TRENDS

Q1Q2
Q3Q4

Q1 TRENDS

Trends, Quarter I of 2023

✎ 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 tradionally 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 first 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.

The topic of the paper in this issue of *Trends* is focused on the analysis of the tourism activity in the Republic of Serbia from 2007 onwards. The author is Goran Katic.

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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TRENDS IN TOURISM OF SERBIA – ANALYTICAL APPROACH

INTRODUCTION

Trends in tourism are directly expressive of the citizens' living standard and the economic atmosphere of a country. The number of arrivals and overnights stays of domestic and foreign tourists is one of the indicator of GDP growth in the country. In order to better understand the main data and therefore their trends for years backwards, the Statistical Office of the Republic of Serbia (hereinafter: the Office) conducted an independent survey of the major flows in tourism with a special view on some insufficiently presented relations among the professional public and regular SORS publications.

ANALYTICAL OBSERVATIONS

The analysis of the data on arrivals and overnight stays of domestic and foreign tourists by tourist resorts (aggregated on the level of spas, mountains and cities), from the first quarter of 2007 onwards, leads to the conclusion that the coverage of the sample changed over time, as new tourism resorts were added. Therefore, adequate optimisation of the time series of the sample implies **the definition of a consistent sample, i.e. its lenght and coverage** in order to filter tourism resorts that were subsequently added over time and thus to ensure a consistent monitoring of visits to the same tourism resorts in the analysis of the trends over time.

In this context, before any descriptive or econometric analysis of the trends of the number of tourists, it is worth **mentioning** the following:

1. **Every time series** on the number of tourists (classified by spas, mountains and cities) **should be assigned an adequate year of the beginning of the sample**. The table 2 shows the availability of data on their structure (by resorts) over 2007–2022. The presented structure of data availability shows that the **beginning of the time series** on the number of tourists by spas is different from that from the beginning of the time series on the number of tourists in mountains and cities.
2. **The selection of the beginning** of the time series should be delineated **according to the year from which the coverage is the widest** and implies data availability for the same tourism resorts from the selected year of the beginning of the sample, i.e. for spas from 2014, mountains from 2013 and cities from 2016. Therefore, it would be advisable that the **series on the total number of tourists should begin from 2016** because the coverage is complete for all three categories.
3. Due to newly added tourist resorts in 2022 (particularly for cities), in the analysis on the trends of the number of tourists it would be more appropriate to **exclude the data from 2022 onwards from the time series on the number of tourists by cities until the series from 2022 onwards become long enough** (a minimum of 3-4 years of monthly data or five quarters). Namely, the data from 2022 on newly added tourist resorts (cities) can be used only to have a view of the structure beginning from that year and their year-on-year growth because the data for these new urban tourism resorts in 2021 have not been officially published. Otherwise, if the data on the number of tourists are included in the time series on the number of tourists by cities (from 2022 onwards) there would be a drastic fall of the number of tourists in relation to 2021, which would be, in that way, generated by a larger coverage of newly added tourism resorts and not by a larger inflow of tourists in the already existing tourism urban resorts that were measured during the earlier years.

4. **Every time series on the number of tourists**, whether referring to arrivals or overnight stays (by spas, mountains and cities), it is advisable to **make a separate seasonal adjustment** according to their different seasonality. Then, such seasonally adjusted values of the number of tourists (by spas, mountains and cities) **should be summarised in one unique time series on the total number of tourists** for which the beginning of the sample should be as mentioned above, at the earliest year from which the data are available for all three categories (spas, mountains and cities).

5. Such obtained **corrected series** on the total number of tourist overnight stays (according to what has been mentioned and applied previously) **does not have a moving seasonality** in data over time **and has a better match of the cycle by about 25% with the series on the gross value added of household individual consumption** versus the non corrected series on the number of tourist overnight stays.

6. In the text below, **all the analysis will be performed on the basis of the corrected series on the number of tourists** (as shown in table 1) for the purpose of the simplicity of the analysis made **only through the number of overnight stays of domestic and foreign tourists** by all the categories (spas, mountains, cities).

Table 1: Comparison of the performances of the corrected and non corrected series on the number of tourist overnigh stays

	Series type	Seasonality (min., max.)	Series availability, quarters (Q)	Correlation with GVA of the household individual consumption	Moving seasonality in series
1) Spas	*Multiplicative*	*Q1, Q3*	*Q1 2014 – Q4 2022*	*0.68*	*No*
2) Mountains	*Additive*	*Q4, Q1*	*Q1 2013 – Q4 2022*	*0.75*	*No*
3) Cities	*Additive*	*Q1, Q3*	*Q1 2016 – Q4 2022*	*0.69*	*No*
Total number of tourists – corrected series (1 + 2 + 3)	*Additive*	*Q1, Q3*	*Q1 2016 – Q4 2022*	*0.77*	*No*
Total number of tourists – non corrected series	*Additive*	*Q1, К3*	*Q1 2007 – Q4 2022*	*0.62*	*Yes*

🔔 Remark: For the purpose of simplicity and practicality of the meaning of the mentioned concepts in the table, here is a brief explanation: 1) **additivity** of time series implies a relatively stable span and height of amplitudes (linearity), i.e. without the presence of a significant growth or fall of seasonal variances (deviation from the average of the previous amplitudes) over time. The additivity is expressed as the sum of the components of a series: trend, seasonal and irregular componenets ($X = T + S + I$); 2) contrary to **multiplicity** where there is an increasing or decreasing variance of seasonality over time, which is defined as the product of all three components of the time series ($X = T* S* I$); 3) **moving seasonality** refers to the occurence of the change of the moment of seasonal amplitudes, i.e. the process of seasonality evolution over the period. It reflects on quality deterioration of a series for analysis, forecast and potential important revision of previous data after seasonal adjustments after every new data. It is measured by a two-way F test of a variance (depending whether the series is additive or multiplicative); 4) data for spas, mountains and cities in table 2 are also corrected according to the aforesaid and form a summary, total number of tourists' overnight stays – corrected series. **The corrected series** of the total number of tourists implies that the sample begins in 2016 (for above cited reasons) and groups the previously seasonally adjusted series on overnight stays of domestic and foreign tourists by spas, mountains and cities. **The non corrected series** on the total number of tourists represents the series that makes a simple aggregation of non seasonally adjusted data by spas, mountains and cities starting from 2007 onwards, taking also into account the methodologically inconsistent sums of the added new tourist resorts that were not measured in the previous period, overestimating thus the potential growth of the number of tourists rather based on the naturally added new resorts but not on the larger tourist demand.

Table 2. Arrivals and overnight stays of tourists in the Republic of Serbia, 2007–2022 (data availability)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
SPA RESORTS																
Vrnjacka banja	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Sokobanja	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Arandjelovac – Bukovicka banja	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Mataruska banja	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✖
Banja Koviljaca	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Prolom banja	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✖
Gornja Trepca	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Vranjska banja	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Banja Kanjiza	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Banja Junakovic	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✖
Novopazarska banja	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✔
Banja Vrdnik	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Banja Rusanda	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Banja Palic	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Selters banja	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Lukovska banja	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Gamzigradska banja	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Ribarska banja	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Sijarinska banja	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Banja Vrujci	✖	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔
Niska banja	✔	✔	✔	✔	✔	✔	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔
MOUNTAIN RESORTS																
Zlatibor	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Kopaonik	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Tara	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Mokra gora	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔
Divcibare	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Ivanjica	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✖
Fruska gora	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✔
Zlatar	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Rudnik	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Stara planina	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Goc	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Golija	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✔
OTHER TOURIST RESORTS																
Belgrade – city proper	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✖
Novi Sad – city proper	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✖
Kragujevac	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Subotica	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Belgrade – total	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Novi Sad – total	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Nis	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Krusevac	✖	✖	✖	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔
Sombor	✖	✖	✖	✖	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔
Vrsac	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✔
Cacak	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✔
Pirot	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✔
Kladovo	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✔
Kursumlija	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✔
Becej	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✔

MOUNTAINS

When looking by seasonality (as shown in table 1), **the largest inflows of tourists** in the first quarters **(winter seasons)** every year one determined **domestic and foreign tourists in mountains.** The time series on the total number of tourist overnight stays in mountains, as already explained, has the most relevant cover starting from the first quarter of 2013 (Zlatibor 2007, Kopaonik 2007, Tara 2007, Divcibare 2007, Zlatar 2007, Rudnik 2007, Stara planina 2013 and Goc 2013, as shown in table 2) in order to have Stara planina and Goc included in the coverage. In this way the sample has sufficiently good coverage and lenght (Q1 2013 – Q4 2022).

Chart 1. Average share in the structure of the total number of overnight stays in mountain centres of domestic and foreign tourists, 2013–2022 (%)
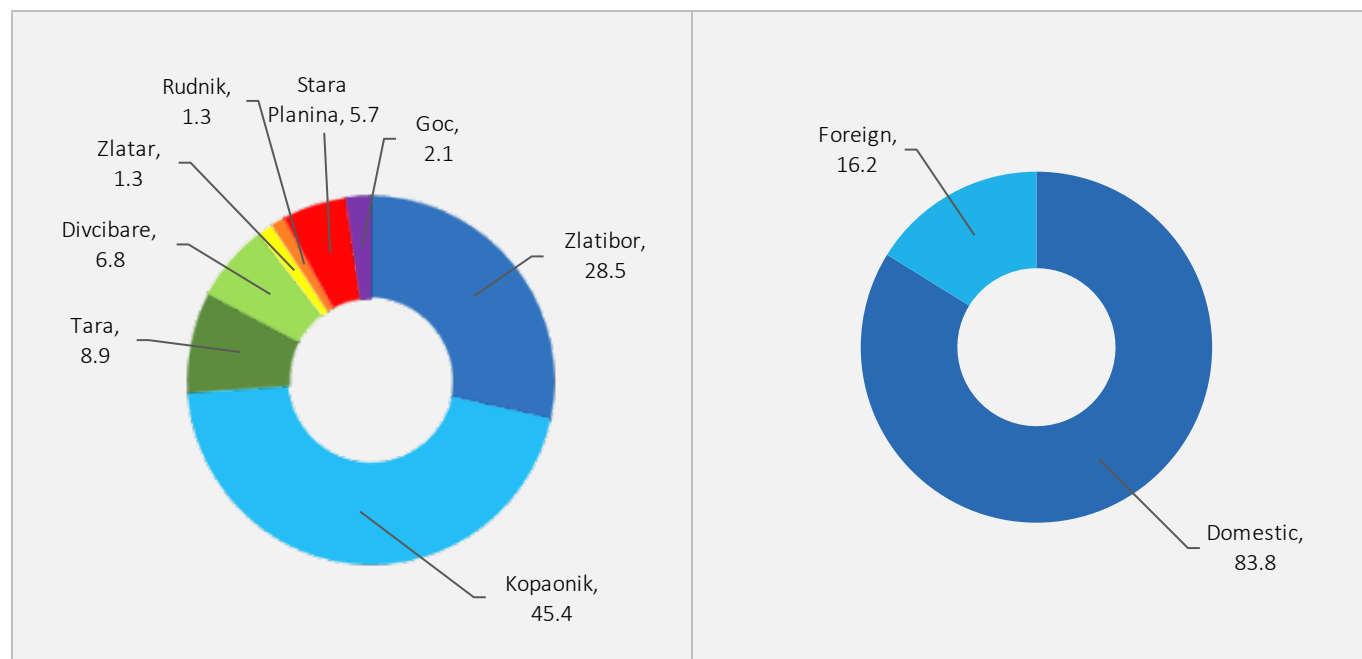
When linking the total number of tourist overnight stays in mountains, in winter seasons over the period 2013-2022, **with the quantity of snow fall** in the same winter seasons by mountains, it is noticed that the direct relationship of the number of overnight stays and quantity of snow fall **is most marked in mountains at lower altitude** (Zlatibor, Divcibare, Stara planina) most probably due to the fact that snow in mountains at higher altitute persists longer because of lower average air temperature (Kopaonik) and that, consequently, tourists can enjoy a longer period of time in winter activities on the snow even if the dry period is more extended. Also, the relationship between the number of overnight stays and quantities of falls is most marked than that with the height of the average temperature, which most probably indicate that domestic and foreign tourists care more about the presence of snow in mountains.

Chart 2. Absolute differences in the total number of tourists and snow fall between winter seasons, by years in mountains, standardised data

Source: SORS, RHMO.

When looking at the average number of tourist overnight stays and average number of sold ski-passes over the period 2013-2022, it could be roughly concluded that **Kopaonik saw the largest average share of skiers (74.2%) in the total number of visitors** and starting from the winter season of 2007 this growth trend of the the share of skiers among the total number of visitors has been constantly increasing. On the other hand, Zlatibor registered the lowest average share of skiers in the total number of visitors, amounting on average to 25.8% in the observed period.

Table 3. Structure of the share of foreign tourists and number of sold ski-passes in winter seasons, by mountain winter centres, 2013–2022

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Mountains, share of foreign tourists, %	12.9	15.8	18.2	19.1	20.4	21.9	24.3	25.2	12.3	26.5
Zlatibor	12.5	17.8	16.5	15.9	17.0	17.4	20.8	19.7	14.5	26.1
Kopaonik	18.5	19.4	22.2	29.0	31.5	36.5	39.2	45.5	16.3	39.6
Tara	3.2	2.6	3.4	2.2	1.5	1.9	1.2	1.4	2.1	3.6
Divcibare	1.2	1.6	1.5	0.4	0.7	0.3	0.5	0.7	0.7	2.2
Zlatar	14.6	11.7	6.1	6.1	5.3	3.2	7.5	5.1	0.7	1.2
Stara planina	12.4	20.1	35.3	37.3	24.8	25.1	25.8	22.1	3.2	9.7
Structure of sold ski-passes	100	100	100	100	100	100	100	100	100	100
Kopaonik	66.2	83.1	73.0	78.6	74.7	73.0	73.7	71.0	73.2	73.5
Stara planina	16.3	8.9	11.7	8.6	7.4	9.6	9.3	8.8	8.3	8.5
Zlatibor	17.5	7.9	15.3	12.7	17.9	17.4	17.0	20.2	18.5	18.0
Share of the number of sold ski-passes in the total number of tourists, %	45.5	51.8	57.2	48.8	51.9	58.7	59.1	67.8	72.1	75.5
Zlatibor	22.4	12.7	25.7	16.2	25.6	27.3	28.8	36.0	37.2	37.4
Kopaonik	51.4	70.5	71.5	70.3	66.7	76.5	75.4	89.5	95.9	96.0
Stara planina	-	70.8	88.1	59.1	68.6	84.8	75.5	73.4	65.4	62.0

Source: Analysis based on the data of SORS and JP „Skijalista Srbije". For easier reading of the data, green numbers indicate a clear growing trade at minimum during four consecutive winter seasons, while dark red indicate the falling trend.

