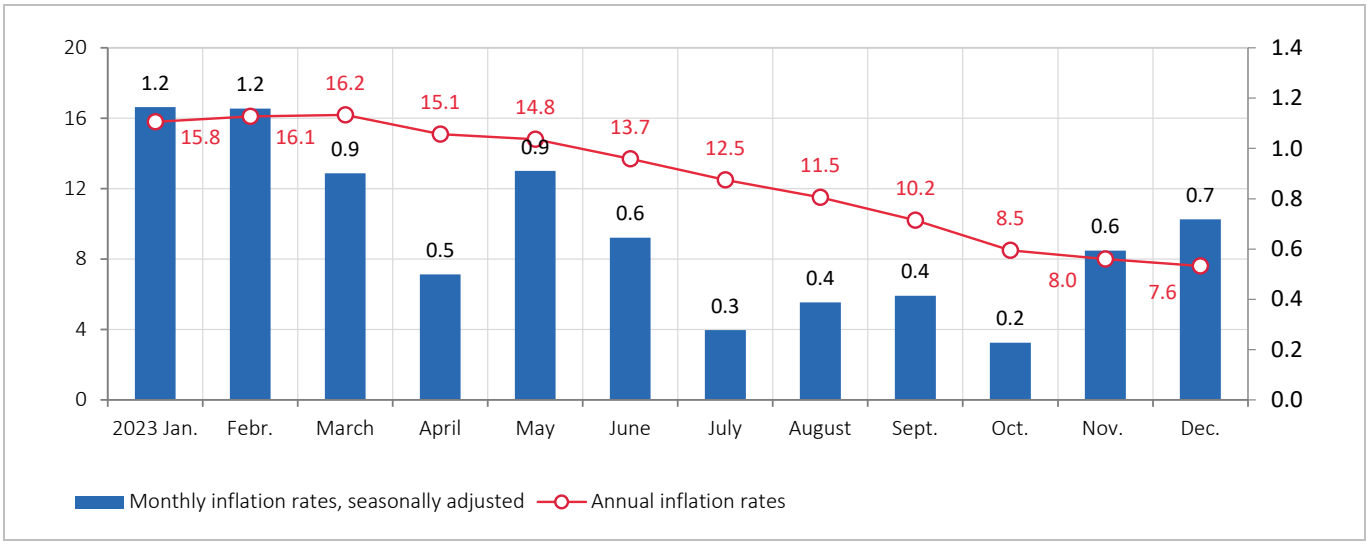
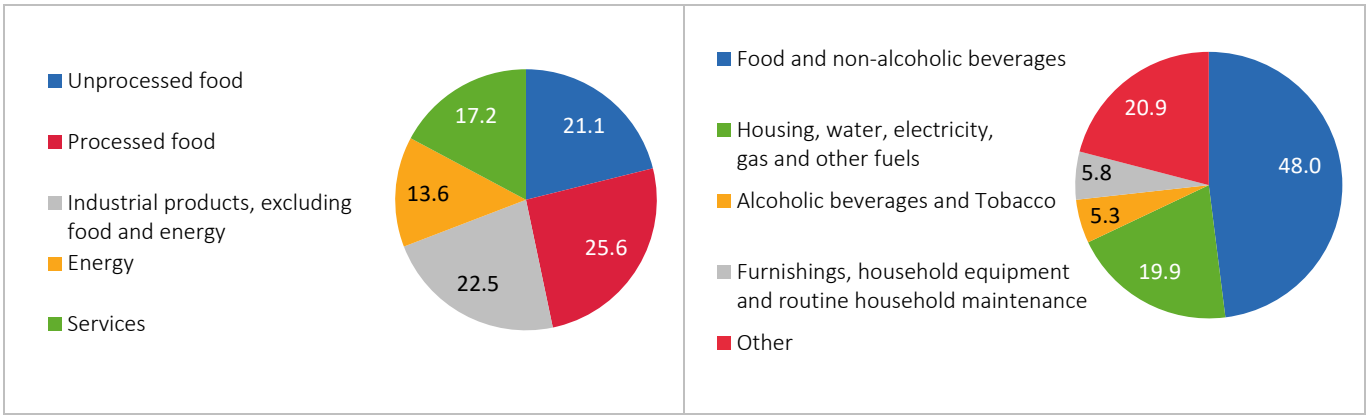


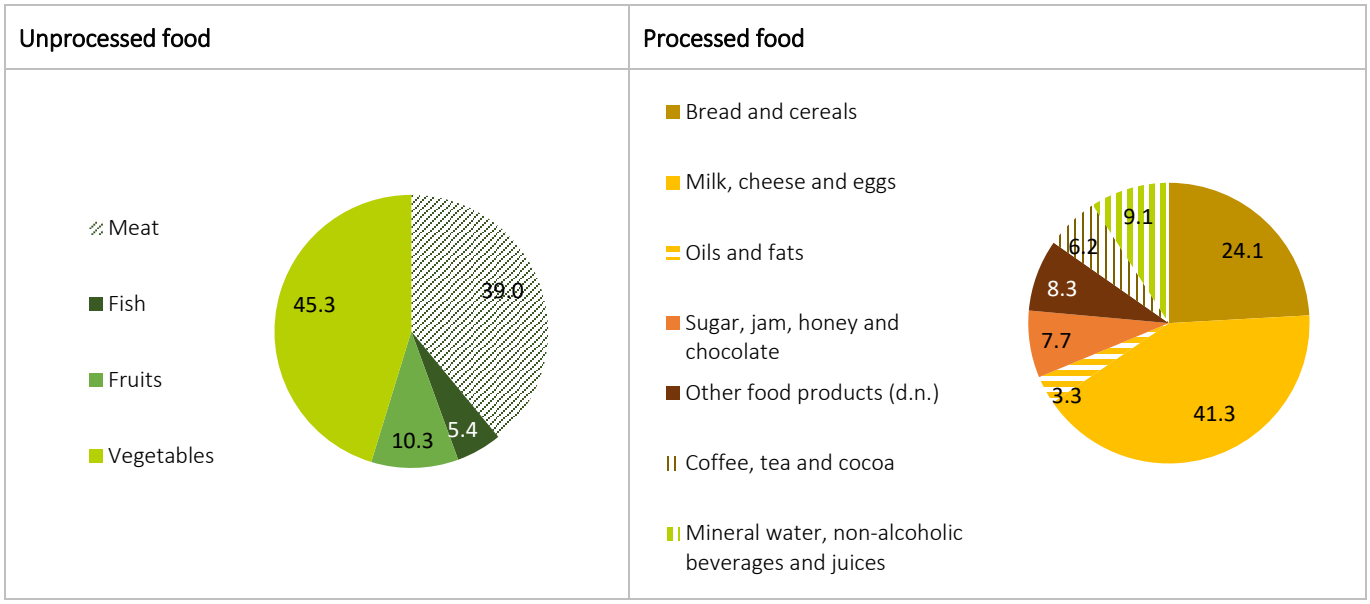
Chart 7.2. Structure of **the average annual consumer price growth rate** (of 16.0%), by purpose and main groups of products, 2023 (total = 100) (%)



7.1. DAIRY PRODUCTS, VEGETABLES, MEAT, BREAD AND CEREALS

(share in the annual consumer price growth rate – 35.5%)

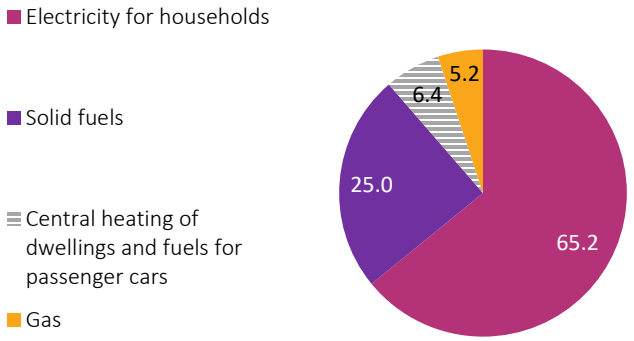
Chart 7.3. Structure of the **average annual** consumer price **growth rate of unprocessed food and processed food** in 2023 (тотал = 100) (%)



During the whole 2023, **dairy products (milk cheese and eggs) contributed the most to the average annual price growth,** both food prices and total consumer prices. The prices of dairy products in 2023 were, on average, higher by 25.5% (compared with 2022) and were mostly generated by the growth of the price of yoghurt (all kinds), fresh milk (with 2.8% and more milk fat and shelf life up to 21 days), fresh (white) cheese and hen eggs. The year-on-year growth of **vegetables price of 27.0%**, has started since 2023 to gradually decelerate and remained predominantly **affected by the price of onions, potatoes, tomatoes, paprika and carrots during the whole 2023.** The year-on-year growth of **meat price in 2023 (14.7%)** was mostly determined by the growth of the price of pork (with bones and boneless), lard (all kinds), sausages of pork, beef and mixed meat, and tea sausage, with a total share in the structure of the annual growth rate of meat price of 50.3% in 2023. The average rise in the price of **bread and cereals in 2023 (15.5%)** was conditioned primarily by the rise in the price of white bread, salty snacks (pretzel sticks, smoki, pretzels, etc.), burek (and salty pies), cookies, cakes, sweet pies, maffins, donuts, etc., accounting for 63.2% of the total growth rate of the price of bread and cereals.

7.2. ELECTRICITY FOR HOUSEHOLDS (share in the annual consumer price growth rate in 2023 – 9.0%)

Chart 7.4. Structure of the **average** consumer price **growth rate of electricity** in 2023 (total = 100) (%)



The average price growth of electricity for households in 2023 amounted to 21.0%, while production costs of the section Electricity, gas, steam and air conditioning supply for the domestic market recorded twice smaller increase (10.2%). The year-on-year growth rate of the price of the group Energy amounted to 10.7% with the largest share of the price of electricity for households (65.2%) and price of solid fuels (25.0%), altogether accounting for 14.0% of the year-on-year consumer price inflation in 2023.

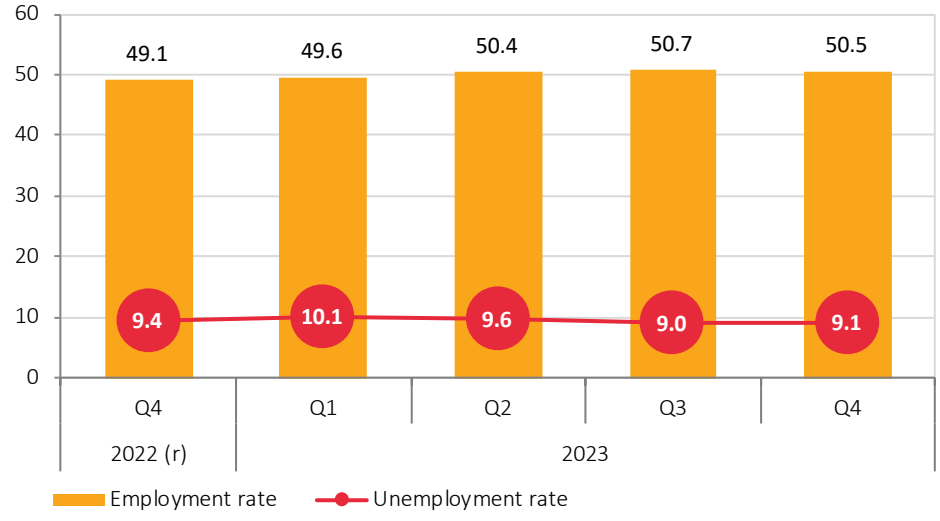
8. LABOUR MARKET[24]

In the Republic of Serbia in the fourth quarter of 203 there were 2,870 million employed persons, 288,2 thousand unemployed persons and 2,524 million persons outside labour force aged over 15.

The unemployment rate was 9.1% и, by 0.1 pp. compared with the third quarter of 2023, the number of unemployed being up by 2,5 thousand persons, and the number of persons outside labour force by 4,7 thousand.

When looking at regions, the unemployment rate in the fourth quarter of 2023, compared with the previous quarter, saw a fall in the Region of Southern and Eastern Serbia (from 11.4% to 11.2%) and in the Region of Vojvodina (from 10.1% to 9.2%), while growth was recorded in the Belgrade Region (from 6.4% to 6.7%) and in the Region of Sumadija and Western Serbia (from 8,8% to 9,9%).

Chart 8.1. Movement of the employment and unemployment rates for persons aged 15 and over (%)[25]



Labour market trends in the fourth quarter of 2023 are characterized by the increase in the employment rate by 1.3 pp. and decrease in the unemployment rate by 0.3 pp., as well as in the rate of the outside labour population by 1.3 pp., year-on-year.

(r) – revised data, based on demographic estimates based on final data from the 2022 Census of Population, Households and Dwellings.

Table 8.1. Activity, employment and unemployment rate

	2022 (r)				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Activity rate (%)	54.4	54.8	55.1	54.2	55.2	55.8	55.8	55.6
Employment rate (%)	48.5	50.0	50.2	49.2	49.6	50.4	50.7	50.5
Unemployment rate (%)	10.9	8.9	9.0	9.4	10.1	9.6	9	9.1

[24] Based on the Labour Force Survey.