SPAS

The analysis of the seasonal component of the total number of overnight stays indicates clearly that the largest contribution to growth in **the summer season** was that of the **overnight stays of domestic and foreign tourists by spas.** As earlier mentioned (table 2) **it is recommended that the time series** referring to the total number of overnight stays of domestic and foreign tourists by spas **starts from Q1 2014** in order to take also into account the values of newly added spas since 2012 and of the spas Vrujci and Niska banja from 2014. In this way the sample is consistent because growth and fall over the period are determined by real tourism demand and not by a methodologically larger coverage (or potentially exclusion) of new spa resorts.

Chart 3. Average share in the structure of the total number of overnight stays of domestic and foreign tourists in spa resorts, by summer seasons, 2014–2022, %
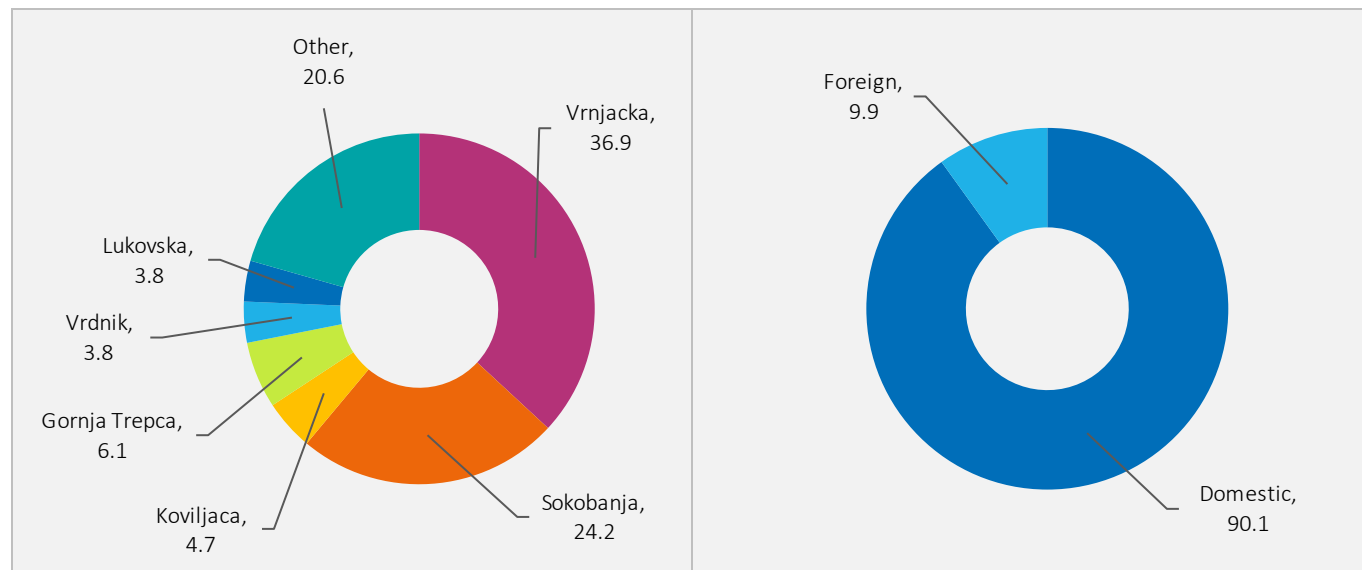
In summer seasons in the period from 2014 to 2022 **the largest number of domestic tourists** visited, on average, Vrnjacka banja (32.3%) and Sokobanja (23.4%), while **foreign tourists** on average visited mostly Vrnjacka banja (4.6%) and Banja Koviljaca (1.1%).

Accommodation capacities by spas of the Republic of Serbia are defined by the following types of accommodation: **categorised** – hotels, rooms, houses, suites, rural tourism households and **non categorised -** lodgings, hostels, camping sites, ethno-houses, and other non categorised accommodation. According to the categorised accommodation, which on average prevails in spas of the Republic of Serbia, a comparative analysis has been made in the scope of every type of categorised accommodation and a derived spa ranking has been formed by quality of all types of categorised accommodation[1].

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[1] According to the methodology of the Ministry of Tourism and Youth every type of categorised accommodation has its range of categories, hotels (1*–5*), and rooms, houses, suites and rural tourism households (1*–4*). As quality is not comparable among different types of categorised accommodation but only within the same type (by category of accommodation), it would be necessary that quality for all the types of accommodation should be measured according to a same scale in order to establish at the end the averages of each of the types in the derived general quality categorisation of accommodation for every spa. In this context, an attributive ranking scale has been formed, where: 4 – excellent, 3 – very good, 2 – pretty good, 1 – satisfactory accommodation for every of the types of categorised accommodation, and the value for each of the type of accommodation has been obtained as weighted mean of all the categories within one type (the shares for weights were the shares of the number of beds by all categories). In this way, every type of categorised accommodation has obtained its average category from which is obtained the non weighted average value. When deriving the general level of categorisation for every spa, one has taken into consideration the availability of accommodation in every spa in every available type of categorised accommodation in order to avoid bias of the total quality appraisal of accommodation because of the availability of only some types of accommodation. For example, the absence of hotels in accommodation capacities of some spas is included in the final average, avoiding this way a higher appraisal based on the availability of only selected types of accommodation which have for example a higher category. Thus, it is possible to derive an unbiased ranking of quality of the types of accommodation categories for all the spas of the Republic of Serbia, to make their comparative analysis and bring them into correlation with the number of overnight stays of domestic and foreign tourists.

The comparative analysis by spas indicates that **the largest average appraisal of the category of accommodation quality goes to** the following spas: Bukovicka, Kanjiza, Sokobanja, Vrdnik and Vrnjacka banja.

The analysed data also indicate that **spas with a higher value of the general appraisal** of category quality **have also a higher percentage of the share of foreign tourists** among the total number of visitors.

The larger number of overnight stays by bed in the summer season 2022, which can be an indicator of the number of visits but also a de facto indicator of the lenght of stay, was recorded in Lukovska banja (77 overnight stays per bed), Rusanda (72 overnight stays per bed) and Sijarinska banja (61 overnight stays per bed), while **spas with the smallest number of overnight stays per bed** (potentially longer stay per bed or simply smaller number of visitors) were Gamzigradska (23 overnight stays per bed), Selters (24 overnight stays per bed), Palic (26 overnight stays per bed) and Vrdnik (34 overnight stays per bed). Observed from the angle of accommodation structure, the spas with the smallest number of overnight stays per bed (potentially longer stay per bed) were at the same time spas with a significantly higher demand for non categorised accommodation versus the categorised one, which presumably make them economically more favourable for tourists. Every cited conclusions are shown as summary in the table below.

Table 4. Derived categorisation of spas by type of categorised accommodation capacities, as at 2022.

| | Derived categorisation by accommodation type (4 - excellent, 3 – very good, 2 – pretty good, 1 safisfactory) | | | | | | Share in the total number of overnight stays, % | | % in the total number of overnight stays in all spas in 2022 | Number of beds | Number of overnight stays | Number of tourists in season per bed (number of overnight stays/number of beds) |
	Total appraisal	Hotel	Room	House	Suite	Rural tourism households	Domestic	Foreign				
Bukovicka	3.5	4	4	3	4	3	78.3	21.7	2.0	505	25053	50
Vrnjacka	2.8	3	2	2	3	4	91.0	9.0	24.5	7224	311153	43
Koviljaca	2.7	3	2	2	3	3	69.4	30.6	5.1	1502	64629	43
Vrujci	2.6	1	3	3	3	4	97.2	2.8	4.4	1108	55477	50
Vrdnik	2.4	3	2	2	2	2	81.9	18.1	5.8	2174	73805	34
Gamzigradska	2.2	-	-	3	4	4	91.7	8.3	0.1	78	1771	23
Kanjiza	2.0	3	2	-	2	3	83.2	16.8	1.2	548	14654	27
Niska	1.9	-	1	3	2	3	91.3	8.7	1.5	434	18506	43
Palic	1.9	3	1	1	2	2	53.0	47.0	3.3	1635	42455	26
Sokobanja	1.8	2	1	2	2	2	98.4	1.6	32.2	8270	409297	49
Vranjska	1.4	-	2	-	2	3	96.9	3.1	0.6	150	8186	55
Sijarinska	1.3	-	2	2	3	-	99.5	0.5	3.7	773	47097	61
Ribarska	1.1	2	1	1	-	1	97.9	2.1	3.3	764	41753	55
Rusanda	1.0	-	2	3	-	-	95.5	4.5	0.5	95	6858	72
Selters	1.0	-	1	4	-	-	93.8	6.2	0.5	243	5929	24
Lukovska	0.9	2	2	-	-	-	94.7	5.3	5.9	978	75240	77
Gornja Trepca	0.8	-	1	-	2	-	93.8	6.2	5.4	1197	68266	57

🔔 Remark: SORS analysis

CITIES

Compared to mountains and spas, the cities in the Republic of Serbia generally attract the largest number of tourists all over the year. However, when looking from the angle of the seasonal component they contribute most to the growth of the total number of overnight stays during the year only in the **spring (Q2) and autumn season (Q4).** As already explained earlier, the sample of the analysis covers the period from 2016 to 2022 (table 2) in order to ensure the consistency of the sample from the observed period, i.e. to avoid the growth of the number of tourists in 2022 based on the extension of the number of new cities for which data were not available for the earlier years).

Observed by spring season over 2016–2022, the largest average share of the number of **overnight stays of domestic tourists** in the total number of overnight stays was that of the city of Krusevac (83.2%), Sombor (66.4%) and Kragujevac (63.8%), while the largest number of **overnight stays of foreign tourists** in the total number of overnight stays was noted as usual in the city of Belgrade (74.4%), Novi Sad (57.5%) and Nis (41.3%). The ratios in the structure of the number of overnight stays of domestic and foreign tourists differ insignificantly from the situation in the aforesaid averages of the share of spring seasons in the same period.

Chart 4. Average share in the structure of the total number of overnight stays (**domestic and foreign tourists)** in cities, by **spring season,** 2016–2022, %
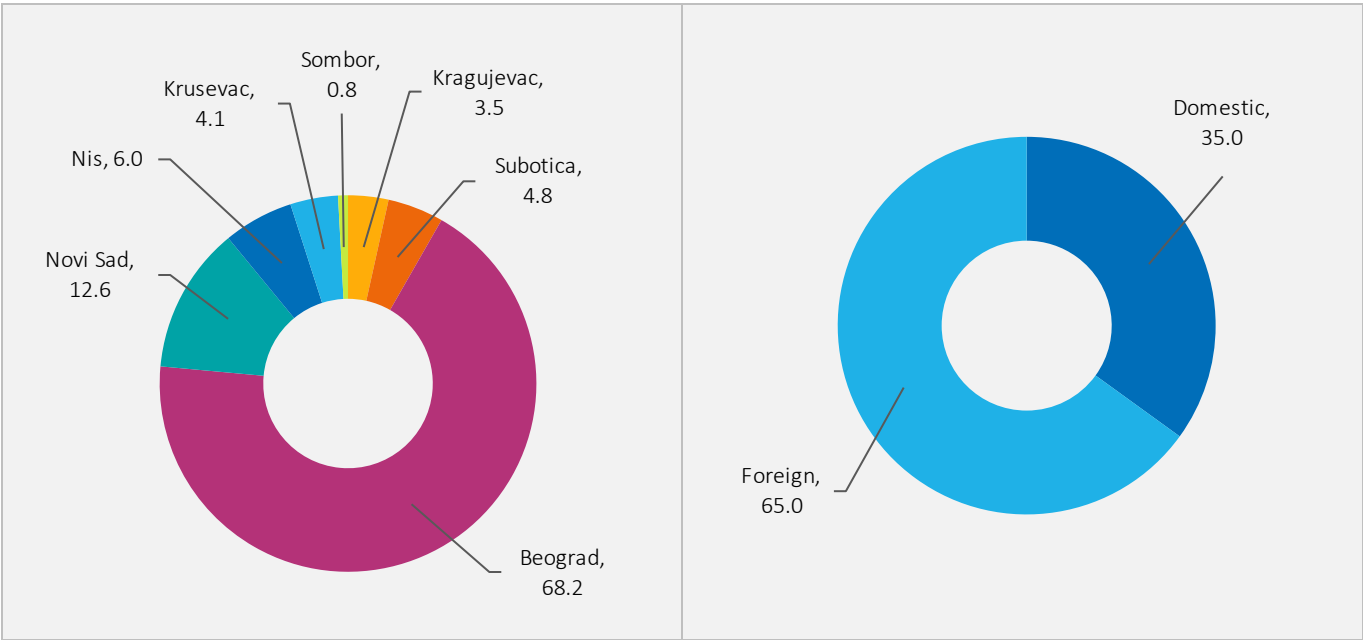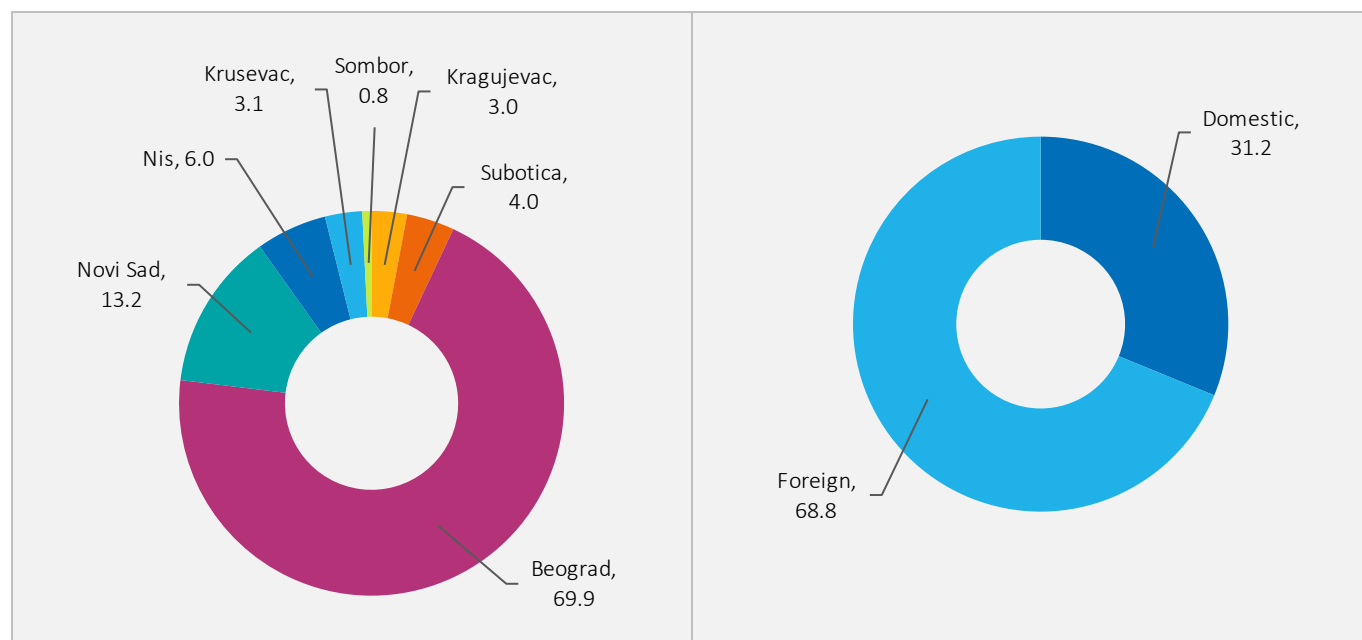
Chart 5. Average share in the structure of the total number of overnight stays (**domestic and foreign tourists**) in cities, by **autumn season,** 2016–2022, %

As far as the **countries from which foreign tourists come, in spring seasons** (2016–2022) the largest average contibution to the growth of the number of overnight stays was that of the tourists from Russia (particularly marked in 2021 and 2022 due to the known geopolitical reasons), Turkey, B&H, Montenegro and North Macedonia. **In autumn seasons the ranking of countries is similar** except that the number of tourists from China was higher than the average of spring seasons in the same period, therefore they rank third, right behind the tourists from Turkey.