[25] Since 2021, the Statistical Office of the Republic of Serbia has been conducting the Labour Force Survey according to the new, revised Eurostat methodology. The methodology was changed in line with the Regulation of the European Parliament and of the Council that entered into force on 1 January 2021. More details on the methodology changes and their effects on major statistical indicators are available in the special publication that can be found on: https://www.stat.gov.rs/vesti/20210628-anketa-o-radnoj-snazi-nova-metodologija/

Table 8.2. Labour market – persons aged 15 and over

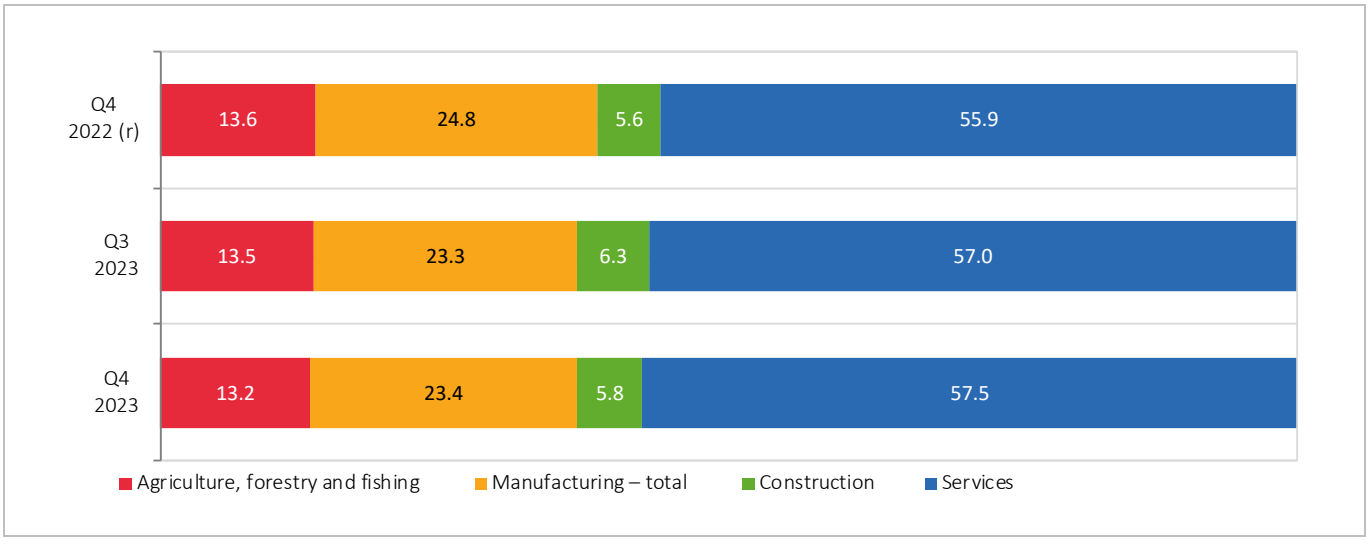
	Current quarter	Previous quarter		The same quarter of the previous year (r)	
	Q4 2023 (in thous.)	Q3 2023 (in thous.)	Change, %	Q4 2022 (in thous.)	Change, %
Unemployment	288.2	285.7	0.9	291.7	-1.2
Employment	2 870.2	2 888.5	-0.6	2 818.1	1.8
	%	%	Change. pp.	%	Change. pp.
Unemployment rate	9.1	9.0	0.1	9.4	-0.3
Employment rate	50.5	50.7	-0.2	49.2	1.3

(r) – revised data

Observed by sections, the largest share of the number of employed persons in the fourth quarter of 2023 was recorded in Services (57.5%), then in Manufacturing (23.4%) and Agriculture (13.2%), and the lowest in Construction (5.8%). When compared with the previous quarter, a fall of the share of employed persons was recorded in Agriculture, forestry and fishing (from 13.5% to 13.2%) and Construction (from 6.3% to 5.8%). On the other hand, the share of employed persons went up in Services (from 57% to 57.5%) and Manufacturing (from 23.3% to 23.4%).

In year-on-year periodicity (quarter IV of 2023 – quarter IV of 2022), the largest fall of the share of employed persons was recorded in Agriculture, forestry and fishing (from 13.6% to 13.2%), and Manufacturing (from 24.8% to 23.4%), but growth was recorded in Services (from 55.9% to 57.5%) and Construction (from 5.6% to 5.8%).

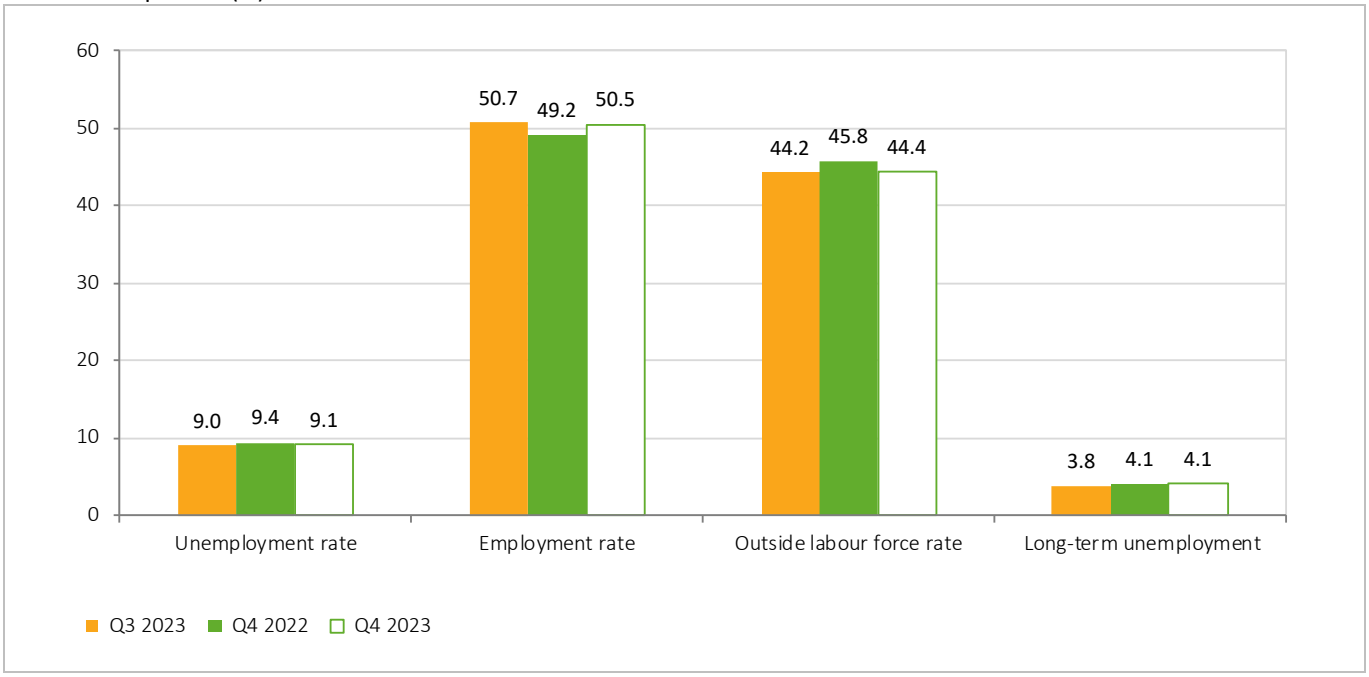
Chart 8.2. Share of employed persons by sections (%)



(r) – revised data

Labour market trends remained considerably resilient to the challenges in the global environment and to economic activity deceleration, primarily owing to the macroeconomic stability established in the previous period.

Chart 8.3. Labour market – major indicators for the previous quarter, the same quarter of the previous quarter and current quarter (%)



8.1. COMPARISON WITH THE PREVIOUS QUARTER

When compared with the previous, third quarter of 2023, the number of employed persons fell by 18.4 thousand, and the number of unemployed persons and persons outside labour force grew by 2,5 and 4,7 thousand, respectively, which led the fall of the employment rate of 0.2 pp. and slight growth of the unemployment of 0.1 pp. as well as of the rate of outside labour force population of 0.2 pp.

The number of employed youth (aged 15–24) fell by 10,5 thousand, while the number of youth outside labour force grew by 9,5 thousand. This trend led to the fall of the employment rate and to the growth of the rate of outside labour force population of 1.5 pp, each. It also drove the unemployment to go up by 1.1 pp., compared with the third quarter of 2023.

The long-term unemployment rate was 4.1%, by 0.3 pp. more than in the third quarter of 2023.

Observed by sex, the unemployment rate in the fourth quarter of 2023, compared with the previous quarter, saw a growth of 0.3 p.p. among men and a fall of 0.1 pp. among women.

The unemployment rate among men decreased only in the Region of Vojvodina, from 10.4% to 9.2%, while in the other regions it increased: in Belgrade Region from 6.4% to 6.6%, in Region of Sumadija and Western Serbia, from 7.7% to 9% and in Region of Southern and Eastern Serbia, from 9.7% to 10.8%.

As for the unemployment rate among women, fall was recorded in the Region of Vojvodina from 9.6% to 9.2%, and in the Region of Southern and Eastern Serbia, from 13.5% to 11.8%, while growth was recorded was noted in the Belgrade Region from 6.5% to 6.8%, and Region of Sumadija and Western Serbia, from 10.1% to 11%.

Observed by professional status, and compared to the previous quarter, the number of employed persons increased only in the category of self-employed (by 1.7%), while fall was recorded in contributing family members (0.9%), as well as in employed persons (1.1%).

Table 8.3. Employment by professional status, comparison Q3 2023 – Q4 2023

	Q3 2023 (in thous.)	Q4 2023 (in thous.)	Change, %
Employed persons – total	**2 888.5**	**2 870.2**	**-0.6**
Self-employed	473.3	481.4	1.7
Employed	2 246.8	2 221.9	-1.1
Contributing family members	168.4	166.8	-0.9

8.2. COMPARISON WITH THE SAME QUARTER OF THE PREVIOUS YEAR

Compared with the same quarter of the previous year, the number of unemployed persons decreased by 1.2% (from 291,7 thousand to 288,2 thousand). At the same time, the number employed persons grew by 1.8% (from 2 818,1 in the fourth quarter of 2022 to 2 870,2 in the fourth quarter of 2023).

The youth unemployment rate (aged from 15 to 24) in the fourth quarter of 2023 amounted to 26%, by 1.9 p.p. more than in the third quarter of 2022.

The long-term unemployment rate was 4.1% in the fourth quarter of 2023, unchanged relative to the same quarter of the previous year.

Observed by sex, the unemployment rate in the fourth quarter of 2023, compared with the same quarter of the previous year, saw a fall among of 0.8% among men and a slight growth of 0.4 pp. among women.

Observed by regions, the unemployment rate among men saw a growth in almost all the regions: in Region Vojvodina, from 7.8% to 9.2%, in Region of Sumadija and Western Serbia, from 8.9% to 9%, and in Region of Southern and Eastern Serbia 7.6 to 10.8%, with the exception of Belgrade Region, where a slight fall from 7.4% to 6.6% was recorded.

In contrast, the unemployment rate went down among women in all four regions: in Belgrade Region, from 7.4 to 6.8%, in Region of Southern and Eastern Serbia, from 12.4% to 11.8%, in in Region of Sumadija and Western Serbia, from 13.5% to 11%, with the exception of the Region of Vojvodina, where the unemployment rate went up from 7.3% to 9.2%.

Observed by professional status, relative to the same quarter of 2022, the number of employed persons increased in the category of the contributing family members (by 2.9%), employed persons (by 1.9%) and self-employment (by 1.4%).

Table 8.4. Employment by professional status, comparison Q4 2022 – Q4 2023

	Q4 2022 (p) (in thous.)	Q4 2023 (in thous.)	Change, %
Employed persons – total	**2 818.1**	**2 870.2**	**1.8**
Self-employed	474.5	481.4	1.4
Employed	2 181.4	2 221.9	1.9
Contributing family members	162.2	166.8	2.9

GLOSSARY

Active population (labour force) comprises all employed and unemployed persons aged 15 and 24.

Employed persons are persons aged 15-89 and over who performed a paid job for at least one hour in the reference week (in cash or in kind), as well as persons who had an employment but who were absent from work in that week. According to the Classification of Employment Status, they are divided into *self-employed, employed and contributing family member.*

Self-employed are persons persons working solely in their own enterprise, institution, privately- owned store or on an agricultural holding, as well as persons performing solely a professional activity or any other job for own account. Self-employed are persons who solely define the conditions of their work (as well as of their employees) and bear the risk for their work.

Employed workers are persons who work for an employer in any ownership sector, whether having a formal employment contract or working on an oral contract. Family members who help in performing family business and are paid for their work are considered employed workers.

Contributing family members are persons who help another family member in running family business or agricultural holding, and are not paid for that work. Those persons are considered employed even if they are not paid for their work because they have benefits, such as accommodation, food, etc.

Unemployed persons are persons aged 15-74 who did not perform any paid job in the reference week, sought actively a job during four weeks preceding the reference week, and who were ready to start working within two weeks after the reference week

Outside labour force population comprises all persons aged 15 and more who are classified in the employed or unemployed population. Inactive persons include students, retired persons, houseworkers, as well as all persons who did not perform in the reference week any paid job, did not actively seek employment or were not able to start working within two weeks after the end of the reference week.

Activity rate is the share of active population in the total population aged 15 and over.

Employment rate is the share of employed persons in the total population aged 15 and over.

Unemployment rate is the share of unemployed persons in the total number of active population aged 15 and over.

Long-term unemployment is the share of persons being unemployed more than a year in the labour force (the employed and unemployed) aged 15 and over.

Outside labour force rate is the percentage of inactive population in the total population aged 15 and over.

9. SALARIES AND WAGES

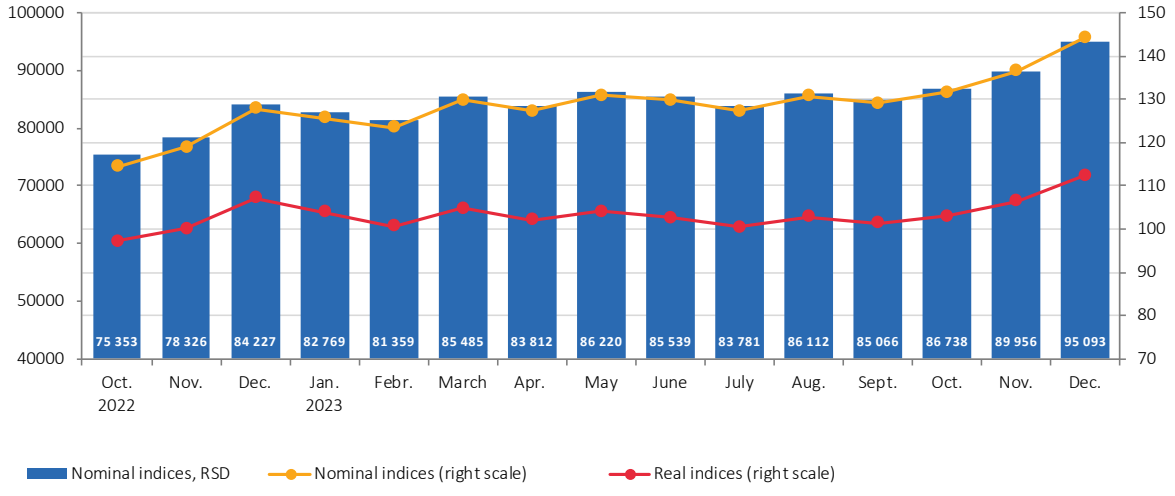
Average net salaries and wages in the Republic of Serbia for the fourth quarter of 2023 amounted to 90 597 dinars. Compared with the same period of the previous year, they increased nominally by 14.2% and by 5.8% in real terms. Compared with the previous, third quarter of 2023, they increased nominally by 6.6% and by 5.6% in real terms.

In 2023 the calculated average salaries and wages amounted to 86 007 dinars and compared with the previous year, they increased nominally by 14.8% and 2.4% in real terms.