When excluding the countries from the region and looking at tourist arrivals by main region of the European continent, one concludes that the following countries of **Western Europe** have the largest contribution to overnight stays: Germany, Austria and France, and from **Northern Europe** the countries that account most of the total number of tourists are: Sweden, Denmark and Norway. Generally, the largest number of tourists comes from the **Eastern European** countries: Russia, Romania and Bulgaria. **Southern Europe** is mostly represented by the tourists from Greece, Italy and Spain, and **Central Europe** by Hungarians, Poles and Czechs.

CONCLUSION

The analysis of toursim trends showed a number of main **empirical findings** that can be considered as findings **of methodological and analytical character.** Methodologically, in the context of the selection and optimisation of the adequate sample and its lenght. It is in this sense that were defined the coverage and beginning of the sample for mountains (from Q! 2013), spas (Q1 2014) and cities (Q1 2016), with clearly cited arguments that resulted in better quantitative performances towards household individual consumption, when compared with traditional alternative data from processing. Aslo, in the methodological context, the form of quantitative evaluation of the quality of accommodation in spas in the Republic of Serbia was derived, ensuring thus a relatively reliable view in accommodation quality level, based on which spas were ranked.

The analytical character of the obtained results is linked to the already mentioned methodological character and refers to the contribution, trends and structures of the year-on-year growth of the number of overnight stays of domestic and foreign tourists by mountains, spas and cities of Serbia. Different indicators, i.e. the most relevant ones for a type of offer were used in the analysis of each type of tourism offer (mountains, spas, cities).

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 growth rate of economic activity in the short term. The family of leading indicators by sections and corresponding forecasts are presented below.

1.1. FORECASTS OF CONSUMER PRICE TRENDS[3] IN Q3 2023

97.5%
LIKELYHOOD
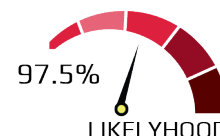
Chart 1.1. Comparison of the cycle of the SORS consumer price leading composite indicator (SORS CPI) and total consumer prices in the Republic of Serbia; seasonally adjusted, detrended and standardised data, deviations from the average for the period, Q1 2007 – Q3 2023 (%)

Legend:
— Consumer prices
— SORS leading indicator (CPI)
— Long-term average for the period

In Q3 2023, the year-on-year consumer price growth, **according to the model of the leading indicator, is forecast to be about 12.6%**. The growth of total consumer prices in Q3 2023 is expected to be mostly under the influence of the increase in **the prices of food and electricity,** which volume of influence distinguishes them from other factors in the structure of the year-on-year consumer price growth rate. Despite a marked slower dynamics of slowing down consumer price inflation, in Q3 2023mit is still expected, according to the consumer price **leading indicator** (SORS CPI) **to have the earlier announced establishment of inflation peak** and gradual fall of the year-on-year consumer price growth rate.

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[3] 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 indicator (SORS CPI),** 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.**

Chart 1.2. Structure of the forecast year-on-year consumer price growth rate[4], Q3 2023 (total 100) (%)

Legend:
- Food and non-alcoholic beverages
- Tobacco
- Electricity
- Fuel
- Other

Pie chart values: 49.3, 2.3, 8.4, 2.6, 37.4

Based on the results of the fuel price indicator (SORS IPC-G, i.e. CPI-F), **fuel price** in Q3 2023 is expected to be on a slightly lower level than in the first half of 2023, making thus the drastic **decreasing trend** to persist **five quarters in a row**, resulting, from Q2 2023, in a more marked influence on the total inflation of consumer prices.

As already observed in section 7, fuel price is, on average, about one quarter ahead of producers' prices of food products, while the latter are also one quarter ahead from food prices. Accordingly, prices of food and non-alcoholic beverages are expected to considerably slow down in Q3. Based on the results of the leading food price indicator (IPC-H, i.e. CPI-F), the year-on-year growth rate is expected to be about 20.0%.

Due to regular excise in july **tobacco price** in Q3 2023 will additionally grow (in relation to the January excise), realising a year-on-year growth of about 6.7%.

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[4] CPI-G (i.e. CPI-F) 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.

An analysis of food price trends in Serbia has allowed to obtain the composite leading indicator of food price (CPI-H, i.e. CPI-F), which main goal is the forecast of food price for the next three months. After having analyzed a large number of variables, several ones with the best leading forecast characteristics for food price in Serbia have been singled out: harmonized food price index in Hungary, average purchase price of products of crop producers, import of the section Manufacture of food products, import of milk, dairy products and eggs, stocks of beef and veal, retail price index of the total basket of vegetables.

The indicator of tobacco price is formed based on the trend of excise on tobacco and producers' tobacco prices for domestic market, which proved to be the best for forecasting the variability of the price of tobacco and tobacco products in Serbia.

The forecast of retail prices trends in the final phase represents the integration of previously obtained results of the leading indicators of retail prices of the analyzed groups of products: fuel (CPI-G, i.e. CPI-F), food and non-alcoholic beverages (CPI-H, i.e. CPI-F) and tobacco (IPC-D). The second-stage, composite and weighted aggregation of the above described indicators has allowed to derive a new composite leading indicator (abbreviated CPI), which aim is to forecast retail consumer prices for one to two quarters ahead.

1.2. FORECAST OF INDUSTRY GVA TREND
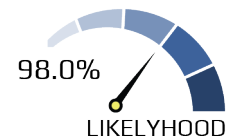
98.0%
LIKELYHOOD

Chart 1.3. Comparison of the cycle of the leading indicator INDIPAS and physical volume of total industry, seasonally adjusted, detrended, leveled out and standardised data, deviation from the average for the period, Q1 2001 – Q2 2023 (%)
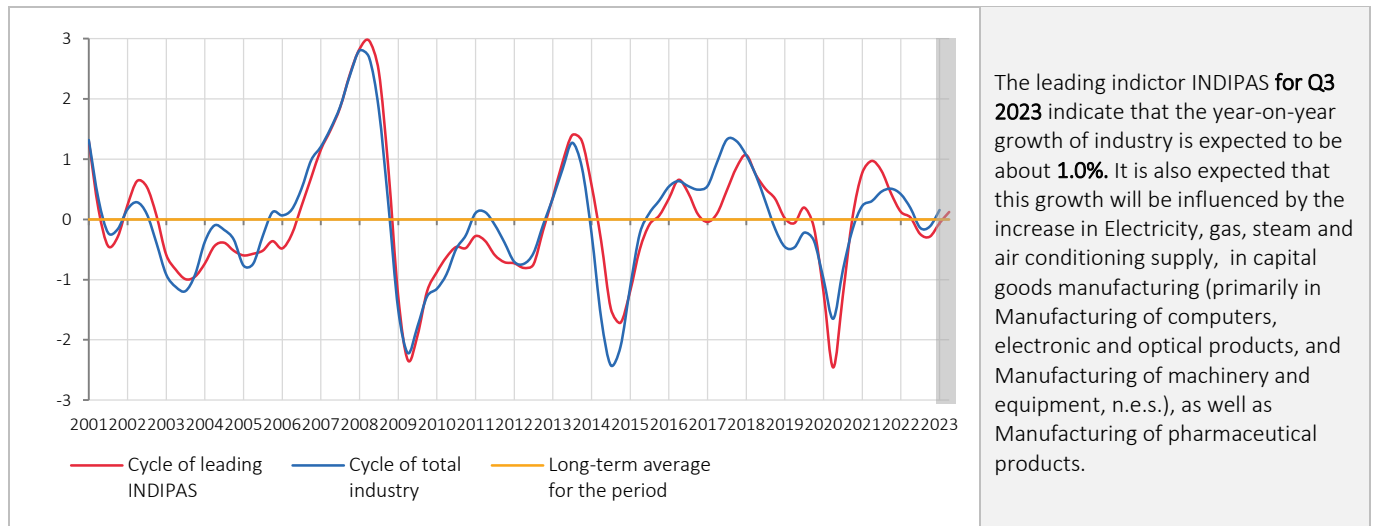

Legend:
- Cycle of leading INDIPAS
- Cycle of total industry
- Long-term average for the period

The leading indictor INDIPAS **for Q3 2023** indicate that the year-on-year growth of industry is expected to be about **1.0%.** It is also expected that this growth will be influenced by the increase in Electricity, gas, steam and air conditioning supply, in capital goods manufacturing (primarily in Manufacturing of computers, electronic and optical products, and Manufacturing of machinery and equipment, n.e.s.), as well as Manufacturing of pharmaceutical products.

Chart 1.4. Comparison of the realised and forecast annual industry GVA growth rates, (%)

Legend:
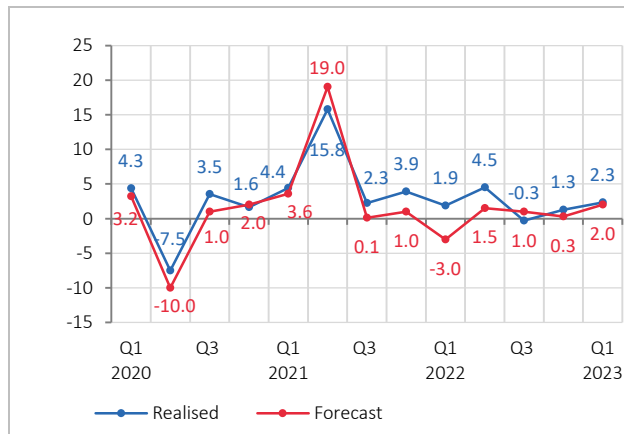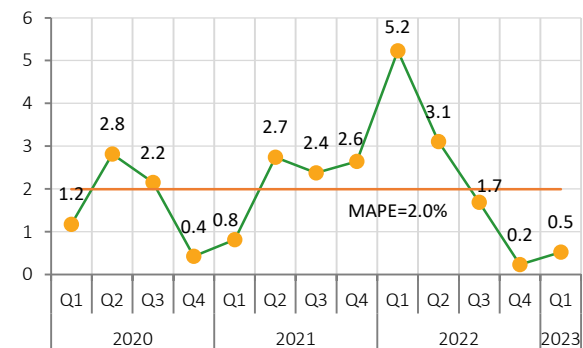- Realised
- Forecast

Chart 1.5. Mean absolute percentage error - *MAPE*)[5], forecasts of industry GVA growth, Q1 2020 – Q1 2023 (%)

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[5] 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 $\text{MAPE} = \frac{100\%}{n} \sum_{t=1}^{n} \left| \frac{A_t - F_t}{A_t} \right|$, 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 likelihood 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 GVA TRENDS
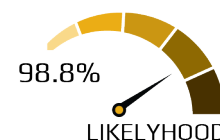
98.8% LIKELYHOOD

Chart 1.6. Comparison of the cycle of the leading service indicator GVA, seasonally adjusted, detrended, leveled out and standardised data, deviation from the average for the period, Q1 2006 – Q2 2023 (%)

— Cycle of service GVA
— Cycle of the leading service indicator
— Long-term average for the period