Table 9.1. Net salaries and wages – real and nominal indices (comparison with the same period of the previous year)

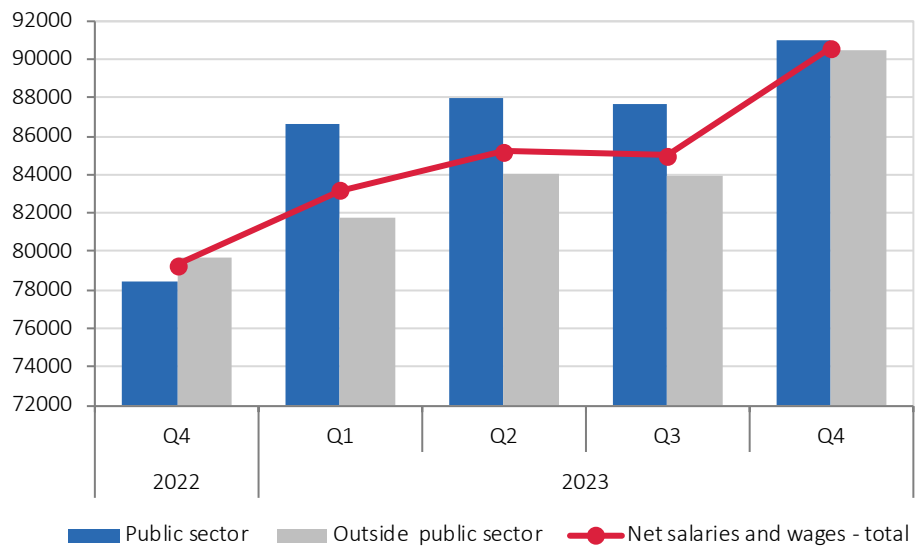
	2021				2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Real indices	105.8	106.4	104.5	104.5	104.3	102.7	101.3	98.6	99.5	100.8	102.5	105.8
Nominal indices	107.3	109.8	109.2	112.1	113.4	113.6	114.8	113.4	115.5	115.4	114.1	114.2

Chart 9.1. Net salaries and wages, movements of nominal and real indices (average 2021 = 100)



Since the beginning of the year, nominal salaries and wages have followed the real economy and budget, adapting themselves at the same time to trade indicators, i.e. offer and demand for labour force. Average net salaries and wages recorded also an upwards trend in December 2023, amounting to 95 093 dinars, reaching a year-on-year growth of 12.9 nominally, i.e. of 4.9% in real terms. The decision on increasing the minimal pay from 201,1 dinars per hour of work in 2022 to 230 dinars in 2023 influenced the growth of salaries and wages. Average net salaries and wages, expressed in euros, as an indicator of living standard and international economic competitiveness of Serbia, recorded growth also in December 2023, reaching a value of 812 euros or year-on-year growth of 13.1%, approximately close to the nominal growth of salaries and wages due to the relative stability of the exchange rate dinar to euro.

Chart 9.2. Net salaries and wages in the public sector and outside it (in RSD)



Average net salaries and wages for the fourth quarter of 2023 amounted to 90 974 dinars in the public sector and to 90 445 dinars outside it.
The ratio of the movement of salaries and wages in and outside the public sector was variable for a long period of time, knowing that a successive growth of salaries and wages in the public sector led several times to their growth also outside the public sector, which resulted in the increase of total salaries and wages. The policy of salaries and wages management in the public sector proved itself as the catalyst of the impulse of domestic demand and regulator of labour market fluctuations . Since the beginning of 2023, salaries and wages in the public sector have been at a higher level than net salaries and wages outside it.

Average net salaries and wages in the public sector, 2023

Public sector – total	RSD 88 332
Public State-owned enterprises	RSD 98 855
Public local enterprises	RSD 78 849
Administration – all levels	RSD 94 612
Government level	RSD 98 724
Autonomous province level	RSD 101 007
Local authorities level	RSD 74 095
Human health and social work	RSD 86 760
Education and culture	RSD 81 123

When comparing net salaries and wages by CA (2010), one notices that the largest real growth in 2023, compared with 2022, was realised in the sections Wholesale and retail trade and repair of motor vehicles (3.2%), Transport and storage (3%), and Art, entertainment and recreation (2.9%).

The highest net salaries and wages in 2023 was recorded in the following divisions: Computer programming and consultancy activities (264 620 dinars), Air transport (193 390 dinars), Scientific research and development activities (180 888), Extraction of crude petroleum and natural gas (163 621), and Administrative activities; counceling related to administration (153 428).

In all other divisions salaries and wages ranged from 47 377 dinars (Food and beverages service activities) to 144 531 dinars (Financial service activities, except insurance and pension funds).

Observed by regions, the highest average net salaries and wages i 2023 were paid in Belgrade Region, 109 431 dinars. In Region Vojvodina average salaries and wages totaled 81 386 dinars, in Region of Southern and Eastern Serbia, 73 373 dinars, and in Region of Sumadija and Western Serbia, 71 642 dinars.

Chart 9.3. Real growth of net salaries and wages by CA (2010) sections (2023 to 2022)

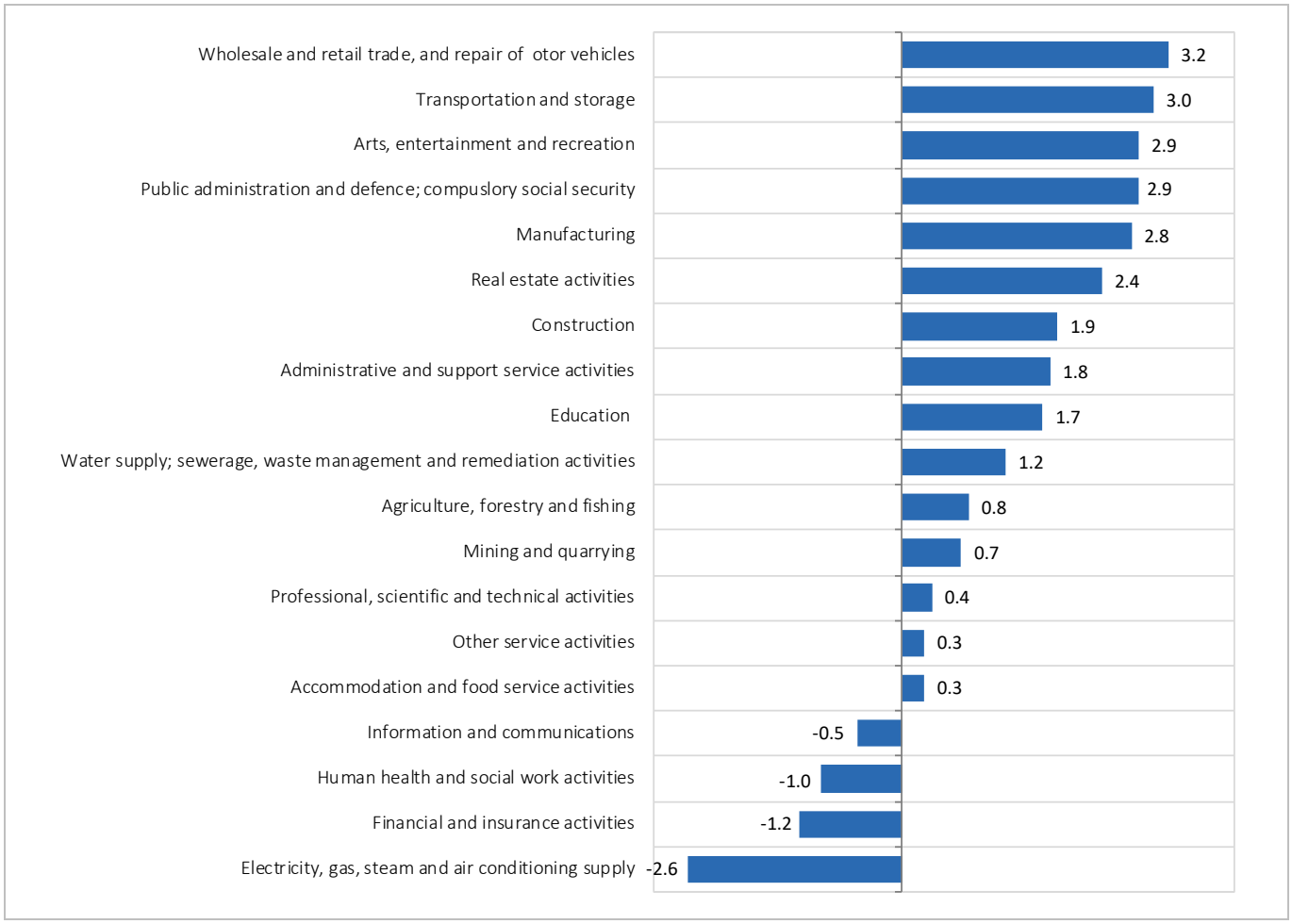
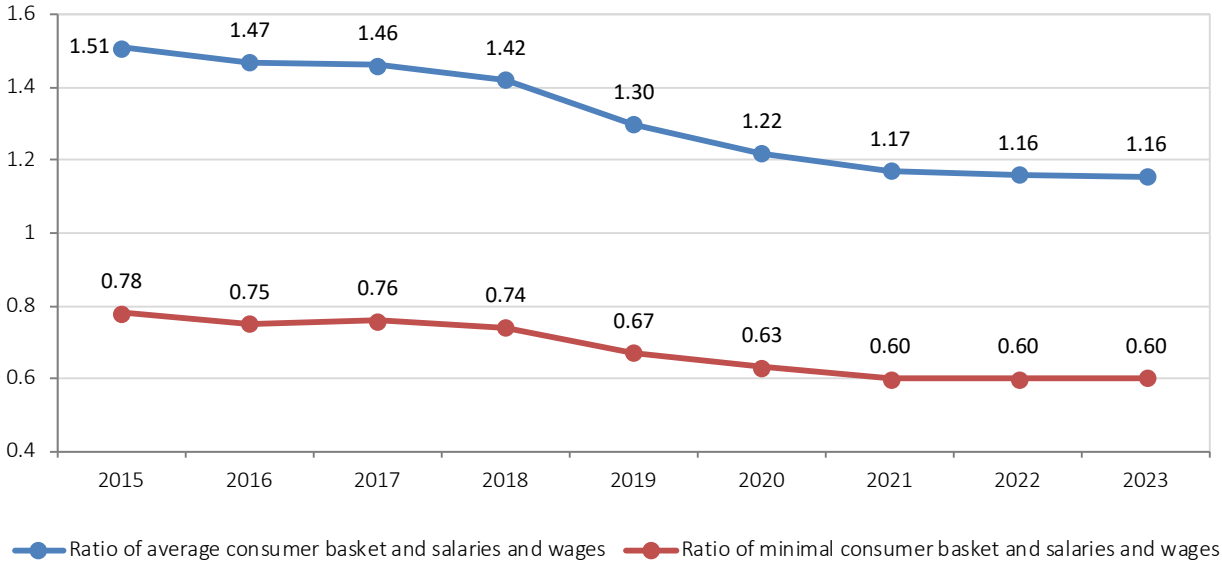


Chart 9.4. Ratio of consumer basket[26] and net salaries and wages



Increased population living standard over 2015–2023 is primarily the result of a dynamic growth of salaries and wages. In 2015, the ratio of the average consumer basket and average net salaries and wages was 1.51, while in 2023 it was 1.16, indicating that, while in 2015 1.51 of the average salaries and wages was needed for the average consumer basket, in 2023 this ratio was improved so that 1.16 of the average salaries and wages was necessary for the average consumer basket.

The ratio of net salaries and wages and average consumer basket in the fourth quarter of 2023 indicates that the purchasing power grew, when compared with the previous quarter. To cover the average consumer basket in the fourth quarter of 2023 1.12 average salaries and wages (in the third quarter of 2023, 1.18), and to cover the minimum consumer basket only 0.58 of average (in the third quarter 0.61).

When compared with the same quarter of the previous year, the ratio of net salaries and wages and average consumer basket also showed that purchasing power grew, when knowing that in the fourth quarter of 2022 1.17 average salaries and wages were needed to cover the average consumer basket, while 0.61 average salaries and wages were needed to cover the minimum consumer basket.

Observed by towns, in the fourth quarter of 2023, purchasing power (ratio of the average consumer basket and average salaries and wages) above the average of the Republic (1.12) was recorded in Belgrade (0.91), Novi Sad (1.06) and Nis (1.10), while in other statistically monitored towns, average salaries and wages covered the minimum, but not average household consumer basket.

[26] *Minimum consumer basket* – refers household consumption, which provides for basic living and working capacity of household members, bearing in mind the optimal biochemical composition of food (carbohydrates, proteins, fats and calories). The total value of the minimum consumer basket is the sum of expenses for food and other products and services making up individual household consumption.
Average consumer basket – refers to the consumption of products and services of the individual consumption of an average household.
Since January 2011 New Average and New Minimum Consumer Basket have been published, which are calculated starting with January 2008 according to the new methodology of the Statistical Office of the Republic of Serbia.

10. TOURISM

Tourism, having a multidimentional and complex nature, is an activity intertwined with many other economic activities, as, besides providing accommodation and restaurant services, indispensable activities related to tourism are the following ones: transmport, cultural and recreational activities, payment operations, etc. It not only promotes and forms the national identity of a country but it also plays a big role in its economy – in some regions it is even the only factor for creating employment for the local population, and generally, the only factor of sustainable development — all the reasons to deserve special analytical attention.

10.1. TOURIST OVERNIGHT STAYS

Tourism in the Republic of Serbia started its expansion in 2015, primarily by means of incentive measures of domestic tourism, but also by increased interestst of foreign tourists in this period. Expressed in number of overnight stays, tourist turnover was going up until 2019, when a record number of 10.1 million overnight stays was achieved. The year 2020 brought contraction of tourIsm activity and a fall of the number of overnight stays of 6.2 million, where domestic tourists spent almost 5 million, and foreign ones about 1.3 nights. The year 2021 brought recovery and the number of overnight stays grew by 8.2 million. The upwards trend, expressed in tourist overnight stays in the Republic of Serbia, continued in the previous year 2022, when 12,2 million of overnight stays were recorded, 50% more than in 2021. Even though domestic tourists were predominant in the number of overnight stays, there were twice more foreign tourists in our country (4,9 million) than in 2021.

In the fourth quarter of 2023, the number of spent tourist nights amounted to 2,7 million, by 6.7% more than in the fourth quarter of 2022. Domestic tourists accounted for 50.3% and foreign ones for 49.7% of the total number of overnight stays.