Based on the model of the leading leading service indicator, **the year-on-year growth** of total services in **Q2 2023** is forecast at **about 0.7%**. This growth is expected to be mostly influenced by the increase in services in **Tourism and catering trades, Scientific activities, and Administration.**
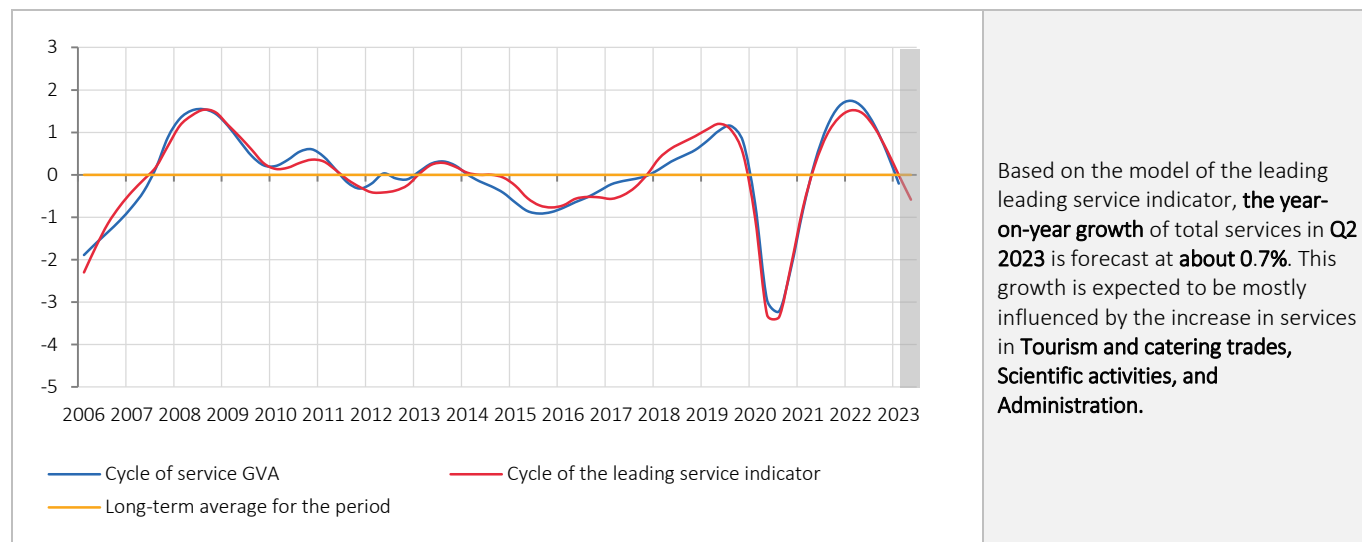
Chart 1.7[6]. Comparison of realised and forecast annual growth rates of service GVA (%)
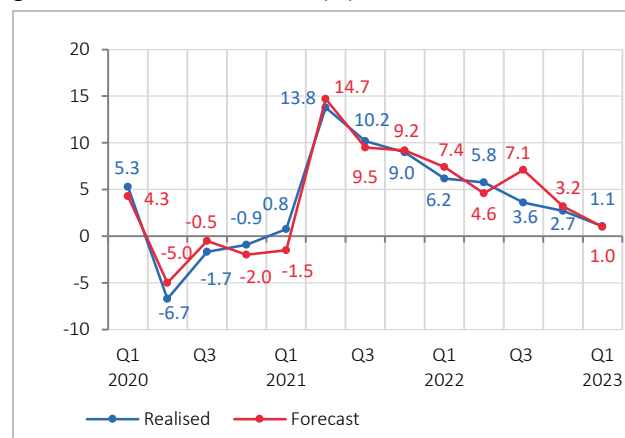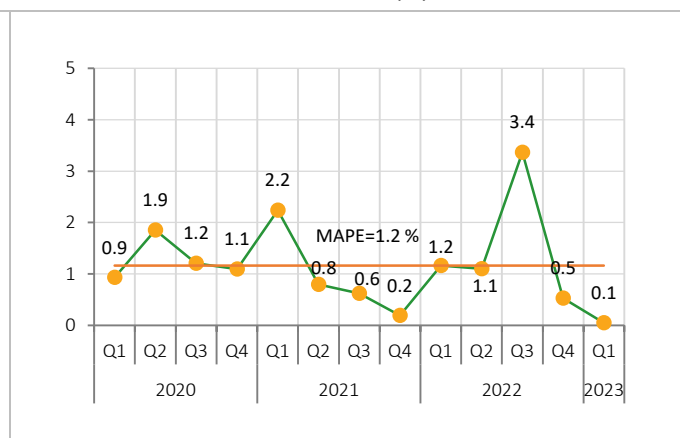

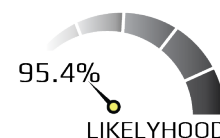— Realised — Forecast

Chart 1.8. Mean absolute percentage error - *MAPE*, forecasts of service GVA, Q1 2020 – Q1 2023 (%)

MAPE=1.2 %

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[6] Forecast values mentioned in the chart are published in the previous issues of *Trends*.

1.4. FORECAST OF CONSTRUCTION GVA TRENDS

95.4%

LIKELYHOOD

> The slight year-on-year fall of construction GVA in Q1 2023 (-1.5%) was mostly conditioned by the decline of the activity in constructing residential and non-residential buildings, while the considerable growth of the activity in constrcuting roads helped significantly this fall not to go deeper. In Q1 2023, the most current building sites were: Morava Corridor, modernisation of the railway Belgrade – Novi Sad, highway Belgrade – South Adriatic (section Preljina – Pozega) and highway Ruma – Sabac – Loznica.
> By applyiing the forecast model, **in Q2 2023 construction GVA is expected to fall by about -2.4%.**

Table 1.1. Sructure of the contributin 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)	19.8	18.3	19.4	14.4	-5.7	-6.9	-12.1	-12.5	-1.5	-	-	-
1. Buildings, pp. (1a+1b)	13.4	7.2	5.3	5.8	-4.7	-2.9	-6.6	-4.6	-10.9	-	-	-
1a. Residential buildings	*10.4*	*3.7*	*1.1*	*-0.1*	*-4.8*	*-1.5*	*-2.0*	*-0.2*	*-3.6*	-	-	-
1b. Non-residential buildings	*3.0*	*3.6*	*4.2*	*5.8*	*0.1*	*-1.4*	*-4.6*	*-4.4*	*-7.2*	-	-	-
2. Other buildings, pp. (2a+2b+2c+d)	6.4	11.0	14.1	8.7	-1.0	-4.0	-5.5	-7.9	9.4	-	-	-
2a. Transport infrastructure	*1.1*	*13.9*	*14.3*	*12.9*	*5.1*	*0.6*	*-0.2*	*-3.3*	*10.8*	-	-	-
2b. Pipelines, communication and electric power lines	*2.9*	*-4.5*	*1.4*	*-2.3*	*-4.7*	*-2.5*	*-4.0*	*-3.6*	*0.4*	-	-	-
2c. Complex construction on building sites	*2.2*	*1.8*	*-0.5*	*-2.5*	*-1.5*	*-1.8*	*-0.7*	*-0.2*	*-0.9*	-	-	-
2d. Other civil engineering, not elsewhere classified	*0.3*	*-0.1*	*-1.2*	*0.5*	*0.1*	*-0.3*	*-0.6*	*-0.7*	*-0.9*	-	-	-
Contribution to construction GVA growth rate, pp.	0.8	1.0	1.1	1.0	-0.3	-0.4	-0.8	-0.9	-0.1	-	-	-

Chart 1.9. Comparison of realised and forecast[7] annual construction GVA growth rates (%)

Legend: Realised; Forecast
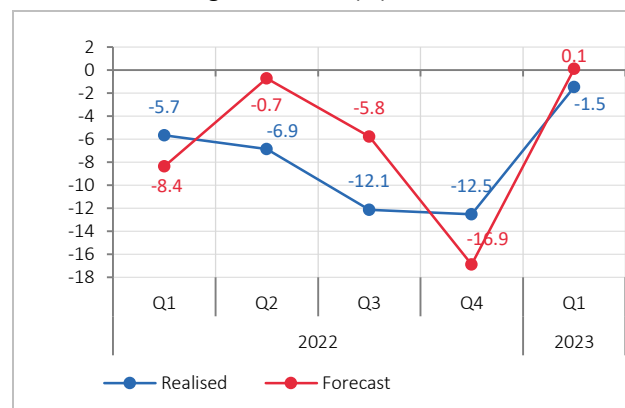
Chart 1.10. Mean Absolute Percentage Error - *MAPE*), forecasts of construction GVA growth, Q1 2020 – Q1 2023 (%)

MAPE=4,6%

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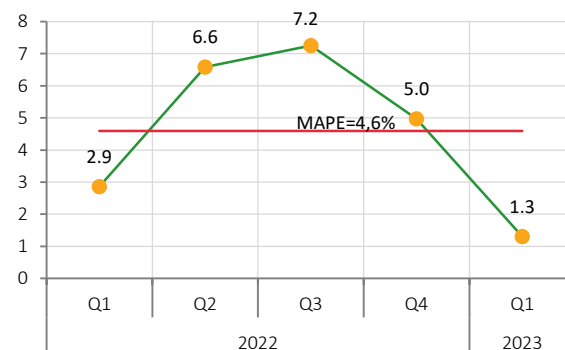
[7] The forecast data presented in graph 1.1 was obtained by simulating the forecast based on the returned sample from Q1 2022 (by successively repeating the forecasting procedure after each "new" data of the leading indicator of construction activity SORS GRIPAS). Only the data for Q4 2022 was officially published in the previous (December 2022) issue of Trends.

1.5. MODEL OF AGRICULTURE FORECAST – SYSTEM AGRIPAS[8] („May scenario")

94.4%
LIKELYHOOD
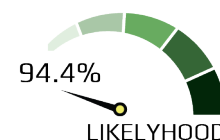
By applying the system AGRIPAS (model of crop and livestock production), and based on preliminary and estimated parameters of both models in the so-called **May scenario**, **the year-on-year agriculture GVA growth rate is estimated at 15.0%** for 2023. In 2023, GVA of crop production is expected to grow by about 21.6% and livestock production to fall by about -4.4%. Based on the obtained results of the **May scenario** of the AGRIPAS model, the contribution of the agriculture GVA to the annual GDP growth rate in 2022 would be approximately 1.0 pp.

Table 1.2. Comparison of forecast and realised annual agriculture GVA growth rates

Year	Forecasst – May scenario	Forecasst – September scenario	Realised agriculture GVA based on the statistical release of SORS national accounts, %	Relative deviations of the May scenario from the realisation, %	Relative deviations of the September scenario from the realisation, %
2018	12.8	16.5	15.1	-2.0	1.2
2019	-3.8	-2.3	-1.7	-2.2	-0.7
2020	1.5	2.3	2.3	-0.7	0.1
2021	1.2	-1.5	-5.7	-7.0	-4.1
2022	6.5	-4.9	-8.3	16.1	3.7
2023	15,0	-	-	-	-

⚠ Remark: The relative deviation of the forecast value from the realised one by (+/-) 5% is the interval limit of validity of a given forecast (95-percentabe likelihood of the indicator). The forecast values listed in the table are published in the previous issues of *Trends*. The final projection of agriculture GVA in 2022 will be finishednin September 2022 („September scenario") by publishing the AGRIPAS results, based on the realised inputs of the model, when we will also form the interval of the agricultural production and its final impact on GDP. Once the final data are published, we will check the efficiency of the forecast assumptions and the results of the first May forecast.

Chart 1.11. Real and model-based estimate of livestock production GVA, annual growth rates
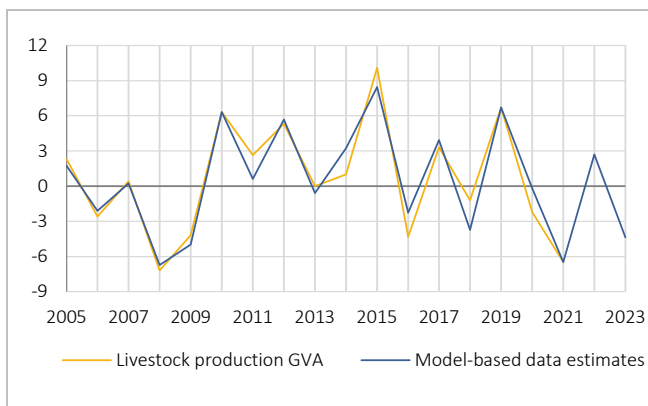
Chart 1.12. Real and model-based estimate of crop production GVA, 1947 = 100

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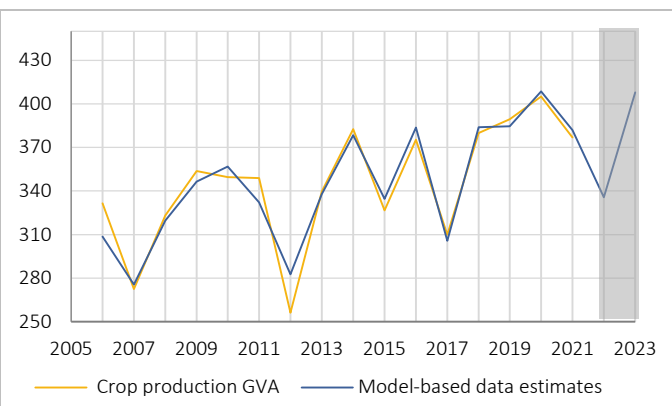
[8] The model of crop production includes separate modeling of the production of wheat and maize, taking into account the factors of rainfalls in sowing periods as well as in periods of generative phases – from tillering, accelerated growth up to the phase of grain filling for wheat and maize, the estimate of harvesting areas, variables of drought years of crops, the indicators of soil humidity (standardised rainfall index and Palmer Z index). The results of the estimates of agriculture trends, which are based on the model of crop production, will be given in the May and September scenarios, when it will be approximately possible to obtain final agriculture results and their quantitative influence on GDP growth rate in the current year. The model of livestock production is based on the structural model of livestock increase and model of primary livestock products (which mostly depends on the results of the model of milk production).

1.6. SUMMARY OF OBTAINED RESULTS OF LEADING INDICATORS BY GVA SECTOR FOR Q2 2023

Table 1.3. Forecasts of GVA of selected sections and their estimated contribution to GDP, Q2 2023

Q2 2023	Agriculture	Taxes and contributions	Industry	Construction	Services
Quarterly growth rates, %	15.0	-0.7	1.0	-2.4	0.7
Contribution to the growth rate of GDP (pp.)	0.9	-0.1	0.2	-0.1	0.4

2. GROSS DOMESTIC PRODUCT

In the first quarter of 2023, real GDP growth amounted 0.7%, compared to the same period of the previous year. Significant positive contribution to GDP growth rate in the quarter was made by the section of services, excluding trade, with 1.0 p.p. Significant negative contribution was noted in the section of trade, with 0.4 p.p.

Observed by expenditure aggregates, in the first quarter of 2023, compared to the same period of the previous year, gross fixed capital formation and exports recorded growth rates of 2.0% and 8.3%, with a contribution to GDP trend of 0.4 p.p. and 5.2 p.p., respectively. Individual consumption decreased by 0.2%, government consumption by 4.9%, and imports by 1.8% compared to the same period of the previous year, contributing to GDP growth rate with 0.2 p.p., 0.8 p.p. and 1.3 p.p., respectively.