Chart 10.1. Tourist overnight stays – domestic, foreign and total; quarterly and annual data

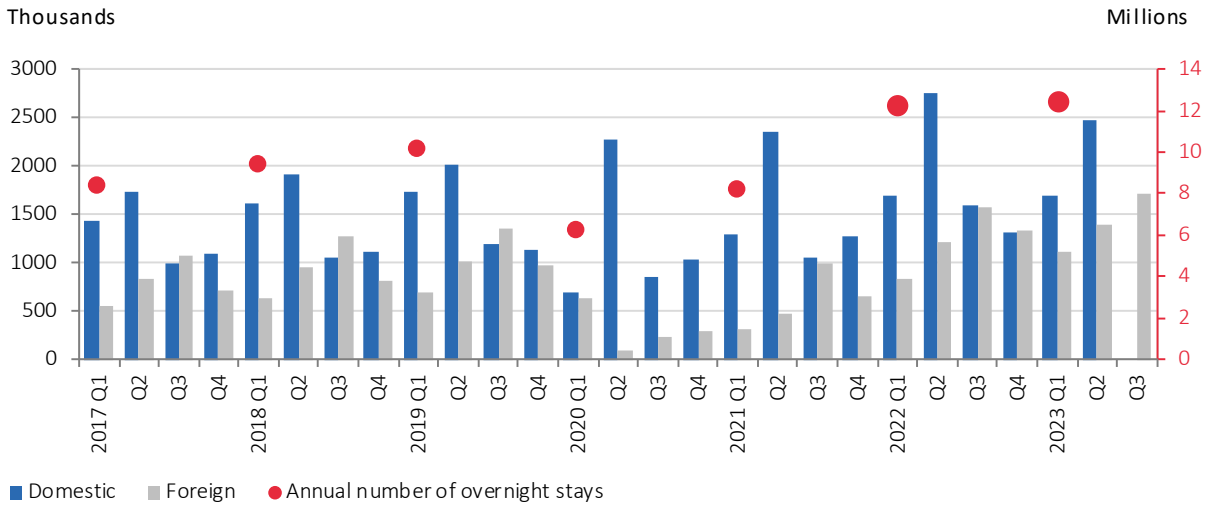


Table 10.1. Tourist overnight stays, indices (comparison with the same period of the previous year)

	2021				2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Total	76.1	228.4	133.3	148.2	156.3	164.1	129.2	171.7	116.0	106.6	96.9	93.3
Domestic tourists	91.9	188.5	103.6	123.5	122.2	130.8	117.2	151.4	103.9	100.8	89.6	86.0
Foreign tourists	48.3	535.8	412.6	220.0	270.1	253.8	157.5	204.7	134.4	114.5	109.6	102.2

10.2. MAJOR TOURIST RESORTS

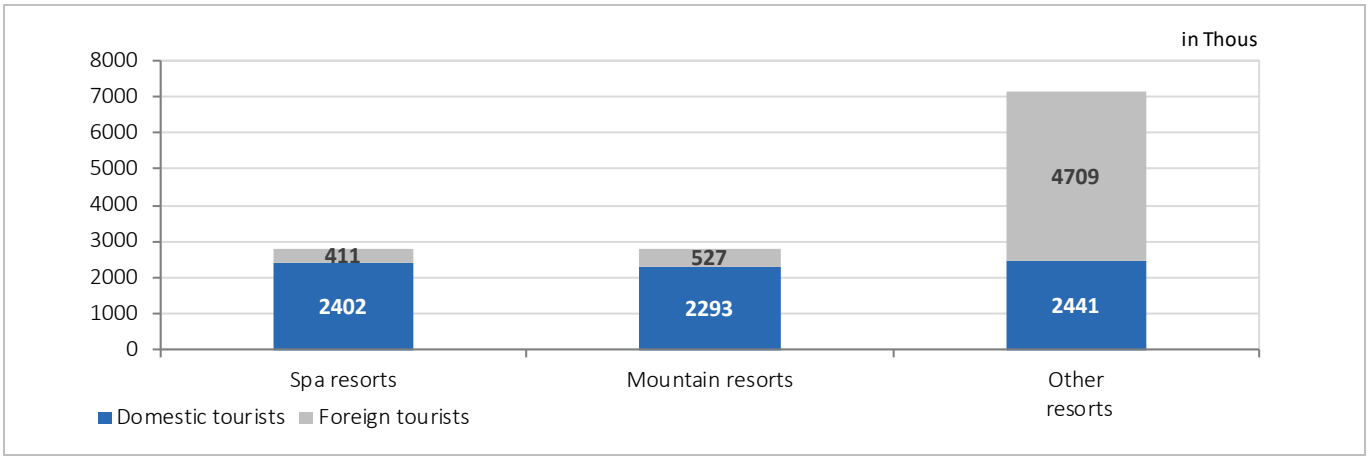
Expressed in number of tourist overnight stays[27], the most frequently visited tourist resorts in 2023 were **Other tourist resorts**, with 7,1 million overnight stays (or about 55.9% of total overnight stays), by 6.8% more than in 2022. This category comprises Belgrade (3,5 million overnight stays) and larger towns of Serbia (Novi Sad, Subotica, Nis). Most of the visitors to Belgrade were foreign tourists (86%), and a similar situation was recorded in Novi Sad and Subotica, where about 72% and 57.6% of visitors were from abroad, respectively.

Mountain resorts, second by category in a row of resorts according to the number of tourist overnight stays in 2023 recorded 2,8 million overnight stays, accounting for 22.1% of total number of overnight stays, by 0.7% more than in 2022. Zlatibor attracted most of the tourists (1,1 million), mainly coming from the Republic of Serbia (843,4 thousand). Kopaonik recorded 590 thousand tourist overnight stays, of whom most were from the Republic of Serbia (455 thousand). These two mountains accommodated about 59.8% of the total number of tourists that spent nights in mountain centers.

Spa resorts there were in 2023 about 2,8 million nights spent, by 7.9% less than in the same period of the previous year. Tourists were mainly from Serbia (85.4%), and the most visited were Vrnjacka Banja with 686,6 thousand visitors, followed by Sokobanja (656,5 thousand), Banja Vrdnik (220 thousand), Lukovska Banja (189,1 thousand), and other spas.

The largest growth, expressed in number of overnight stays in 2023 to 2022, was recorded in Rudnik (growth of 316.9), Selters banja (growth of 169.3%), Divcibare and Becej (growth of 71.5%, each).

Chart 10.2. Tourist overnight stays by selected tourist resorts, January-December 2023.



[27] The sum of data by type of resorts (spas, mountains, other resorts) does not give the correct number of tourist overnight stays in the Republic of Serbia knowing that the areas of some tourist resorts belong at the same time to different resorts (e.g. they are at the same time spa and mountain resorts).

10.3. COUNTRY OF ORIGIN OF FOREIGN TOURISTS

In 2023, foreign tourists from about 50 different countries visited the Republic of Serbia. Tourists from Europe were the most numerous to have spent nights (82.1%).

Three countries which tourists spent the largest number of nights were the Russian Federation (665,8 thousand), Turkey (521,3 thousand), and Bosnia and Herzegovina Bosnia and Herzegovina (351,5 thousand). Visitors from Germany were at the fourth place (282,3 thousand, then from China (282,1 thousand), North Macedonia (260,3 thousand) and Romania (254,4 thousand). Overnight stays of tourists from these seven countries account for 46.9% of the total number of nights spent in 2023.

For the purpose of comparison, chart 10.4 presents the number of tourist overnight stays in the first nine months of 2022

Chart 10.3. Tourist overnight stays by countries they came from, 2023

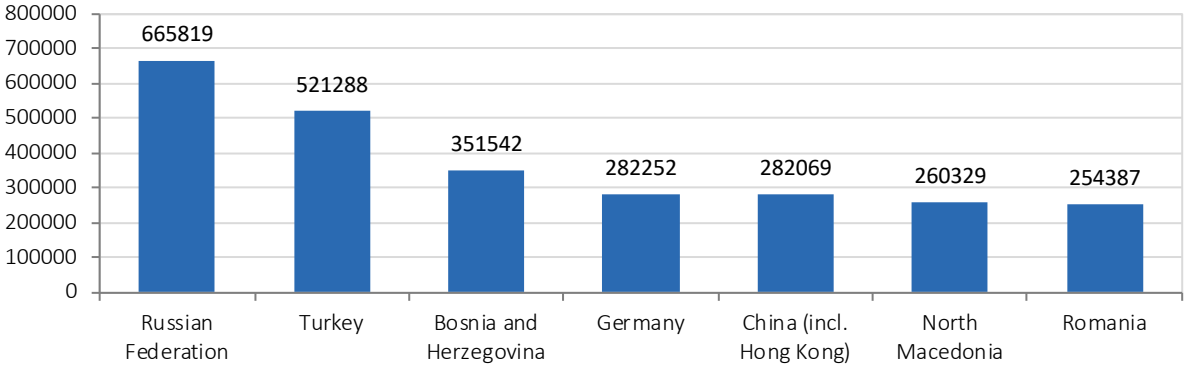
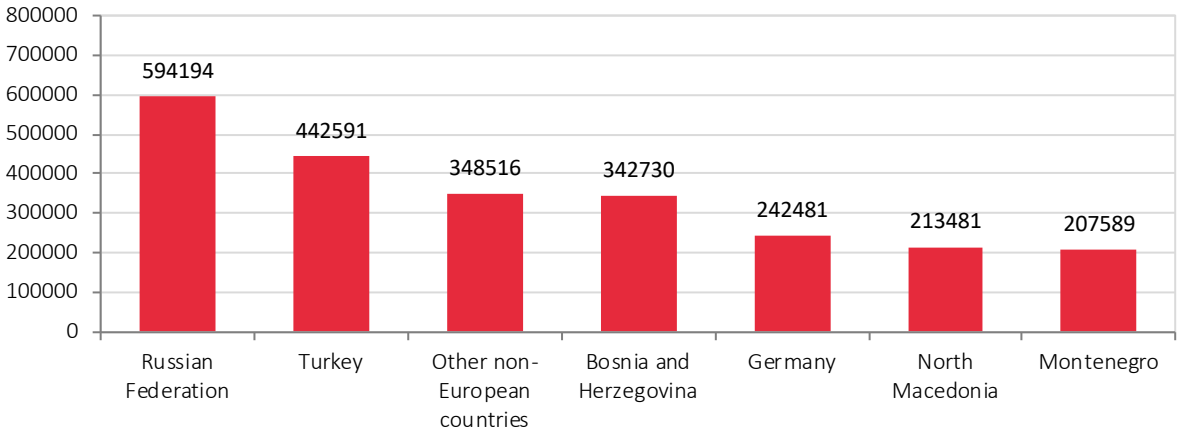


Chart 10.4. Foreign tourist overnight stays by countries they came from, 2022



Note: in all the publication of the Statistical Office of the Republic of Serbia. Since 2022 data on tourism turnover have been published on the basis of the processing of data retrieved from the administrative source, Central Information System in Caterign and Tourism (eToutist). Until December 2021 included, data were collected, processed and published on the basis of a statistical survey on tourist arrivals and overnight stays in accommodation facilities (TU-11).

All indices of tourism turnover (tourist arrivals and overnight stays) in 2022 are calculated based on the data of the Central Information System in Catering and Tourism (eTourist) for 2022 and 2021. With the change of data source, and therefore of the coverage, the survey-based results (TU'-11, for the previous year) and those from the administrative source (eTourist) are not comparable.

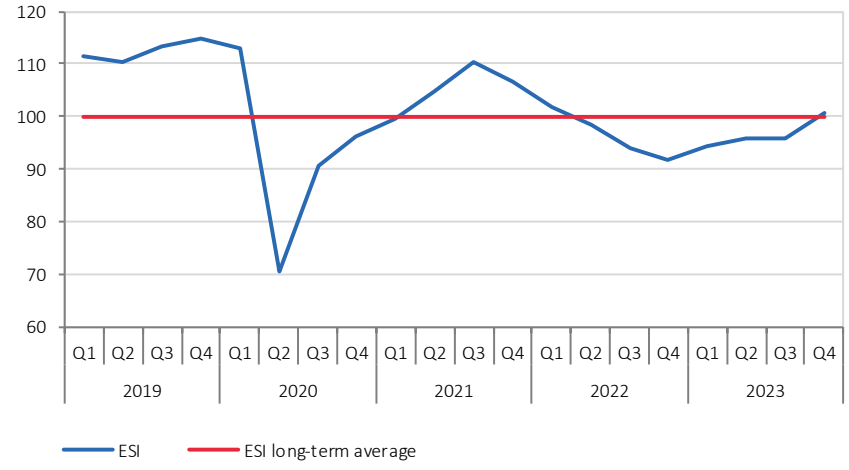
11. ECONOMIC SENTIMENT INDICATOR

11.1. ECONOMIC SENTIMENT INDICATION - *ESI*

Economic Sentiment Indicator - ESI is a composite indicator which purpose is to present producers' and consumers' perceptions about economic movements and economic stability. As expectations of business subjects can be an important signal of changes in economic trends, this indicator is used to assess economic situation, make flash estimates, for scientific and analytical use, as well as for international comparisons and creating economic policies.

ESI has been developed by the General Directorate for Economic and Financial Affairs of the European Commission (DG ECFIN). It is obtained through five different surveys of producers and consumers, which attitudes provide a reliable indication of economic movements, based on which confidence indicators are created. Confidence indicators of the analysed sections are weighted in order to reflect as good as possible their influence on economic activity – manufacturing 40%, service activities 30%, household consumption 20%, construction 5% and retail trade 5%. A value of ESI index exceeding 100 indicates improvement or economic activity, while that below 100 suggests decline[28].

Chart 11.1. Economic Sentiment Indicator[29] (%) (seasonally adjusted data)



The Economic Sentiment Indicator (ESI) in Serbia in the fourth quarter of 2023, with a value of 100.6, saw a growth of 4.9 pp. compared with the previous quarter, when it was by 8.1 pp. above the 2020 average (92.5), which was marked by the coronavirus pandemic. However, ESI has still been lacking back from the average before the pandemic in 2019, by 11.9 pp. (112.5).

Relative to the previous quarter, the value of the indicator reflects optimistic expectations in all sections, mostly in Consumption which saw a growth of 3.1 pp., then in Services and Construction (2.8 pp.), Retail trade (2.3 pp.) and Manufacturing (2.1 pp.).

Source: European Commission, processing: Statistical Office of the Republic of Serbia. Quarterly data represent quarterly average.

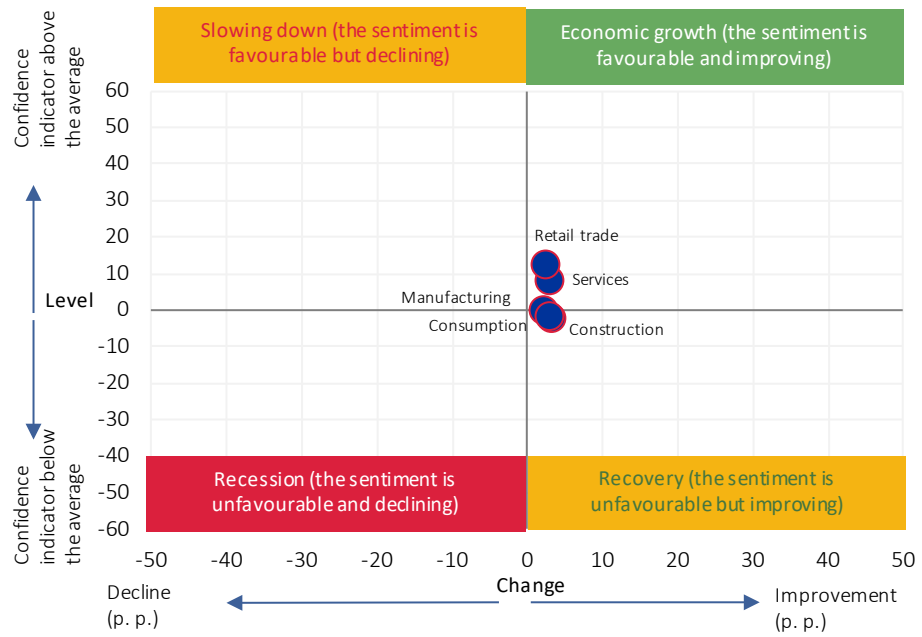
Table 11.1. Confidence indicators by sections and Economic Sentiment Indicator – growth pacт to long-term average (%)

Confidence indicators	Minimum		Average	Maximum		2022				2023			
	Quarter	Value		Quarter	Value	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Manufacturing	Q2 2020	-9,4	3.3	Q3 2018	8.0	0.4	1.3	0.8	-0.7	-1.8	-0.8	-1.9	0.2
Services	Q2 2020	-43,1	6.5	Q2 2016	16.1	7.4	6.0	1.4	3.1	4.3	4.5	5.6	8.4
Consumption	Q4 2014	-20,6	-5.0	Q1 2020	10.7	2.3	-6.0	-12.3	-17.2	-8.4	-6.5	-5.5	-2.4
Retail trade	Q2 2020	-12,5	8.4	Q4 2019	17.6	9.9	8.3	6.9	5.8	8.7	8.1	10.3	12.6
Construction	Q3 2013	-40,8	-9.9	Q3 2019	7.0	-1.0	-6.1	-7.9	-3.0	-2.6	-4.4	-4.3	-1.6
Economic Sentiment Indicator	*Q2 2020*	*70,3*	*102.2*	*Q4 2019*	*114.8*	101.8	98.5	93.8	91.8	94.3	95.8	95.7	100.6

[28] ESI is calculated as an index with a mean value of 100 and standardised deviation of 10. More on the methodology on: https://economy-finance.ec.europa.eu/system/files/2023-02/bcs_user_guide.pdf

[29] Data for the Economic Sentiment Indicator (ESI) have bee revised in line with the improved methodology of data seasonal adjustment, which has been in use since April 2022.

Chart 11.2. Economic Sentiment Tracer

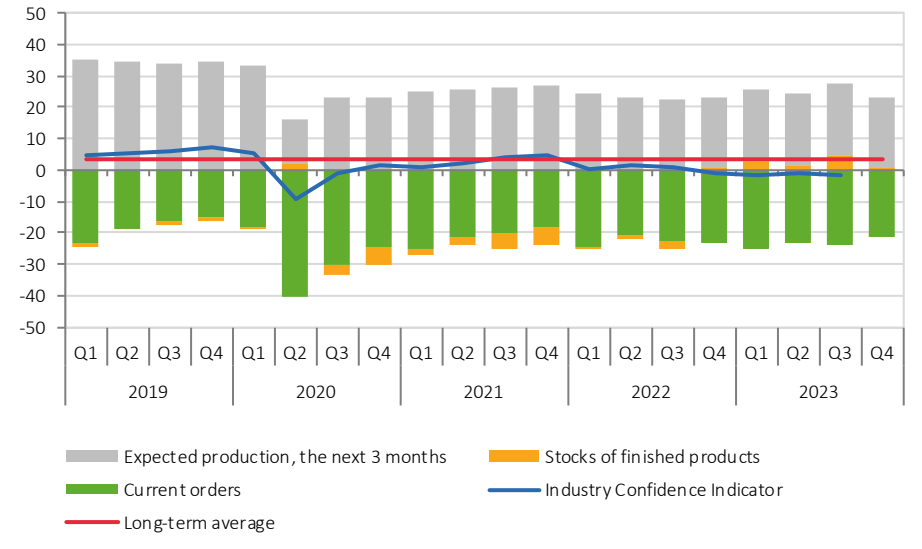


Economic Sentiment Tracer, created Семафор економске климе, креиран на бази десезонираних индикатора поверења, показује да већина сектора остварује економски раст (експанзију), са економском климом изнад просека и тенденцијом побољшања.
У фази опоравка налазе се сектори потрошње и грађевинарства. on the basis of seasonally adjusted confidence indicators, shows that most of the are recording growth (expansion), with a economic climate above the average and an improving tendency. The sections of Consumption and Construction are in the recovery phase.

11.2. INDUSTRY CONFIDENCE INDICATOR

The industry confidence indicator includes the responses of economic subjects on contracted orders, expected production and stocks of finished products.

Chart 11.3. Industry Confidence Indicator (%) (seasonally adjusted data)

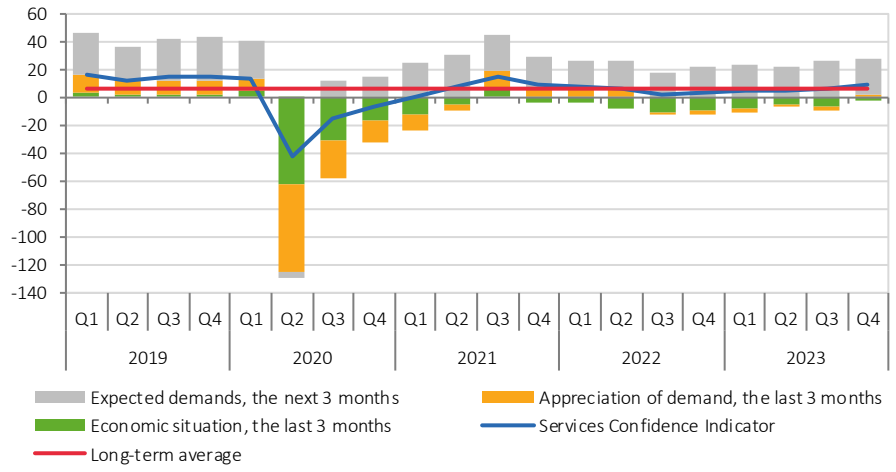


The Industry Confidence Indicator – ICI in the fourth quarter of 2023 amounted to 0.2% or 2.1 pp. more than in the previous quarter, still being under the long-term average by 3.1 pp.
The growth of this indicator is mainly the result of improved appraisals of businessmen concerning current orders (+2.7 pp.). In contrast, expectations regarding stocks of finished products declined (-3.6 pp.) as well as production in the following quarter (-0.5 pp.).

11.3. SERVICE CONFIDENCE INDICATOR

The survey in services is made of questions about the economic situation, current and expected demand for services.

Chart 11.4. Service Confidence Indicator (%) (seasonally adjusted data)

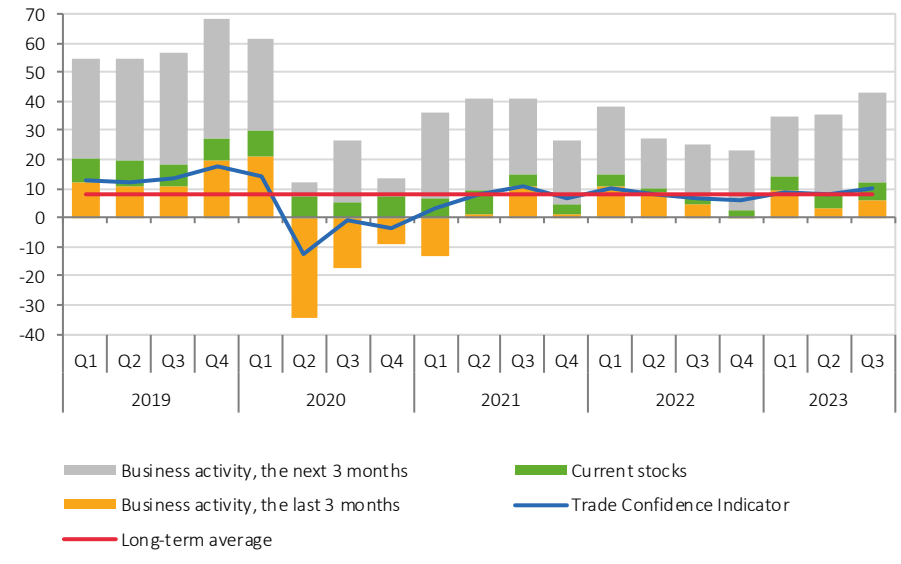


The Service Confidence Indicator – SCI, with a value of 8.4%, in the fourth quarter of 2023 is higher by 2.8 pp. than in the previous quarter, exceeding the long-term average by 1.9 pp.
Expectations concerning the economic situation for the next month grew (+4.6 .), as well as appraisals in the previous three months (+3.3 pp.), while moderate optimism was expressed regarding expected demand in the next quarter (+0.6 pp.).

11.4. TRADE CONFIDENCE INDICATOR

The survey in retail trade is made of questions about the current and future business activity of enterprises and stock balance.

Chart 11.5. Trade Confidence Indicator (%) (seasonally adjusted data)

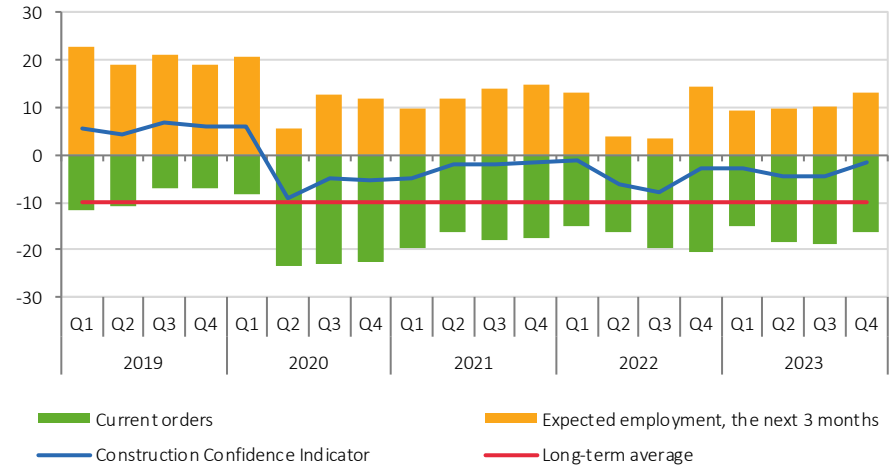


The Trade Confidence Indicator – TCI in the fourth quarter of 2023, with a value of 12.6%, was higher by 2.3 p. than in the previous quarter, exceeding by 4.2 pp. the long-term average (8.4%).
The value of the indicator reflects continuous growth of the appraisals regarding the business activity in the previous months (+7.3 pp.) and current stocks (+0.2 pp.), despite slightly worsened expectations in the next three months (-0.4 pp.).

11.5. CONSTRUCTION CONFIDENCE INDICATOR

The survey in construction is made of questions about contracted orders and expected employment.

Chart 11.6. Construction Confidence Indicator (%) (seasonally adjusted data)



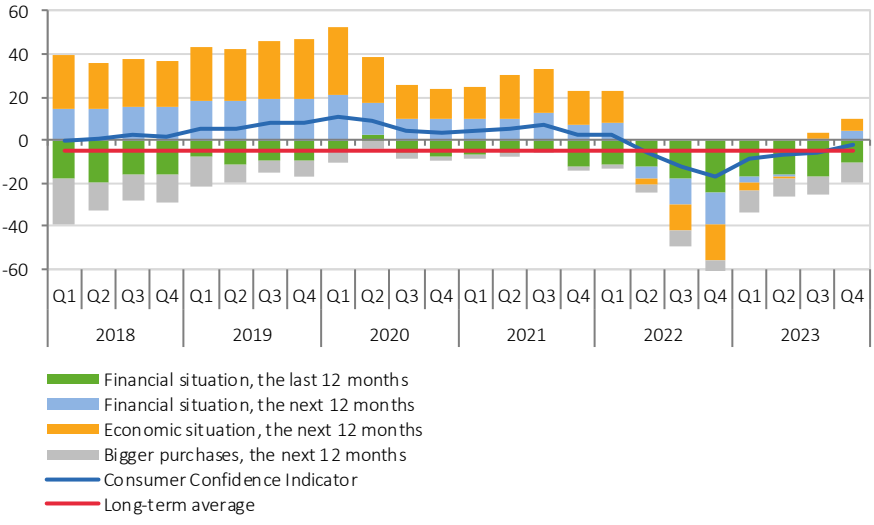
The Construction Confidence Indicator – CCI, with a value of -1.6% in the third quarter of 2023, noted a growth of 2.8% pp. in relation to the previous quarter, exceeding the long-term average by 8.4 pp.

Both components of this indicator saw growth: expectations concerning employment in the next quarter (3.1 pp.) and concerning current orders)2.4 pp.).

11.6. CONSUMER CONFIDENCE INDICATOR[30]

The survey of household consumption is made of questions about household financial situation, general economic situation and expectations relative to bigger purchases.

Chart 11.7. Consumer Confidence Indicator (%) (seasonally adjusted data)



The Consumer Confidence Indicator – CCI, even still being on the minus side, recorded growth of 3.1 pp. in the fourth quarter of 2023 to the previous quarter, exceeding the long-term average by 3 pp.

The largest increase in expectations was seen regarding the financial situation in the last 12 months (+6.4 pp.), then regarding the financial and economic situation next year (+3.7 pp. and +3.1 pp., respectively).

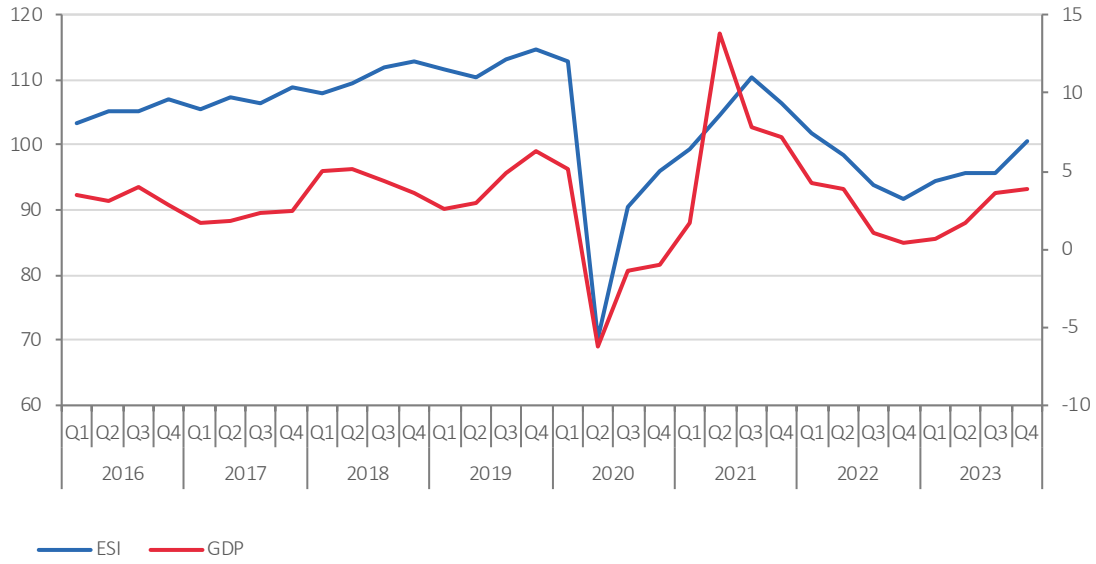
In contrast, expectations regarding planned larger purchases next year saw a slight fall of 0.6 pp., with a constantly negative value.