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

	2021				2022				2023
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
GDP	1.7	13.8	7.8	7.3	4.0	3.8	1.0	0.5	0.7
Private consumption	-2.0	17.3	8.3	7.5	6.8	3.8	3.0	1.5	-0.2
Government consumption	1.7	-1.5	9.3	7.2	2.7	4.9	-3.8	-2.4	-4.9
Gross fixed capital formation	11.5	25.1	15.6	13.0	1.1	2.1	-1.9	-2.7	2.0
Exports	8.6	36.3	22.5	14.0	20.0	21.6	16.9	12.9	8.3
Imports	-1.5	42.4	21.2	13.8	34.9	22.9	11.0	6.6	-1.8

Chart 2.1. Contributions to quarter-on-quarter GDP growth rates – expenditure aggregates (p.p.)
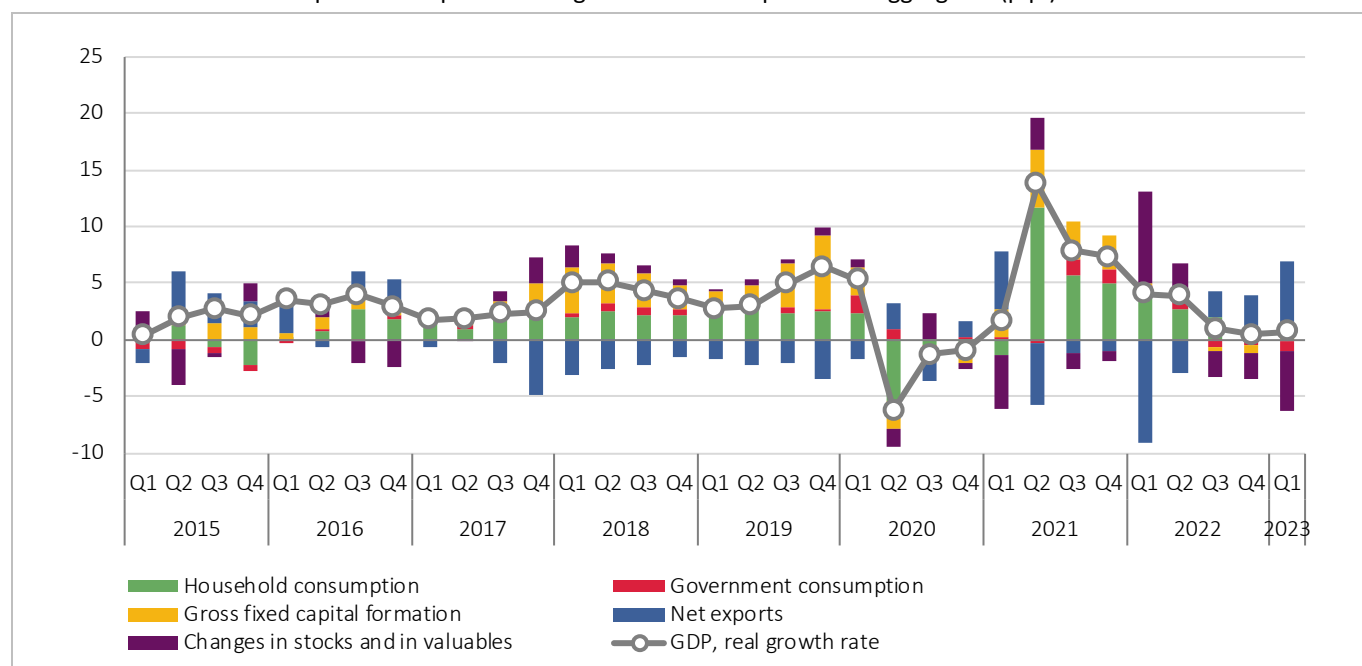
Observed from the production side, the greatest positive contribution to the GDP growth rate in Q1 2023 resulted from the section of services, excluding trade, 1.0 p.p.

Significant negative contribution to GDP trend was made by the section of trade, with 0.4 p.p.

Table 2.2. GDP – production side, real growth rates, Q1 2021 – Q1 2023 (%)
(comparison with the same period of the prevous year)

	2021				2022				2023
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
GDP	**1.7**	**13.8**	**7.8**	**7.3**	**4.0**	**3.8**	**1.0**	**0.5**	**0.7**
Agriculture	-5.9	-5.4	-5.6	-5.8	-8.4	-8.6	-8.5	-7.8	5.4
Industry and water supply	4.4	15.8	2.3	3.9	1.9	4.5	-0.3	1.3	2.3
Construction	19.8	18.3	19.4	14.4	-5.7	-6.9	-12.1	-12.5	-1.5
Trade	8.2	23.4	10.6	10.1	7.6	5.5	2.4	0.4	-3.3
Services, excluding trade	-1.2	11.2	10.0	8.8	5.7	5.9	3.9	3.4	2.4
Net taxes	-0.9	16.6	9.2	8.3	8.1	5.1	2.5	1.1	-1.3

Chart 2.2. Contributions to quarter-on-quarter GDP growth rates – production side (p.p.)

Gross domestic product
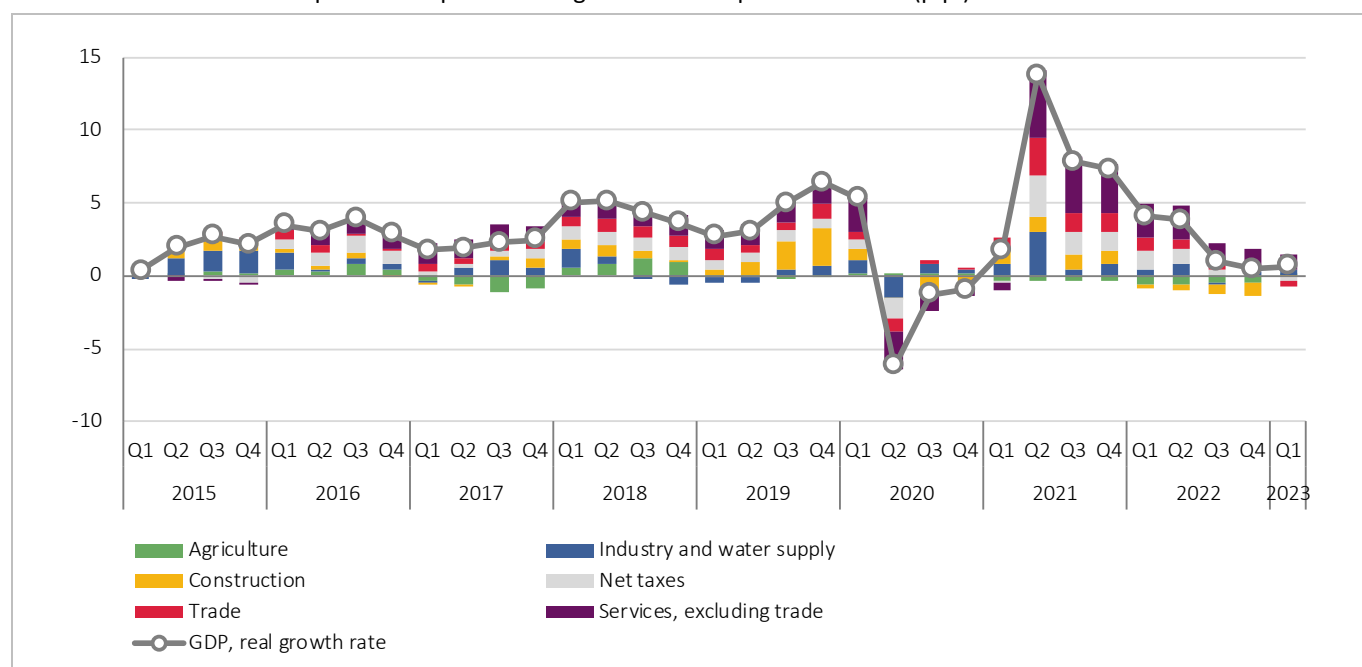
3. INDUSTRIAL PRODUCTION

3.1. TOTAL INDUSTRIAL PRODUCTION

Total industrial production in Serbia, in the Republic of Serbia in the first quarter of 2023 increased by 2.5% relative to the same period last year. Growth was noted in two sections: Electricity, gas and air conditioning supply (18.6%) and Minning and quarrying (4.5%), while the section of Manufacturing recorded a fall of production of -1.5%.

Chart 3.1. Cumulative trend of total industrial production and its sections, growth rates (%)
(Q1 2023 relative to Q1 2022)
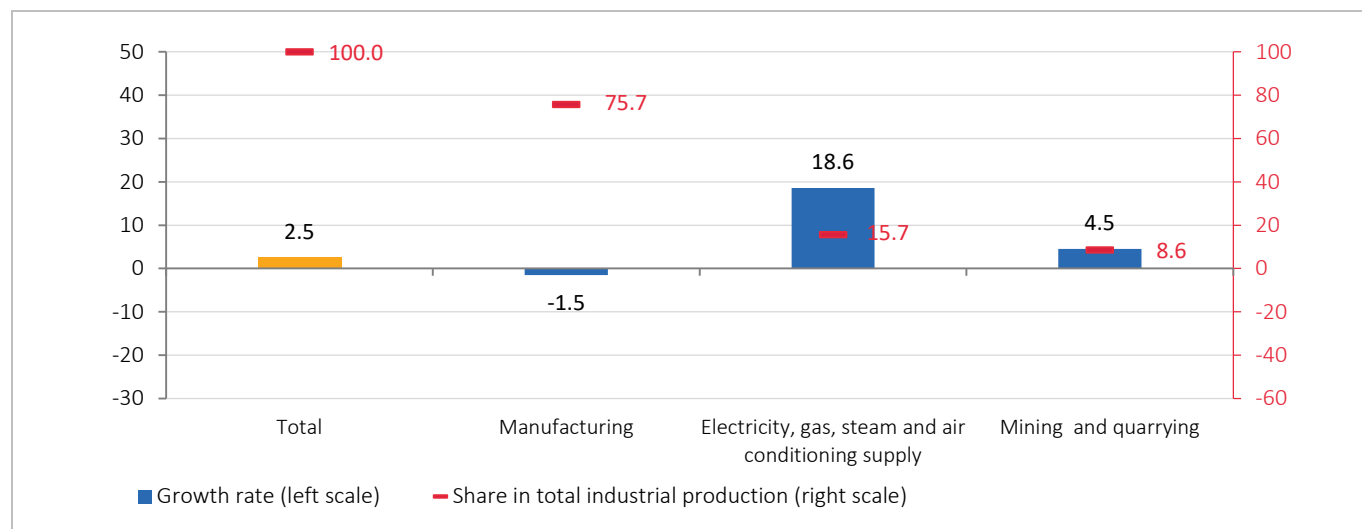
Chart 3.2. Industrial production growth rates by MIGs (%) (Q1 2023 relative to Q1 2022)
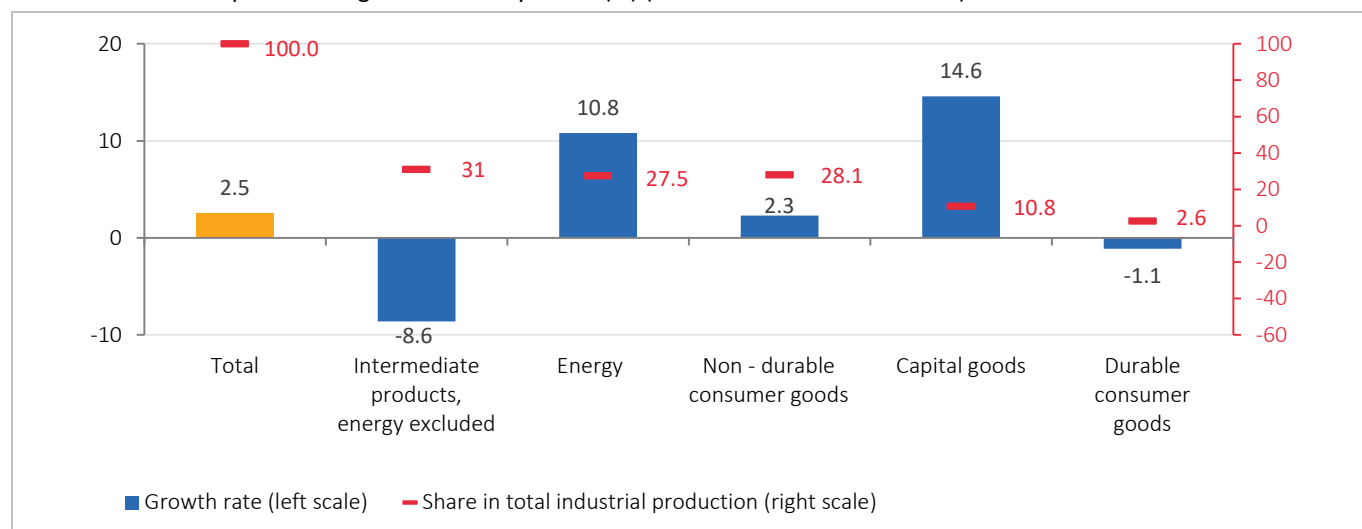
The sections of Electricity, gas, steam and air conditioning supply and Mining and quarrying contributed to the growth of Industry in the first quarter of 2023 with 3.4 p.p. and 0.4 p.p. each, while the section of Manufacturing had a negative contribution (-1.3 p.p.).

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

	2021				2022				2023	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q1-Q2[1]
Industrial production – total	104.2	116.0	102.6	103.7	101.9	104.8	99.4	100.7	102.5	**101.0**
Manufacturing	103.2	117.0	100.4	102.9	104.1	104.7	99.1	97.8	98.5	**99.0**
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	...
Mining and quarrying	109.0	124.6	140.8	142.9	139.0	132.4	108.5	116.5	104.5	...

[1] Prognoses (obtained on the basis of time serieis analysis mode).

3.2. MANUFACTURING (C)
(share of 75.7% of total industrial production index)

Trend-cycle component of Manufacturing in the first quarter of 2023 recorded 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)
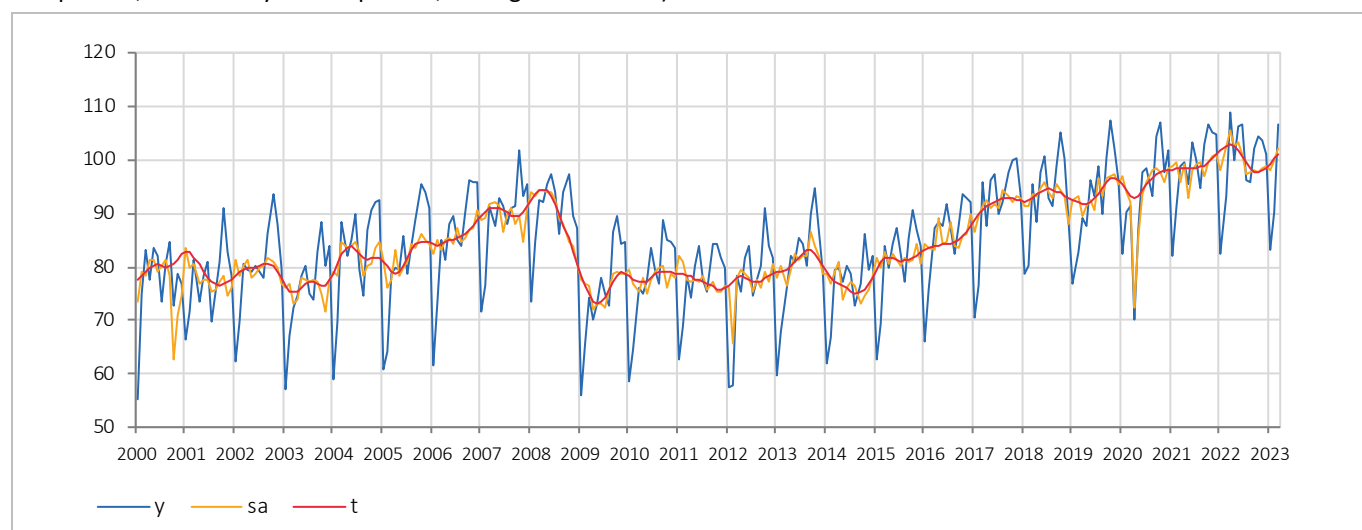
Observed by divisions, Manufacturing in the first quarter of 2023 increased in 13 out of 24 divisions (mutually participating with 33.1% in total industry), if compared with the same period of 2022. The most significant divisions – measured by the share in total industrial production – in which positive results were noted in the first quarter of 2023 were: Manufacture of coke and refined petroleum products (growth of 2.3%), Manufacture of basic pharmaceutical products and pharmaceutical preparations (growth of 11.4%).Manufacture of beverages (growth of 6.6%), and Manufacture of electrical equipment (growth of 2%).