[30] The European Commission made changes in 2018 to the methodology for the calculation of the Consumer Confidence Indicator, therefore the data have been revised accordingly.

11.7. CORRELATION OF ESI AND GDP OF SERBIA

Researchers and decision-makers in economic matters often include ESI as an explanatory variable with relevant pieces of information to model the economic growth, particularly if one takes into account that the data on the economic climate are available before most of the economic indicators. Gross Domestic Product (GDP) is the reference (explanatory) series that is most frequently used, because it reflects the movements in the economy as a whole. When considering that ESI represents a coincident indicator (showing changes at the same time when the changes are shown by the reference series), it can be concluded that it follows relatively well the GDP trend, which is confirmed also by the correlation coefficient of 0.68.

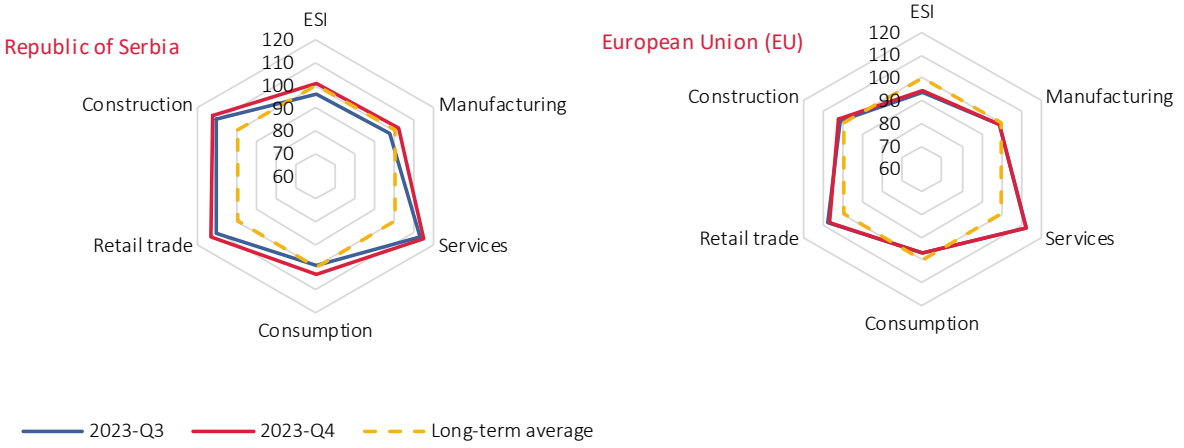
Chart 11.8. Correlation of ESI and GDP of Serbia



11.8. ECONOMIC SENTIMENT INDICATOR IN THE EUROPEAN UNION

Economic expectations in most of EU member states declined in the fourth quarter of 2023 (relative to the previous quarter), which made ESI go up by 0.8 p.p. (from the value of 94.3). The largest fall in expectations in the EU was recorded in Retail trade (-1.1 pp.), then in Consumption (-0.1 pp.).

Chart 11.9. Economic Sentiment Indicators



HOW TO INTERPRETE THE TRACER?

The tracer scale of the chart ranges from 60 to 120 (average = 100). The most recent quarterly outcomes (Q4 2023) are compared with the previous quarterly outcomes (Q3 2023) and long-term average (= 100) of the corresponding series of confidence indicators. Developments far from the center reflect confidence indicator improvement, and close to the centre its decline.

12. REGIONAL ECONOMIC ASYMMETRIES

The starting point in realizing various aspects of regional asymmetries is the status of cities and municipalities of Serbia according to Regulation on establishing *List of Regional Development and Local Government Units for 2014* (Official Gazette of RS, no 104/2014). In compliance with the Regulation, excluding Beogradski region that comprises no municipality with the status of undeveloped area, in other three regions, number and size of undeveloped municipalities varies – Region Vojvodine has only one municipality in the group of extremely underdeveloped (out of 46 municipalities), Region Southern and Eastern Serbia has even 30 (out of total of 53), and in Region Sumadija and Western Serbia, such status is recorded in 13 out of 53 municipalities.. On the other hand, there is no municipality in Region Vojvodina with the status of devastated municipality (devastated means that development level is below 50% of the Republic average – see Glossary), while in Region Sumadija and Western Serbia, the mentioned status is recorded in three municipalities, and in Region Southern and Eastern Serbia, even 16 municipalities.

Unequal economic development in Serbia in the last several decades has contributed to deeper, already existing territorial inequalities. Regional polarization is apparent at several levels – undeveloped area, developed centre and insufficiently developed periphery. Regional disproportions – expressed in economic, social, demographic and infrastructure indicators – reflect characteristics of economic and social system of the country.

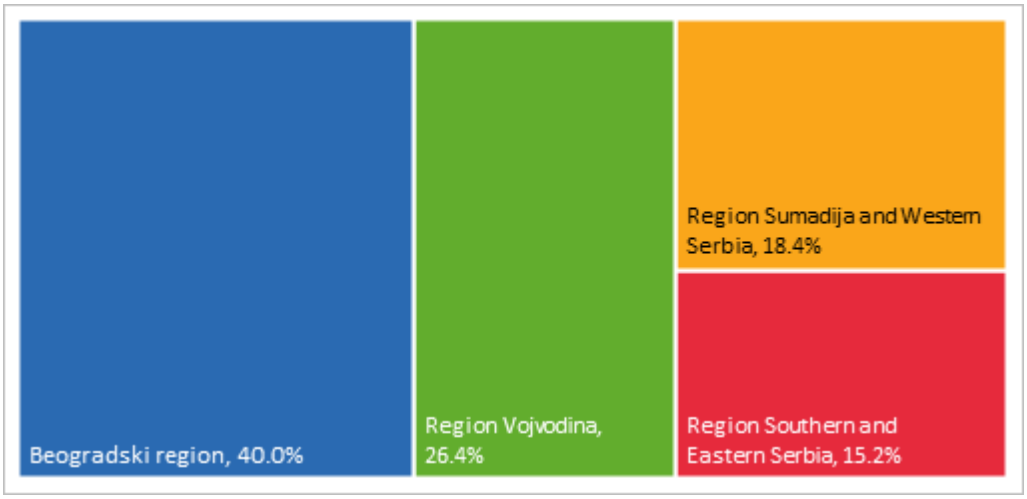
Gross domestic product

Regional gross domestic product presents primary statistical indicator for estimating economic performances of the region and effectiveness of regional policies and programs directed to decreasing the gap among the regions.

Out of total GDP in 2022, observed by level of NSTU 2 regions, the greatest realized GDP was in Beogradski region (40%), followed by Region Vojvodina (26.4%), Region Sumadija and Western Serbia (18.4%) and Region Southern and Eastern Serbia (15.2%).

Knowing that Beogradski region covers 3.7% of the area inhabited by 24% of the population of Serbia, it is clear that it is also the region with the highest GDP per capita (1 686 000 RSD / per capita, i.e. 58.3 % above the republic average, followed by Region Vojvodina that by 0.8% exceeds the average, while other regions record GDP values per capita below the average, i.e. Region Sumadija and Western Serbia by 32.8% and Region Southern and Eastern Serbia by 28.3% .

Chart 12.1. Share of the region in the national GDP, 2022



Average salaries and wages

Level of regions' development, measured by average net salaries and wages in 2023 varies in ratio 1.5:1, i.e. the highest salaries and wages are recorded in Beogradski region, and lowest ones in Region Sumadija and Western Serbia, where salaries and wages are the lowest. Average net salaries and wages in 2023 in Beogradski region amounted to RSD 109 431, or 127% of RS average (RSD 86 007), in Region Vojvodina, they were insignificantly below RS average (RSD 81 386, or 95% of RS average), while in Region Southern and Eastern Serbia and Region Sumadija and Western Serbia, they were about 85% and 83% of the Republic average (RSD 73 373 and RSD 71 642, respectively). In all regions, average salaries and wages recorded growth relative to the same period of the previous year, and the greatest absolute and relative increase was noted in Beogradski region, by 15.4%.

In 80 municipalities, average net salaries and wages were below 80% of the Republic average, i.e. in particular Belgrade municipalities, average salaries and wages were more than double relative to municipality of Presevo (with the lowest average salaries and wages of RSD 57 201). Moreover, at the bottom of the list are the municipalities of Bojnik with an average salary of RSD 57 392, Vlasotince (RSD 58 842) and Svrljig (RSD 59 104).

Labour market

The correlation of unemployment rate and development level of the region is very high, and in accordance with the mentioned, Region Southern and Eastern Serbia, with unemployment rate of 13.3% in 2023, by 41% exceeds the average of Serbia (9.5%). On the other hand, in Beogradski Region, unemployment rate was the lowest, 7.2%, i.e. 23.7% below the national average. Additionally, referring to employment rate, it is the highest in Beogradski region (55.7% or 10.7% above the average of Serbia), while in Region Southern and Eastern Serbia, noted was the lowest employment rate of 44.8%, or 10.9% below the Republic average (50.3%).

In 2023, Beogradski Region noted the highest share in total employment (27.7%), with the simultaneous lowest share in unemployment (20.6%). On the contrary, Region Southern and Eastern Serbia, with 19% has the lowest share in total employment, with the highest share in unemployment (28.1%) (according to the Labour Force Survey).

Export activity

In contrast to other indicators, in 2023, Beogradski region was not on the first place regarding total export of Serbia (share of 24.2%). Region Vojvodina is on the first place with the share of 33.4% in export, followed by Region Sumadija and Western Serbia (20.8%) and Region Southern and Eastern Serbia (19.4%). Export per capita reflects regional asymmetries – Region Vojvodina records the export of EUR 5 501 per capita, and it is by 28% above the Republic average and it exceeds by almost double the export value per capita in Region Sumadija and Western Serbia (EUR 3 266), which is by 24% below the average of the Republic. Region Vojvodina, as the leading exporter in 2023, recorded the greatest share in export[31] and the greatest share in export of agricultural and food products (19.5%), primarily cereals (24%), the most important export product being corn (9.6% of export of agricultural and food products).

Demographic structure

According to the census data from 2022, population density in Beogradski region is by 6.9 times greater than average population density in Serbia, while in Region Southern and Eastern Serbia, population density was the lowest – 29% below the Republic average. Although all regions participate equally in total population of Serbia, interregional differences are particularly apparent. For example, in eight towns in Region Vojvodina, lives even over a half of total population of Vojvodina (54.7%). However, the most obvious population inequality is in other two regions: Region Sumadija and Western Serbia comprises 10 towns in which 55% of total population of the Region lives, while in 13 undeveloped municipalities, only 13 % of population lives. This ratio is even more noticeable in Region Southern and Eastern Serbia, as 56% of population lives in 9 cities, while even in 30 underdeveloped municipalities live 31% of population. Additionally, due to economic migrations, number of population in Beogradski region is constantly increasing (by 1.3% between 2011 and 2022), while the number of

[31] According to the Standardized International Trade Classification (SITC).

population in other three regions is constantly decreasing. Simultaneously, it means that differences in population density will be even greater as population in Region Southern and Eastern Serbia is becoming more and more fragmented, while population density in Beogradski region becomes increasingly denser.

Transport infrastructure

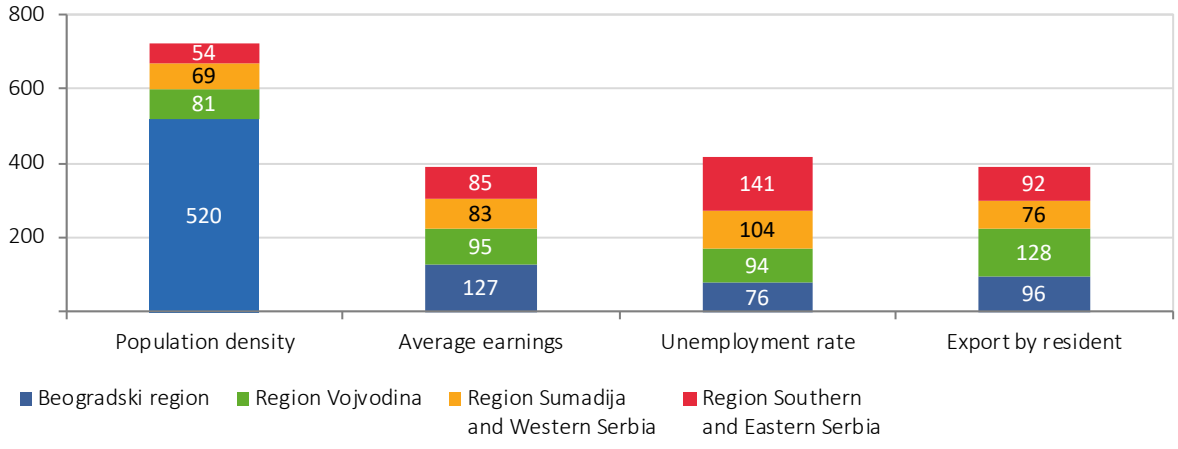
In the Republic of Serbia, there are huge regional and interregional differences regarding infrastructure equipment (transport, telecommunication and water management, i.e., accompanying supra structures). In roads' quality, telecommunication and modern living conditions, differences are, first of all, manifested in underdeveloped south area and more developed north area of Serbia. The unsatisfactory condition of the road network is particularly evident in the municipal (local) roads, necessary for the daily functioning, development and activation of municipalities and settlements. This is clearly indicated by the fact that 41 municipalities[32] have an out-of-band participation of local roads with a modern roadway, while four municipalities account for less than 20%, which are actually undeveloped and devastated areas facing the biggest developmental problems. Also, *the car renewal rate* (the number of cars registered for the first time in relation to the total number of registered cars) as an indicator of socio-economic inequalities at the regional level varies in 2023 from 3.8 in Region Sumadija and Western Serbia to 8.3 in Beogradski region, where a fourth part of the vehicles was registered. The number of first-time registered cars compared to the number of inhabitants in 2023 reflects a similar ratio, with Beogradski region leading up to 41% above the average of the Republic of Serbia versus Region Southern and Eastern Serbia, with 28% below the national average.

Regional asymmetry is seen through the relation between the extreme (the highest and the lowest) values of the key indicators. For example, the highest density of population is recorded in Belgrade and exceeds 10 times the population density in Region Southern and Eastern Serbia, where it is the lowest (Table 12.1).

Table 12.1. Extreme values and indicators of regional asymmetry, 2023

Indicators	Population density, km², 2022	GDP/per capita, 2022	Average net salaries and wages	Unemployment rate	Export per capita	Demographic emptying, 2011–2022 (%)
Extreme Values (the highest : the lowest)	9,7 : 1	2,4 : 1	1,5 : 1	1,9 : 1	1,7 : 1	(-10,5) : (+1,3)
	Beogradski region: Region Southern and Eastern Serbia	Beogradski region: Region Sumadija and Western Serbia	Beogradski region: Region Sumadija and Western Serbia	Region Southern and Eastern Serbia: Beogradski region	Region Vojvodina: Region Sumadija and Western Serbia	Region Sumadija and Western Serbia: Beogradski region

Chart 12.2. Disproportions at the regional level in Serbia (RS level = 100%), 2023



[32] The data is for 2022.

Table 12.2. Indicators of regional development of Serbia (NSTJ 2) (RS level = 100%)

	2021[33]				2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Beogradski region												
Average salaries and wages in dinars	124.0	123.8	124.6	126.2	125.8	125.8	126.3	128.0	126.6	127.0	127.1	128.2
Employment rate	109.5	109.1	107.2	106.2	107.6	108.2	110.6	110.2	110.7	109.9	111.0	111.1
Unemployment rate	75.0	81.1	83.8	81.6	75.2	83.1	82.2	83.0	75.2	80.2	71.1	73.6
Exports per capita in euros	93.2	94.2	97.4	96.4	88.9	89.2	92.0	98.2	94.3	99.6	93.6	94.7
Number of first- time registered passengers' cars per 1000 inhabitants	125.0	136.8	124.3	125.4	123.4	132.6	129.5	131.9	133.8	146.4	140.6	142.0
Region Vojvodina												
Average salaries and wages in dinars	95.2	94.8	94.5	95.1	95.1	94.9	94.9	95.4	95.1	94.2	94.4	94.8
Employment rate	101.9	99.2	101.6	102.8	98.8	99.4	100.6	99.2	99.8	102.2	97.8	101.2
Unemployment rate	85.2	86.5	83.8	89.8	89.9	85.4	76.7	83.0	87.1	82.3	112.2	101.1
Exports per capita in euros	136.8	131.8	125.6	123.1	128.2	131.4	127.8	125.5	124.7	125.9	128.1	132.2
Number of first- time registered passengers' cars per 1000 inhabitants	94.4	89.7	90.2	94.1	97.2	92.3	90.4	93.4	95.1	88.5	88.3	91.6
Region Sumadija and Western Serbia												
Average salaries and wages in dinars	84.9	85.2	85.2	84.2	83.9	83.9	83.9	83.0	83.2	83.4	83.6	83.0
Employment rate	98.9	100.0	101.0	100.4	101.2	98.8	97.2	101.0	99.4	98.8	99.6	96.6
Unemployment rate	114.8	122.5	110.5	109.2	112.8	122.5	116.7	110.6	101.0	106.3	97.8	108.8
Exports per capita in euros	79.6	80.4	79.0	76.9	76.7	77.2	76.8	76.8	74.6	76.2	75.4	77.0
Number of first- time registered passengers' cars per 1000 inhabitants	98.9	94.5	101.0	99.7	96.7	94.2	100.0	97.7	95.0	90.8	92.3	91.8
Region Southern and Eastern Serbia												
Average salaries and wages in dinars	87.8	88.3	87.9	85.7	86.6	86.9	86.1	83.9	85.9	86.1	85.5	83.9
Employment rate	88.3	90.3	88.2	88.4	89.5	93.2	90.2	89.6	88.5	87.3	90.7	89.9
Unemployment rate	131.3	109.0	127.6	124.5	126.6	109.0	132.2	130.9	147.5	143.8	126.7	123.1
Exports per capita in euros	82.6	88.0	93.1	98.4	101.4	95.4	90.8	89.7	93.8	87.7	96.4	88.5
Number of first- time registered passengers' cars per 1000 inhabitants	78.2	76.0	81.7	77.6	79.0	77.1	76.0	72.7	72.1	70.6	75.8	70.8

[33] Labour market indicators - employment rate and unemployment rate, were created according to the new redesigned Eurostat methodology, which the Statistical Office of the Republic of Serbia has been conducting as a part of 2021 Labour Force Survey. The change in methodology was made on the basis of and in accordance with the new Regulation of the European Parliament and the Council, which entered into force on January 1 st, 2021. More information on methodological changes and their effects on the main statistical indicators can be found in a special publication via the link: https://www.stat.gov.rs/vesti/20210628-anketa-o-radnoj-snazi-nova-metodologija/

GLOSSARY

Classification of regions and local government units (municipalities) – according to the Regulation. The Regulation establishes the unique list of *regions*' development (that are by development levels classified as developed and insufficiently developed regions) and *municipalities,* classified in four groups and devastated areas. In the first group are municipalities with the development level above the Republic average; in the second group are municipalities with the development level of 80% - 100% of the Republic average, the third group comprises insufficiently developed municipalities with the level of development of 60% - 80% of the average, while in the fourth group are extremely insufficiently developed municipalities, with the development level below 60% of the Republic average.

Devastated areas are municipalities from the fourth group with the development level below 50% of the Republic average (according to the data of the authority competent for statistics and finances tasks). Classification of the regions is performed on the basis of GDP value per capita in the observed region compared to Republic average, for the referent period. Developed regions are the regions that realize gross domestic product value above the Republic average, (Beogradski Region and Region Vojvodina). Insufficiently developed regions are the ones in which GDP value is below the Republic average, (Region Sumadija and Western Serbia and Region Southern and Eastern Serbia). Additionally, status of insufficiently developed region refers to Region Kosovo I Metohija.

Demographic emptying is the term that depicts natural and mechanical population outflow in the specific geographic and administrative area.

13. AGRICULTURE

Agricultural production is made of two main branches: plant production and livestock production. Due to its specific nature, relevant data related to agricultural production are available mainly on annual basis. This issue of Trend presents the movement of occurrences in agriculture concerning the fourth quarter of 2023 and the whole 2023. The following topics have been analyzed:

• livestock production, with an overview of the autumn sowing,

• livestock production (number of livestock, production of consumption cow milk in dairy factories and livestock slaughtering in slaughtering houses,

• prices of agricultural products and intermediate materials, and

• external trade in agricultural products.

13.1. PLANT PRODUCTION AND AUTOUMN SOWING IN 2023

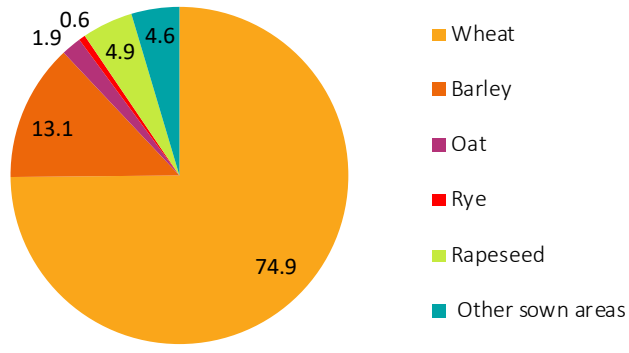
Plant production can be broken down into crop and vegetable farming, fruit growing and viticulture. However, crop and vegetable farming are the most important branch of plant production, accounting for 82.6% of the total plant production in 2023, followed by fruit growing and viticulture accounting for 16.1% and 1.3%, respectively. In 2023 plant production (looking at the value) was higher by 15.5% than in the previous year. This growth was primarily affected by favourable weather conditions that drove crop and vegetable production to increase by 27.1%, when compared with the previous agricultural year 2022. On the other hand, fruit production, which accounts for 16.1% of the total value of plant production, saw a fall of 19.5% in 2023 relative to the previous year. The indices (2023/2022) by groups of products are as follows:

- Cereals: 135.4 (wheat 110.9; maize 154.8)
- Industrial crops: 129.5 (sunflower 106.7; soya 150.5)
- Vegetables: 95.3 (potatoes 114.5; tomatoes 76.9; paprika 82.9)
- Fodder crops: 149
- Fruits: 80.5 (apples 78.1; plums 74.2; raspberries 85)
- Viticulture: 81

Weather conditions affect considerably the moment of sowing, therefore plant production is often called “open air factory“. When looking at crop production (October is the optimal time for autumn sowing of most of crops), the factors, such as tillage, selection of varieties, and the sowing moment, will significantly influence later yields. However, unstable weather conditions will extend the autumn sowing beyond the optimal time. As there are on the market various seed varieties which resilience differs, the impact of unfavourable weather conditions on sowing will be smaller. On the other hand, even though there different seed varieties on the market it is recommended to keep sowing withing the optimal time limit. In the previous year, October was beneficial for sowing, therefore it can be said that autumn sowing in 2023 was carried out within the optimal time limit.

In autumn sowing in 2023 sown areas saw a year-on-year fall of 16.8%. Looking at all crops sown areas were smaller. Wheat was sown on 543,8 hectares, by 18.3% less than in 2022. Similar situation was noted also with other crops in autumn sowing – barley, oat and rye saw a decreased in areas, 12.4%, 18.4% and 14.3%, respectively, when compared with 2022. The smallest fall of crops sown on areas in 2023 was recorded with rapeseed (fall of 6.9% to 2022).

Chart 13.1. Structure of sown areas, 2023 (%)



The largest share in the structure of sown areas in autumn 2023 was that of wheat with 74.9% (543,8 thousand hectares), and barley with 13.1% (95,4 thousand). Rapeseed and other sown areas accounted for 4.9% and 4.6%, respectively, while oat and rye accounted for 1.9% and 0.6%, respectively.

Table 13.1. Sown area (in hectares) and year-on-year growth rate (in %)

	2023						
	Totally sown area	Wheat	Barley	Oat	Rye	Rapeseed	Other sown areas
Sown area, ha	726 436	543 762	95 386	13 899	4 610	35 402	33 377
Annual growth rate*	-16.8	-18.3	-12.4	-18.4	-14.3	-6.9	-12.6

*2023 to 2022.

13.2. LIVESTOCK PRODUCTION

In 2023, livestock production accounted for 30.2% of the total value of agriculture (the share of plant production was 69.8%). According to the downward share, the most important branches within the value of livestock production are:

- Cattle farming (share of 39.7%),
- Pig farming (share of 32.7%),
- Poultry farming (share of 17.3%),
- Sheep farming (8.2%), and
- Apiculture (2.1%).

When looking at the ten-year period (2014–2023), one notices a fall of the number of heads of all livestock species. Over 2014–2023 the number of bovine animals decreased by 2.6%. The situation is similar with pigs and poultry, where the average number of livestock head was decreasing every year, pigs by 4.5%, i.e. poultry by 2%. The number of sheep over the observed period saw the smallest fall, 0.2%, on annual basis.

Table13.2. Livestock balance (in thous.)

	Livestock balance, thous.			
	Cattle	Pigs	Sheep	Poultry
2021	860	2 868	1 695	15 348
2022	800	2 667	1 721	14 817
2023	725	2 141	1 717	14 278

Compared with 2022, in 2023 the number of all livestock species fell: cattle (fall of 9.4%), pigs (19.7%), sheep (0.2%) and poultry (3.6%).

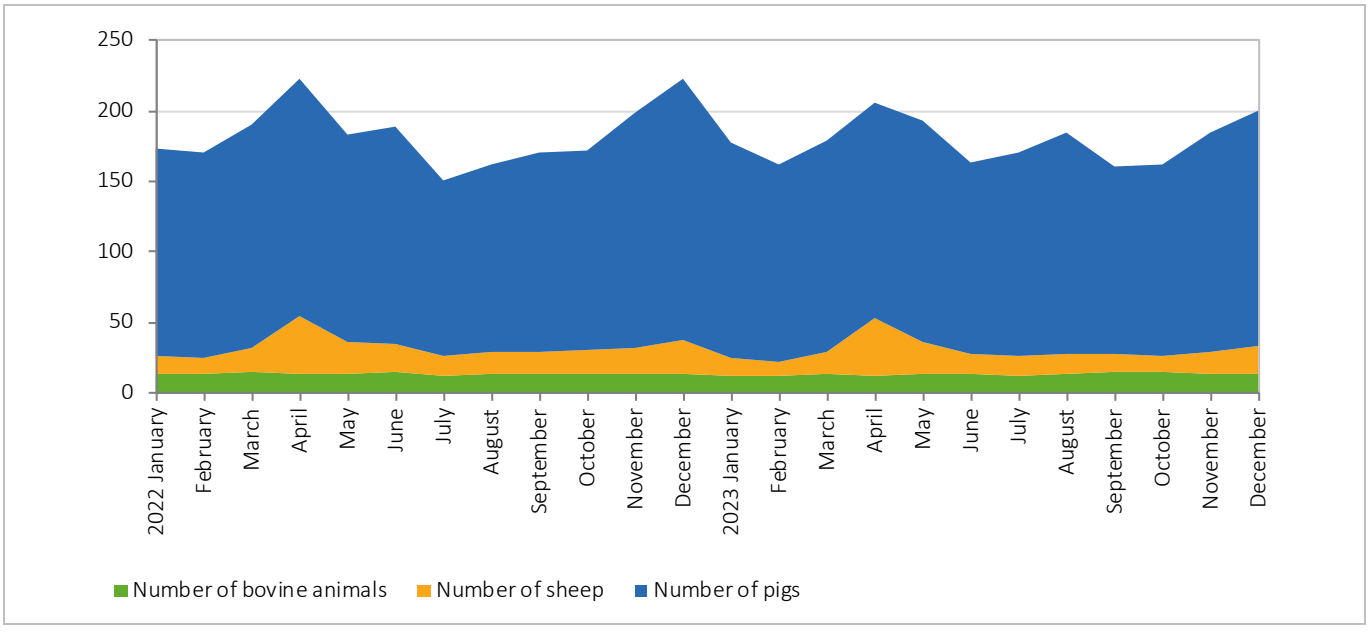
Negative trends in livestock may cause serious consequences in this sector, including the decrease in the production of meat, milk and other livestock products, which can lead to higher prices on the market. Furthermore, social and economic consequences would be inevitable, including the loss of working posts in agriculture and food industry.

13.3. LIVESTOCK SLAUGHTER

In the Republic of Serbia, livestock slaughter is performed in registered slaughtering houses and outside them, i.e. on agricultural holdings. As far as bovine animals are concerned, slaughter in slaughtering houses accounted for about 57% of total slaughter of this livestock species, while with pigs and sheep slaughter is mostly done outside slaughtering houses, about 60% and 83%, respectively. Data on livestock slaughter in slaughtering houses on the territory of the Republic of Serbia, totaling on 30 September 2023 to 352. In this issue of Trends, the analysis is focused on livestock slaughter in slaughtering houses.