Decrease was recorded in eleven divisions (mutually participating with 42.7% in total industry): Manufacture of food products (fall of -0.2%), Manufacture of rubber and plastic products (fall of -2.7%), Manufacture of metal products, except machinery (fall of -12.4%) and Manufacture of chemical products (fall of -16.8%).

Chart 3.4. Manufacturing by divisions, cumulative growth rates (%) (Q1 2023 relative to Q1 2022); divisions are presented in ascending order according to shares in total industrial production)

■ Cumulative growth   Share (%)

Division	Share (%)	Cumulative growth
Repair and installation of machinery and equipment	0.5	21.7
Manufacture of leather and related products	0.6	-21.8
Manufacture of textiles	0.6	-1.1
Manufacture of other transport equipment	0.8	13.6
Printing and reproduction of recorded media	0.9	-14.0
Manufacture of computer, eletronic and optical products	1.0	29.8
Manufacture of wood and of products of wood and cork, except furniture	1.0	3.4
Other manufacturing	1.1	3.7
Manufacture of furniture	1.4	-7.6
Manufacture of tobacco products	1.7	1.3
Manufacture of wearing apparel	1.8	8.6
Manufacture of vehicles and trailers and semi-trailers	2.0	18.4
Manufacture of paper and paper products	2.8	-10.7
Manufacture of basic metals	3.1	-40.8
Manufacture of non-metallic mineral products	3.1	-5.7
Manufacture of machinery and equipment n.e.c.	3.5	28.5
Manufacture of electrical equipment	3.5	2.0
Manufacture of chemicals and chemical products	3.8	-16.8
Manufacture of beverages	4.0	6.6
Manufacture of basic pharmaceutical products and pharmaceutical preparations	4.8	11.4
Manufacture of fabricated metal products, except machinery and equipment	5.7	-12.4
Manufacture of rubber and plastic products	5.8	-2.7
Manufacture of coke and refined petroleum products	7.4	2.3
Manufacture of food products	14.9	-0.2

3.3. ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY (d) (share of 15.7% in toal 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 in the first quarter of 2023 recorded growth of 18.6% relative to the same period of 2022.

In the first quarter of 2023 production increased in all three months (relative to the corresponding months of 2022): in January (12.5%), February (29.6%) and March (14.9%).
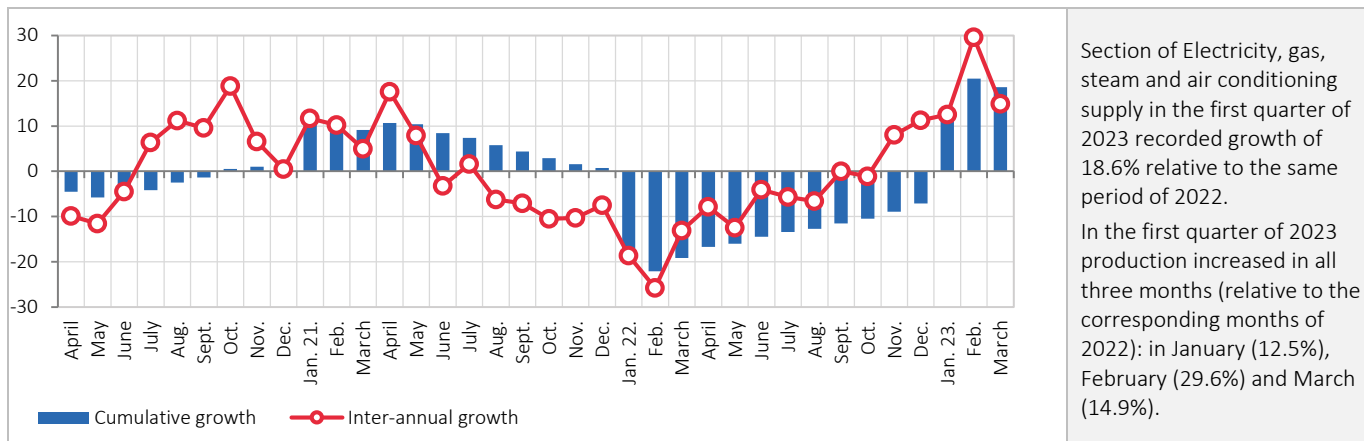
3.4. MINING AND QUARRYING (B) (share of 8.6% in total industrial production index)

Chart 3.6. Cumulative growth rates in Mining and quarrying section (%) (Q1 2023 relative to Q1 2022)

Production of the section Mining and quarrying in the first quarter of 2023 recorded growth of 4.5% relative to the same period of 2022.

Observed by months, within the first quarter of 2023 growth was recorded (relative to the corresponding months of 2022): in January (16.3%), while in February and March fall of -1% and -0.6% was recorde.

🔊 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 an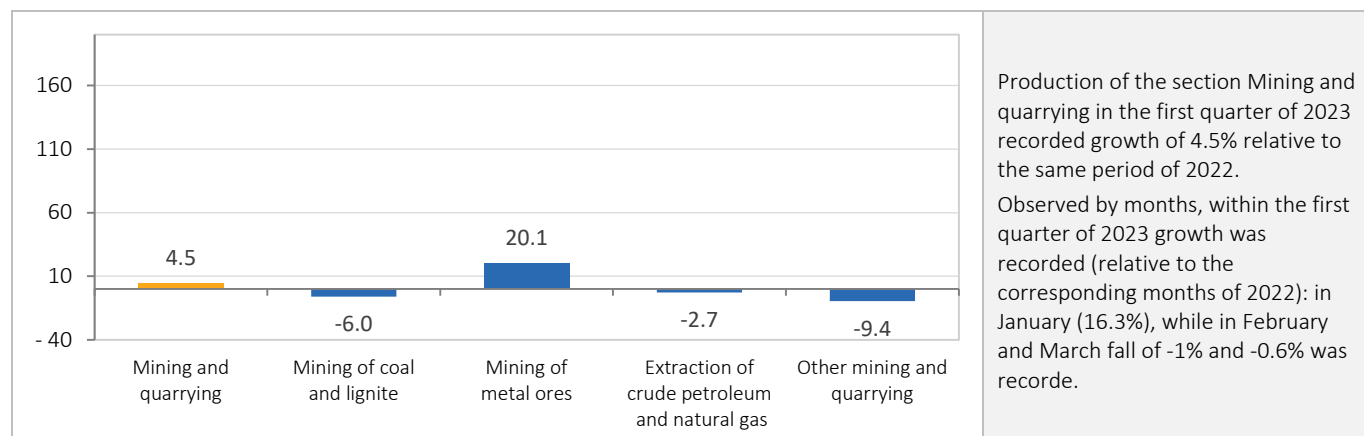d detail analysis of the phenomena. When selecting the indicators that will be used for analysis (original, seasonally adjusted or trend), the nature of the observed series and point of the performed analysis should be taken into account. Three separate components (obtained by series' disaggregation), 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

In the first quarter of 2023, construction activity on the territory of the Republic of Serbia, relative to the same period last year, increased 9.2% at current prices, and decreased by 0.5% at constant prices. The price index of construction materials, which is used as the deflator of the value in construction amounted to 109.7 in the observed period.

The value of construction works, expressed at constant prices, increased by 14% on civil engineering (roads, pipelines, complex industrial structures, etc.), and on building it decreased by 20%, relative to the first quarter of 2022.

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
Current prices	116.7	124.7	128.8	127.1	110.3	108.4	102.7	99.9	109.2
Constant prices	117.4	114.9	115.0	110.4	94.1	91.2	86.5	86.3	99.5

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)
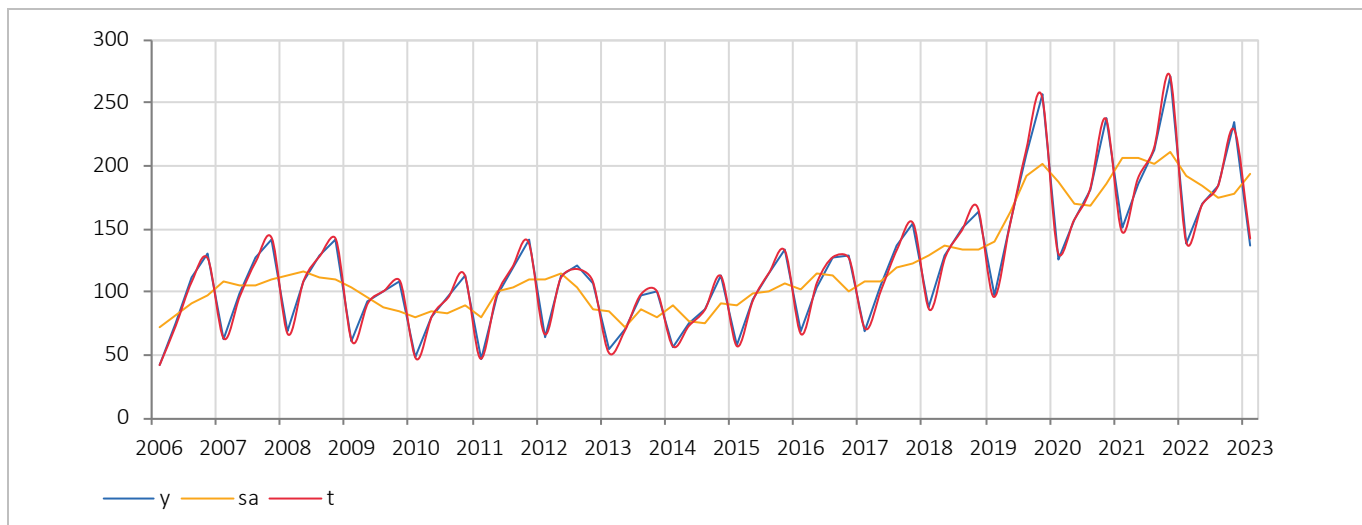
Chart 4.2. Value of performed construction works at constant prices, growth rates (%) (quarter relative to the same quarter of the previous year)
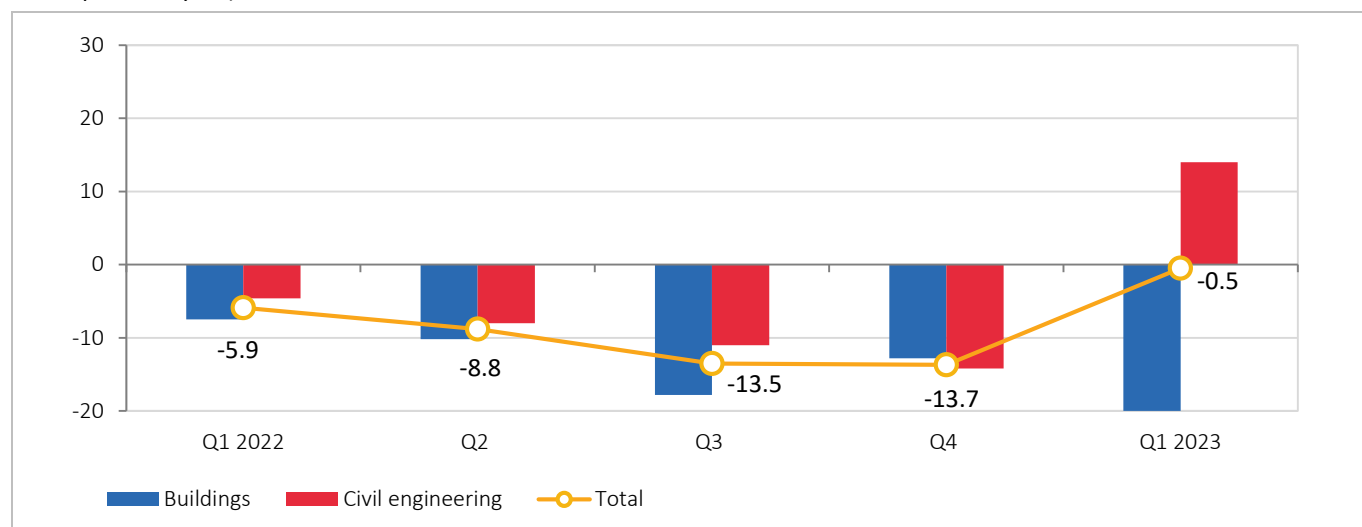
Observed by regions (Chart 4.3), in the first quarter of 2023, the highest growth rate, relative to the same period of the previous year, was recorded in Region of Vojvodina, amounting to 13.1% at constant prices. Observed according to the types of buildings, the value has increased only on the buildings of traffic infrastructure, which was mostly influenced by the implementation of the project of Hungarian-Serbia raiway.

In Region of Southern and Eastern Serbia, construction activity increased by 4% at constant prices. Increase is noticeable for residential buildings (a bid residential-business complex is under construction in Nis with more than 400 apartments), pipelines (construction of the gas interconnector Nis-Dimitrovgrad) and complex industrial structures (construction works on the wind park and in the scope of the complex of the copper mine in Bor).

In Region of Šumadija and Western Serbia, the value of construction work decreased by 1.5% relative to the same period of the previous year. In this quarter very intensive works continued on the construction of Morava corridor and highway Preljina-Pozega.

In this quarter the largest fall was also recorded in Belgrade Region, where construction activity decreased 12.1%, at constant prices. Observed by the type of buildings, the value of performed works fell on all buildings. The fall of the value is mostly influenced by the decrease of work intensity on the construction of the railway Belgrade – Stara Pazova.