In 2023, relative to the previous year, the number of bovine animals slaughtered in slaughtering houses (159,6 thousand), by 2% less. Observed by quarters, in the fourth quarter the number of bovine animals slaughtered in slaughtering houses grew by 4.5% in relation to the same quarter of the previous year. The category of slaughtered bovine animals in the fourth quarter of the current year recorded the largest fall in total slaughtering is that of bovine animals up to two years of age (fall of 7.9% relative to the same quarter of the previous year). The largest share in total slaughter in the fourth quarter of 2023 was that of bovine animals aged 1–2, amounting to 74.6%.

Chart 13.2. Number of slaughtered pigs, sheep and bovine animals (in thous.)



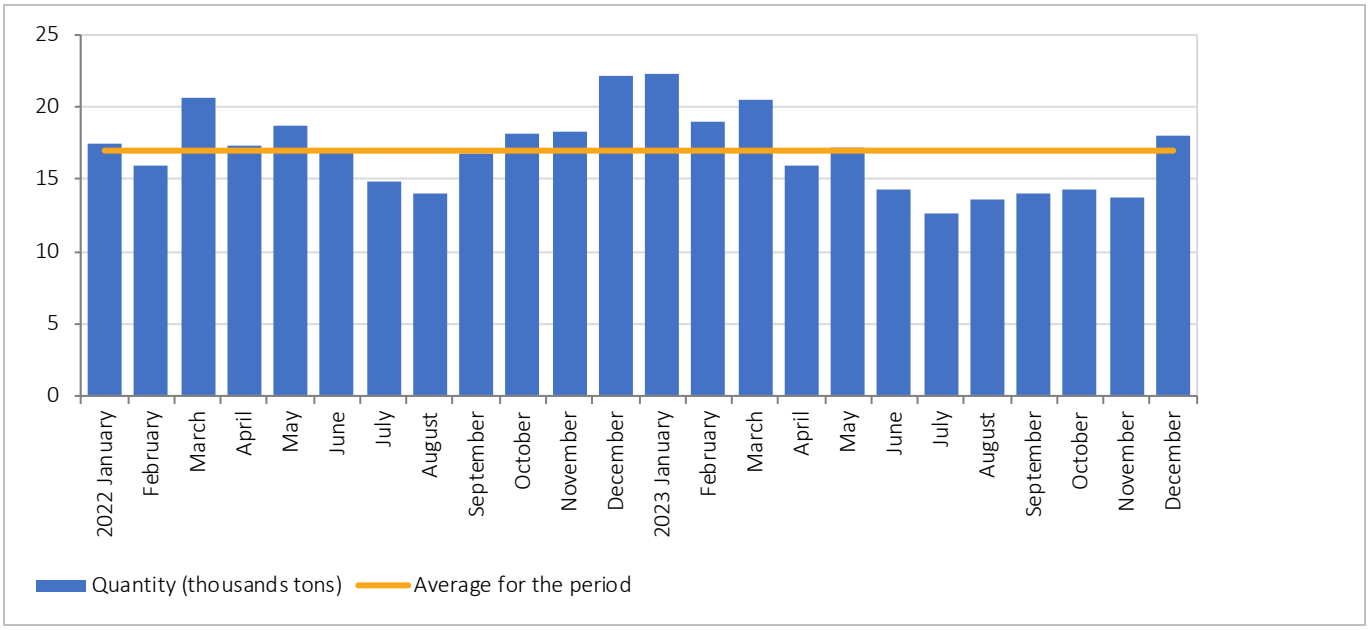
The number of pigs slaughtered in slaughtering houses (1,8 million) in 2023 was lower by 2% than in 2022. Observed quarterly, in the fourth quarter the number of pigs slaughtered in slaughtering houses (457,2 thous.) was lower than in the same period of the previous year: by 7.3%. Pigs weighting 25-50 kg noted the largest growth in the category of slaughtered pigs, accounting for 42.7% of the total slaughter in the fourth quarter of 2023 compared with the same quarter of the previous year. Of totally slaughtered pigs in slaughtering houses the largest share in total slaughter of this livestock species was that of pigs over 50 kg, 88.7%.

Of the total number of slaughtered sheep on the territory of the Republic of Serbia only approximately 17% are slaughtered in slaughtering houses. Observed quarterly, in the fourth quarter of 2023 the number of slaughtered sheep in slaughtering houses amounted to about 45,5 thous., by 23.5% less than in the same quarter of the previous year. Of totally slaughtered sheep in slaughtering houses the largest share (92.7%) in 2023 in the total slaughter of this species was that of the category of lambs up to six months.

13.4. PRODUCTION AND PRICE OF MILK, CEREAL AND LIVESTOCK

Estimates show that farms dealing with the production of cow milk distribute to milk collection stations (dairy factories) about 59% of the total production[34]. Of the quantity of milk that stays on the holding (about 41%) about 10% are consumed for feeding household members and livestock on the holding, about 22% are processed into dairy products (mainly cheese and „kajmak"), and the remaining part (about 9%) is sold to direct consumers. According to the same source, losses on the holding are insignificant (up to 0.1%).
Cow milk accounts for 97% of the total production of milk on holdings, and the remaining milk is of sheep and goats. In 2023, the production of consumption cow milk in dairy factories is lower by 7.5% than that in the same period of the previous year. Observed quarterly, in the fourth quarter of 2023 the production of cow milk saw a fall of 21.3%, compared with the fourth quarter of 2022.

Chart 13.3. Production of consumption milk in dairy factories (in thous. tons)



[34] Survey on Agricultural Production – Livestock Production, 2022

Purchase prices of cow milk increased by 17.9% over January-December 2023 relative to the same period of the previous year[35]. Observed quarterly, in the fourth quarter of 2023 the prices were lower by 15.5% than in the same quarter of the previous year.

Consumer prices of cow milk decreased by 50.7% over January-December of 2023 relative to the same period of the previous year. In the fourth of 2023 the average price of milk amounted to 168,7 dinars per liter, a growth of 20.8% relative to the same quarter of the previous year.

Based on the comparative review and previous analysis, it can be concluded that the purchase prices of cow milk had a tendency of slight fall in the first seven months of 2023, with a slight increase in the last five months, while consumer prices in 2023 were stable.

As this issue of *Trends* does not analyse only livestock products but also certain crops from the plant production, as well as selected categories of livestock, it is necessary to present also their purchase prices.

In 2023, the **index of cereal prices** amounted to 74.2%. In this period, purchase prices of wheat decreased by 29.1% and maize by 30.6% relative to 2022.

Observed **by categories of livestock**, in 2023 the purchase price of bovine animals increased by 6.4% and of pigs by 17.6%, compared with 2022.

Table 13.3. Comparative overview of purchase prices and consumer prices of cow milk

Month	Milk price, din./l.	
	Purchase price	Consumption price
January 2022	36.91	95.33
February	37.54	95.50
March	38.08	96.81
April	39.86	97.41
May	40.97	101.62
June	42.29	104.46
July	45.16	110.10
August	47.70	111.30
September	53.13	117.40
October	63.87	133.60
November	65.88	141.80
December	67.06	143.40
January 2023	65.04	170.25
February	63.05	169.92
March	60.53	170.40
April	57.65	169.70
May	54.80	169.80
June	53.49	169.90
July	53.28	169.75
August	53.57	168.08
September	54.11	168.22
October	54.83	167.81
November	55.59	168.94
December	55.91	169.35

Table 13.4. Indices of producers' prices of agricultural and fishing products

	XII 2023 / XII 2022	XII 2023 / XI 2023	Ø 2023 / Ø 2022
Cereals	57.1	104.3	74.2
Wheat	56.9	101.1	70.9
Maize	53.2	106.6	69.4
Industrial crops	90.3	100.8	77.9
Cattle and poultry	112.2	102.2	112
Bovine animals	107	100.1	106.4
Pigs	118.2	103.7	117.6

[35] Those are producers' prices of agricultural and fishing products – prices at which purchase is done from family holdings and prices at which legal persons in the field of agriculture sell their products.

13.5. INTERMEDIATE GOODS

A stable and successful production in agriculture depends on many factors. As far as plant production is concerned, besides adequate land tillage for high and stable yields, the used inputs are extremely important. The latter refer to seeds and seeding materials, fertilizers and protection preparations. As for the other agricultural branch, i.e. livestock production, good animal health and increase require adequate animal feed and housing facilities. To meet all these conditions one need not only human labour but also capital goods, i.e. agricultural machinery. Therefore, farmers have to have corresponding machinery or to engage others (fertilization, sprinkling, harvest, etc.). All these factors make the intermediate consumption (accounting for almost 60% of the total value of agricultural production) and their price indices are shown in table 13.3.

The total intermediate consumption, i.e. the prices of intermediate goods, capital goods and services in agriculture in the fourth quarter of 2023 decreased by 8.3% in the fourth quarter of 2023, compared with the same quarter of the previous year. Observed by groups of products, the largest price decrease in the fourth quarter of 2023, relative to the same quarter of the previous year, was recorded in: Mineral fertilizers (fall of 39.5%) and Animal feed (fall of 18.3%).

The prices of intermediate goods, capital goods and services in agriculture in the fourth quarter of 2023 relative to the third quarter of 2023 decreased, on average, by 1.7%.

Table 13.5. Indices of the prices of intermediate goods, capital goods and services in agriculture

	IV quarter 2023 / IV quarter 2022	IV quarter 2023 / III quarter 2023	Ø 2023 / Ø 2022
Total	**90.7**	**98.3**	**98.9**
Products and services for current use in agriculture	**89.9**	**98.2**	**98.5**
Seed	86.4	99.1	114.4
Energy commodities	109.5	103.1	108.7
Mineral fertilizers	60.5	95.5	74.6
Plant protection preparations	95.4	100.8	99.4
Animal feed	81.7	93.5	91.4
Equipment maintenance	104.4	100.6	107.5
Facilities maintenance	116.6	101.9	117.3
Other products and services	114.6	100.1	114.3
Products and services for investments in agriculture	**101.3**	**100**	**103.6**
Machinery in agriculture	101.3	100	103.6

13.6. EXTERNAL TRADE IN AGRICULTURAL PRODUCTS

The significance of the agricultural sector is especially manifest through external trade. Let us take into account that the total external trade balance was negative in 2023 (-8,2 billion euros), and in that context the section of Agriculture, forestry and fishing distinguishes itself as one of the rare ones with a positive balance of 7,1 million euros. This points to the vital role of this section not only in domestic production and economy, but also in maintaining a positive contribution to the global commercial competition.

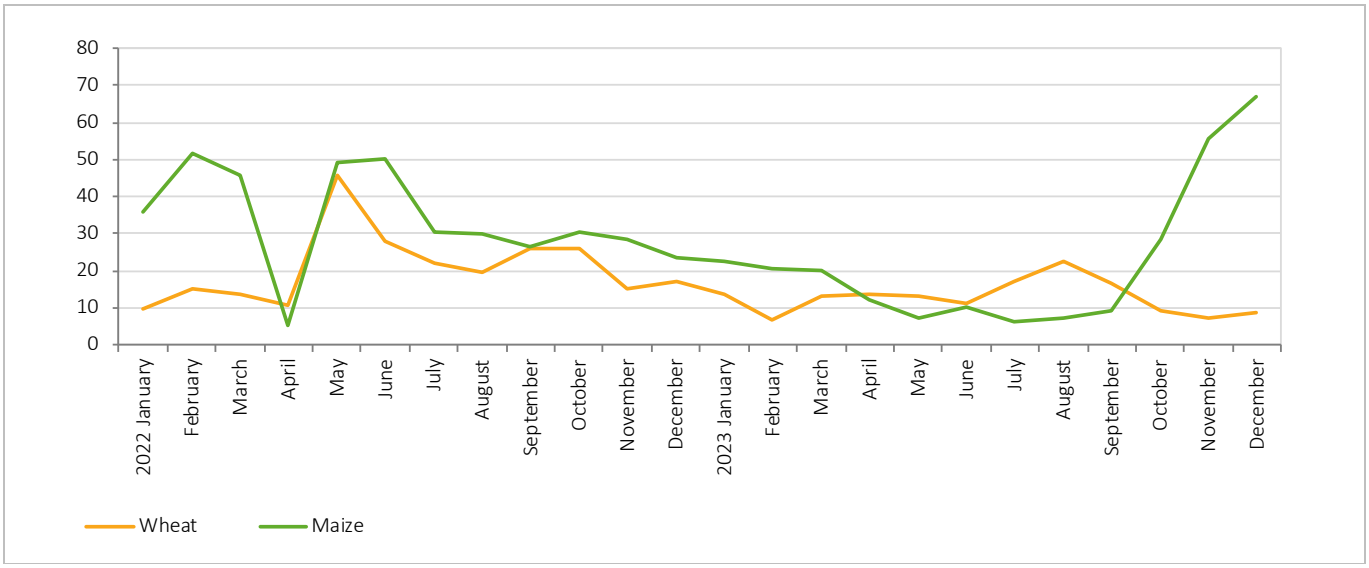
In 2023, the section Agriculture, forestry and fishing[36] realised a negative external trade balance of EUR -7,1 million. Exports of this section amounted to EUR 984,8 million, by 22.6% less than in 2022, and the share in total exports in the observed period fell from 4.6% to 3.4%, amount reached in 2023. Imports of this section over January-December of 2023 amounted to EUR 977,7 million, by 5.8% more than in the same period of the previous year, and the share in total imports grew from 2.4% to 2.7%.

Exports fall in 2023 was mostly a result of a cumulative fall of 31.7% in exports of wheat (except for rice), leguminous and oil seed, the most representative groups in this section (share of 52.2%). In contrast to exports, the most representative groups of products on import side in the section of Agriculture, forestry and fishing was Growing vegetables, root and tuber vegetables (share of 20.9%), which generated a cumulative growth of 5.6% in 2023

Export of maize over January-December 2023 amounted to EUR 265,4 million, a fall of 34.7% relative to the same period of the previous year. Most of maize in 2023, when looking a the value, was exported to Romania (36.4% of total exports of this crop). To Bosnia and Herzegovina 17.2% were exported, then to Italy, Austria and Hungary, accounting respectively for 11.9%, 5.4% and 4.7% of total export of this crop.

Export of wheat in 2023 amounted to EUR 151,9 million, a fall of 38.8% relative to 2022. Looking at values, over January-December 2023 most of the wheat was exported to Italy (42.7% of total exports of wheat), then to Romania (20.3%) followed by Bosnia and Herzegovina, North Macedonia and Albania with 12.8%, 10.3% and 8.5%, respectively.

Chart 13.4. Export of wheat and maize by months (in million euros)



[36] According to CA (2010).

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