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)

Legend:
- Beogradski region
- Region Vojvodina
- Region Sumadija and Western Serbia
- Region Southern and Eastern Serbia
- Republic of Serbia

Republic of Serbia values: Q1 2022: -5.9; Q2: -8.8; Q3: -13.5; Q4: -13.7; Q1 2023: -0.5
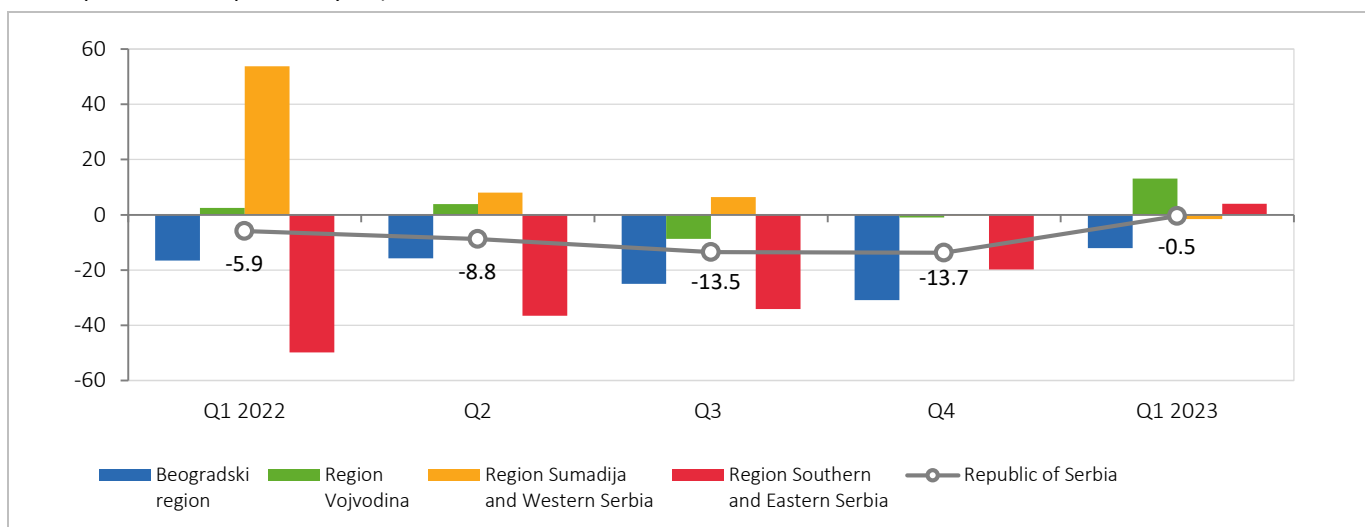
Chart 4.4. Value of performed construction works and hours of work on construction sites, comparative overview, indices (quarter compared to the same quarter of the previous year)

	Q1 2022	II	III	IV	Q1 2023
Value of performed construction works at constant prices	94.1	91.8	86.5	86.3	99.5
Hours worked on construction sites	104.4	98.4	94.3	93.8	98.8

Legend:
- Value of performed constructon works at constant prices
- Houres worked on construction sites
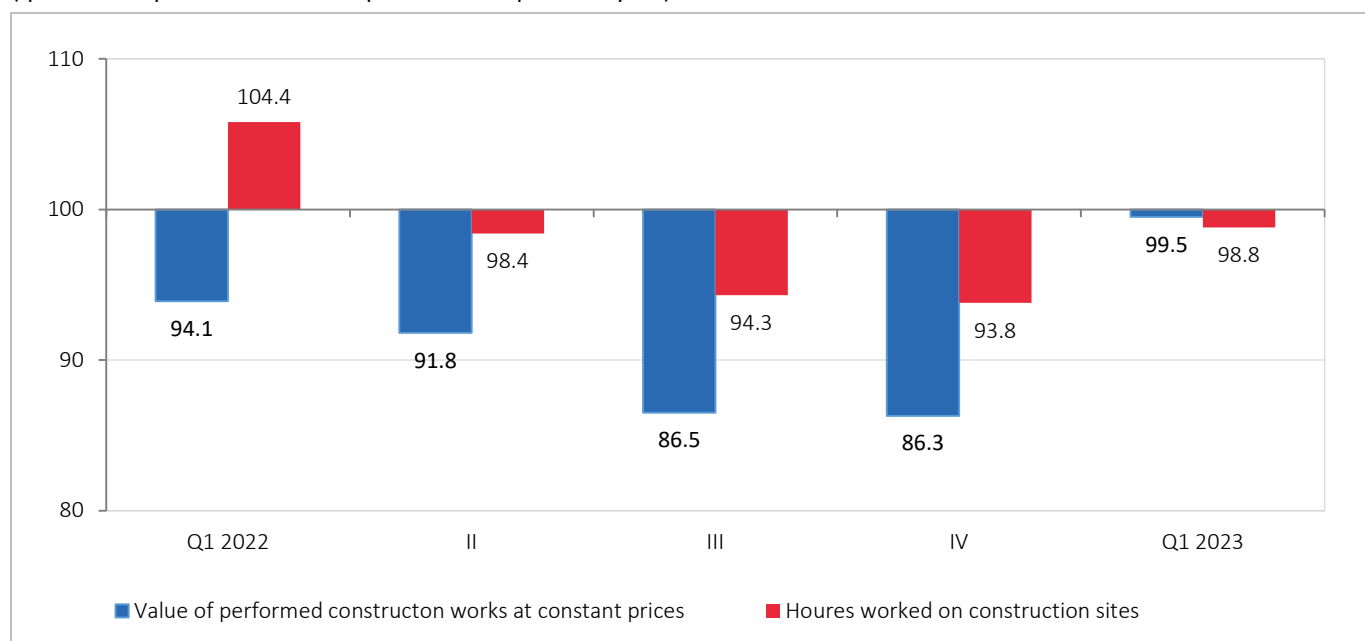
Chart 4.4 shows a comparative overview of the movement of working hours and the value of the works performed on construction sites. In the first quarter of 2022, the value of works was lower, but the number of engaged workers was higher. In the second, third and fourth quarter of 2022 hours of work and the value of works performed confirm the decrease in construction activity. In the first quarter of 2023, both indicators show slight decline of construction activity.

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 first quarter 2023, a total of 5 930 building permits were issued. The greatest part of permits (4 658) related to construction works on buildings, while the rest (1 272) related to transport infrastructure works, pipelines, complex industrial structuresc. Total number of issued permits in the first quarter decreased by 7.9% related to the same period of the previous year.

Chart 4.5. Number of issued building permits for buildings and civil engineering
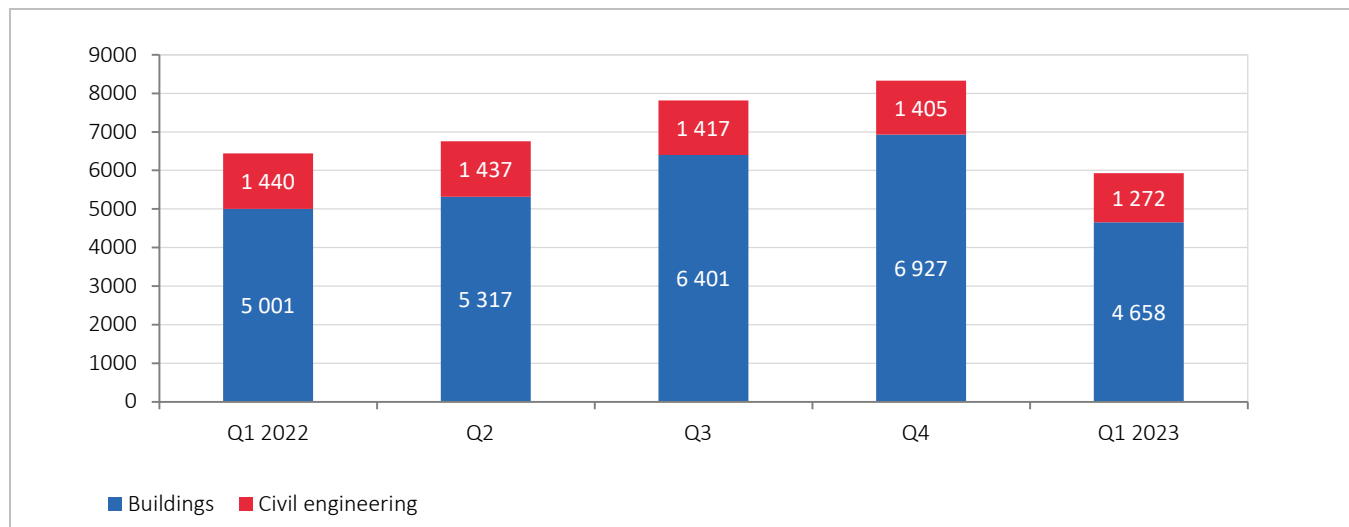
The total anticipated value of works, according to the issued permits, in the first quarter, amounts to RSD 214 236 million, which represents the increase of 4.4% compared to the same quarter of the previous year.

Belgrade Region has the largest share (38%) in the anticipated value in the first quarter, followed by Region of Vojvodina (27%), Region of Šumadija and Western Serbia (22%) and Region of Southern and Eastern Serbia (13%).

Chart 4.6. Anticipated value of works according to issued permits, by region; share in % [9]

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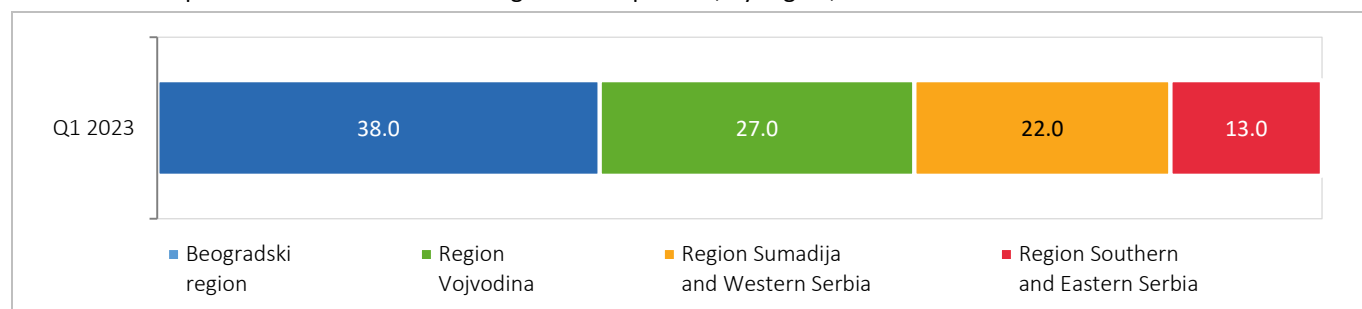
[9] Note: Instead of the previously published data on the percentage share of the number of permits by region, in the future we will show the share of the anticipated value of the works according to the issued permits. Namely, the value of works is a better indicator of the volume of construction activity 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 (at current prices, in EUR)

Total value of goods export in the Republic of Serbia in the first quarter of 2023 increased by 15.8%, relative to the same quarter of the previous year. Total export results were mostly influenced by manufacturing increase of 12%, as it presents 83% of total exports, and increase of 244.9% in export of electricity, gas, steam and air conditioning supply, presenting 6.2% of total exports in the first three months of the current year.

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	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1[1]	Q1-Q2[1]
Export - total	114.2	145.6	127.2	123.4	128.5	132.7	125.0	119.5	115.8	**115.0**
Manufacturing	111.5	145.4	122.4	122.4	125.9	126.3	122.3	117.5	112.0	...
Agriculture, forestry and fishing	132.7	97.1	119.2	73.5	76.3	117.6	98.0	95.6	72.4	...
Mining and quarrying	202.8	916.1	1369.6	366.8	1129.0	330.3	160.1	122.2	129.4	...

[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 (%) (Q1 2023 relative to the same period of the previous year)

Legend: Growth rates ■ — Share in total export ▬
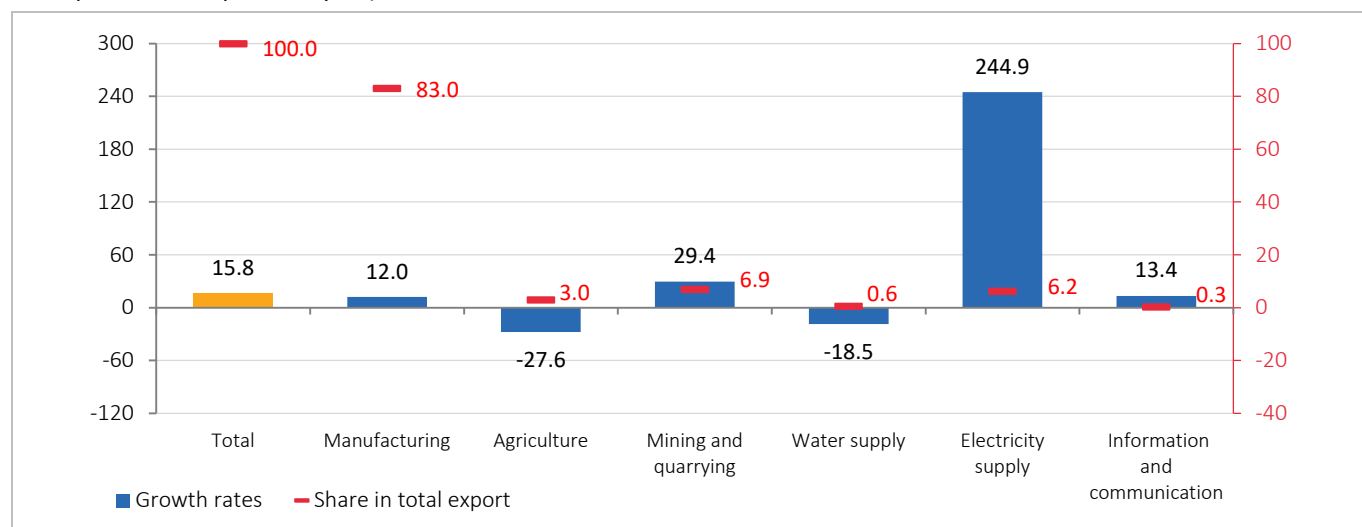
Observed by economic purpose, total export results over the period January-March 2023 were mostly influenced by increased exports of **capital goods** (contribution of 6.4 p.p., share of 27.1%, increase of 34%) and **energy** (share of 7.4%, increase of 91.1% and contibution of 4.1 p.p.).

Chart 5.3. Cumulative growth rates of exports according to the economic purpose of the European Union (%) (Q1 2023 relative to the same period of the previous year)

Legend: Growth rate ■ — Share in total export ▬
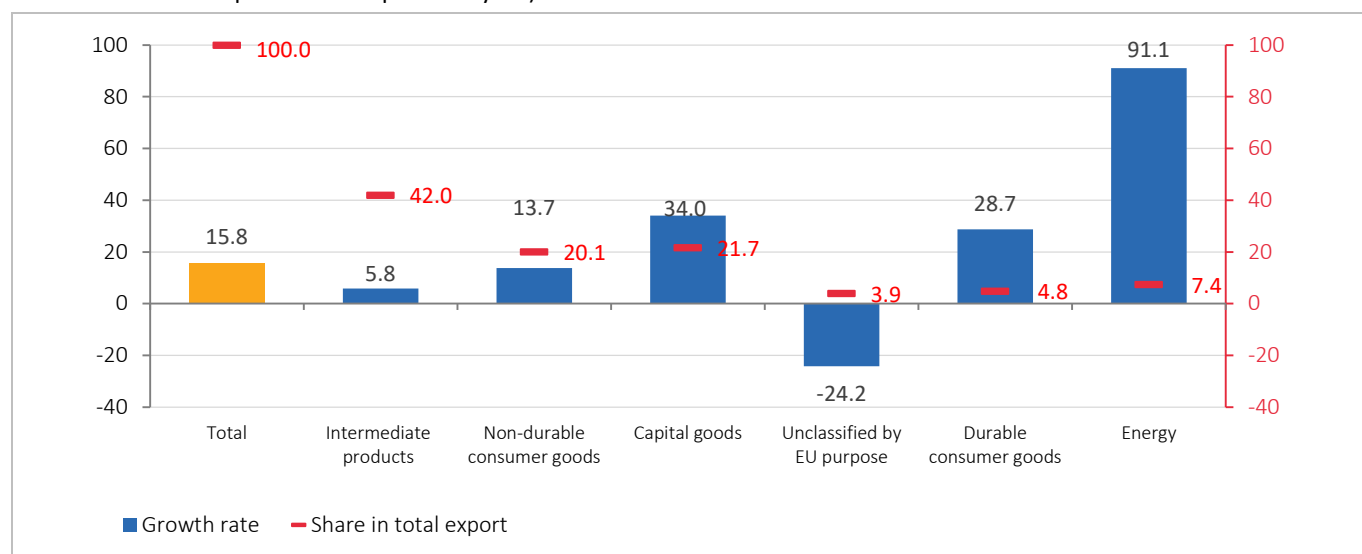
5.2. IMPORTS OF GOODS (current exchange rate, in EUR)

Total value of goods import in the Republic of Serbia in the first quarter of 2023 increased by 0.7% relative to the same period 2022. Import results were mostly influenced by the section of unclassified goods by Eu purpose (increase of 18.1%), presenting 11.7% of total imports, and increase of 1.3% in the section of manufacturing, presenting 68.3% of total imports in the first quarter of 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)
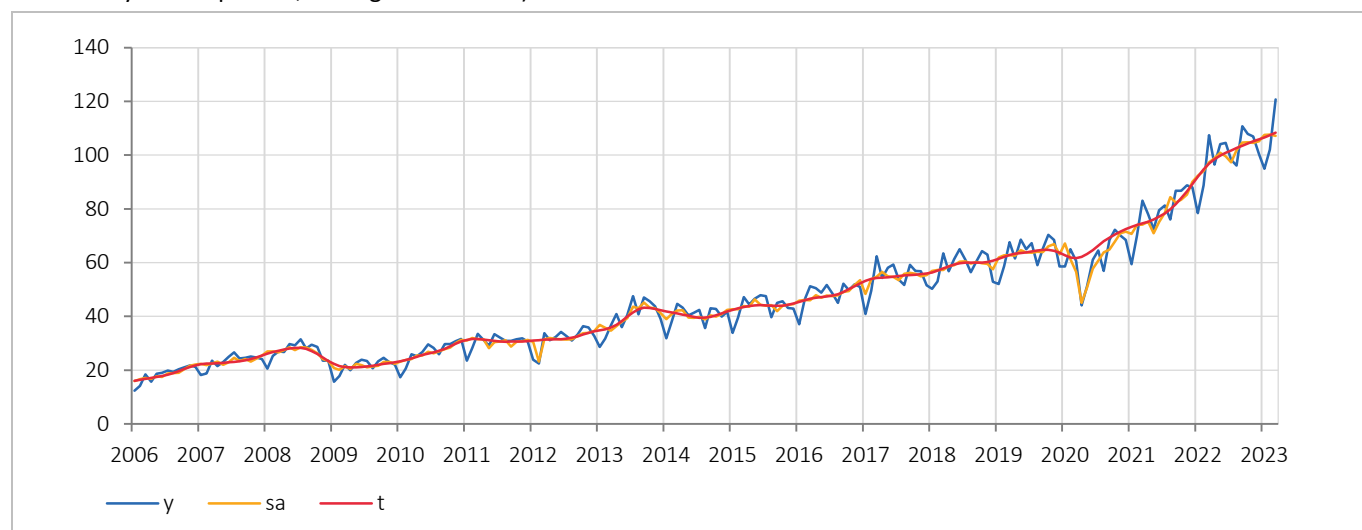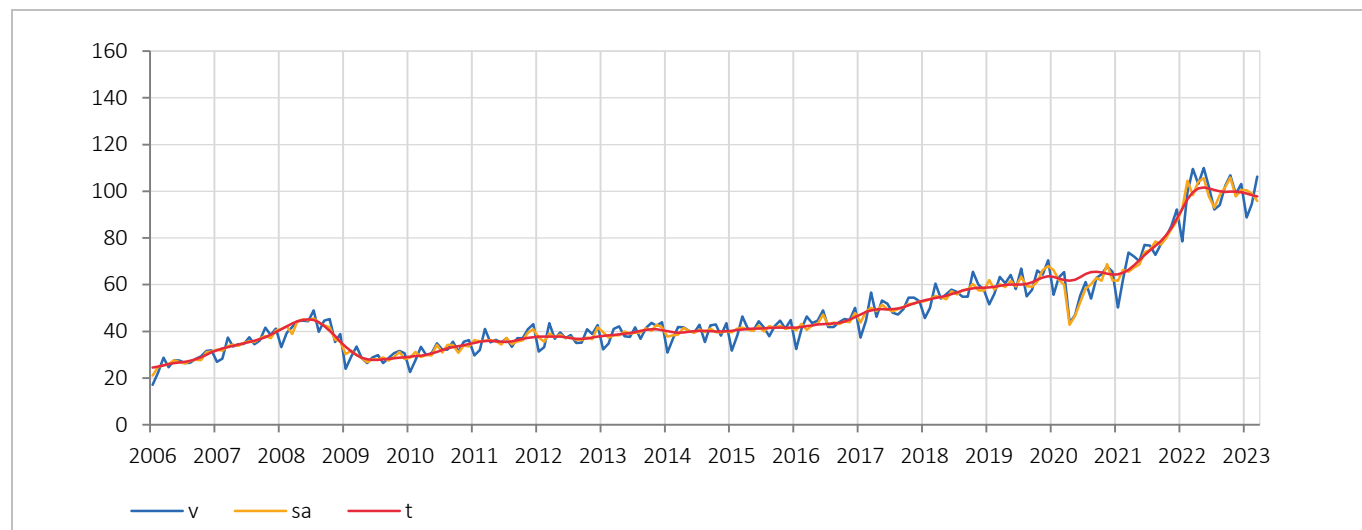

Table 5.2. Import of goods by CA (2010) sections, quarterly indices (comparison with the same period of the previous year)

|	2021				2022				2023	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q1-Q2[1]
Import – total	100.5	149.4	125.9	127.5	148.5	143.8	127.2	119.7	100.7	**98.0**
Manufacturing	104.8	148.9	120.6	123.3	130.6	134.2	119.6	112.5	101.3	…
Agriculture, forestry and fishing	102.3	101.0	113.6	143.8	127.6	123.5	134.5	127.0	124.5	…
Mining and quarrying	58.2	206.4	181.1	158.2	373.7	210.8	140.0	186.3	95.4	…

[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 (%) (Q1 2023 relative to the same period of the previous year)
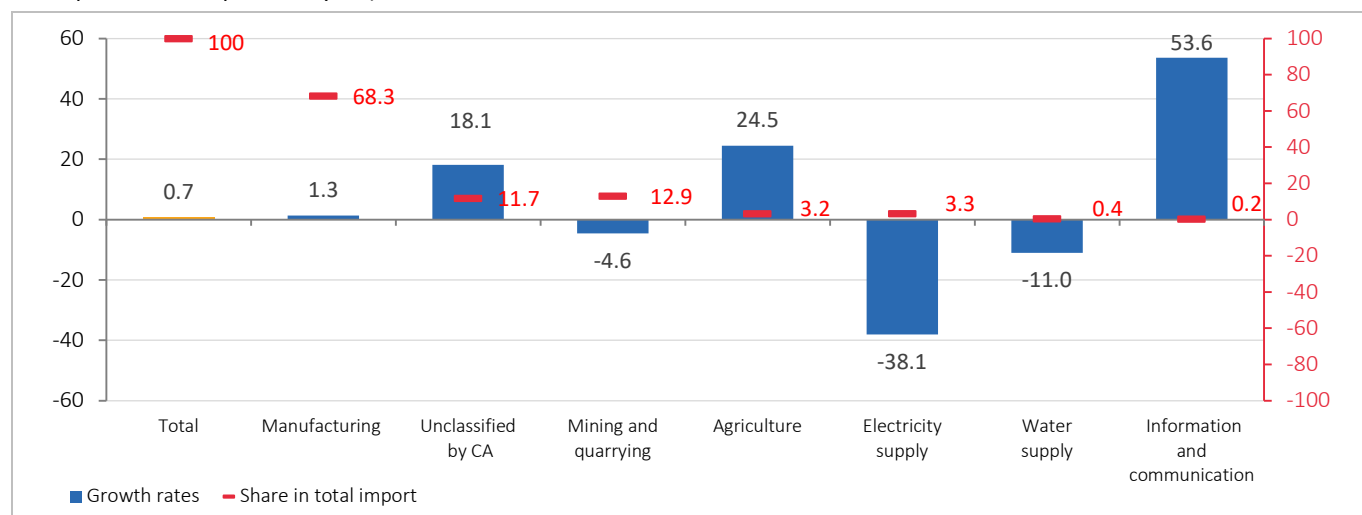
Observed by MIGs, the greatest influence on total import over the period January-March 2023 related to import of **unclassified goods by EU purpose** (contribution of 2.4 p.p., share of 15.5%, increase of 18.5%) and **capital goods** (share of 16.2%, increase of 8.4% and contribution of 1.3 p.p.). Contribution of 1.3 p.p. was also recorded in **non-durable consumer goods** (share of 14.7%, increase of 9.2%).

Chart 5.6. Cumulative growth rates of imports according to the economic purpose of the European Union (%) (Q1 2023 relative to the same period of the previous year)
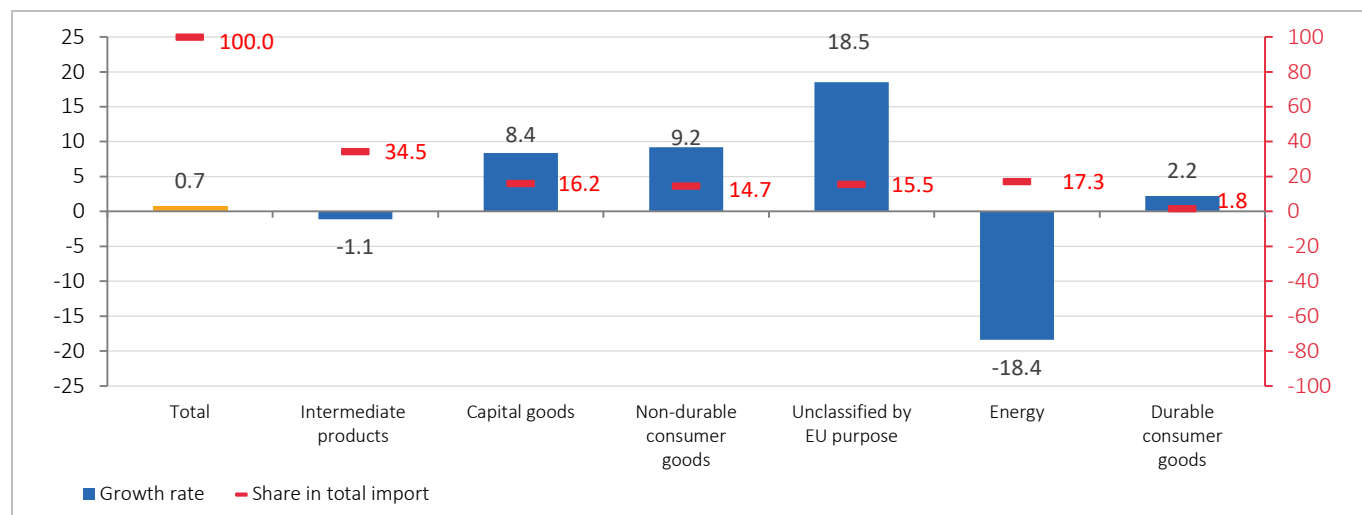
Chart 5.7 shows the 20 largest external trade partners of the Republic of Serbia, which account for 79.1% of the total external trade exchange. The Republic of Serbia achieved a positive external trade balance over the period Januart-March, i.e. a surplus, with ten European countries (a total of about EUR 925.5 million), of which Montenegro is on the first place (a surplus of EUR 238.5 million). In this period, the Republic of Serbia exported the most electricity, gas, steam (17.4% of total export to Montenegro), food products (16.4% of total export to MNE) and chemicals and chemical products (6.3% of total export to MNE).

On the other hand, negative external trade balance, i.e. deficit, was recorded in 10 countries (a total of about EUR -2.1 billion). The largest external trade deficit over the period January-March 2023 was recorded in trade with China (EUR -789.6 million) and the Russian Federation (balance EUR -412.4 million). Observed by CA product activities (2010), product imports from China mostly consisted of imports of other n.e.c. machinery and equipment (17.8% of total import from China), unclassified products (16.8% of total import from China), as well as of computers, electronic and optical products (16.7% of total imports from China). With the Russian Federation, the negative external trade balance is the result of the high value of crude oil and natural gas imports (73.6% of total imports from the Russian Federation), followed by Turkey (deficit of EUR -313.6 million), Italy (EUR – 168.9 million) and Germany (EUR -113.8 million).

Chart 5.7. External trade balance of the Republic of Serbia by countries, over January-March 2023 (EUR mill.)
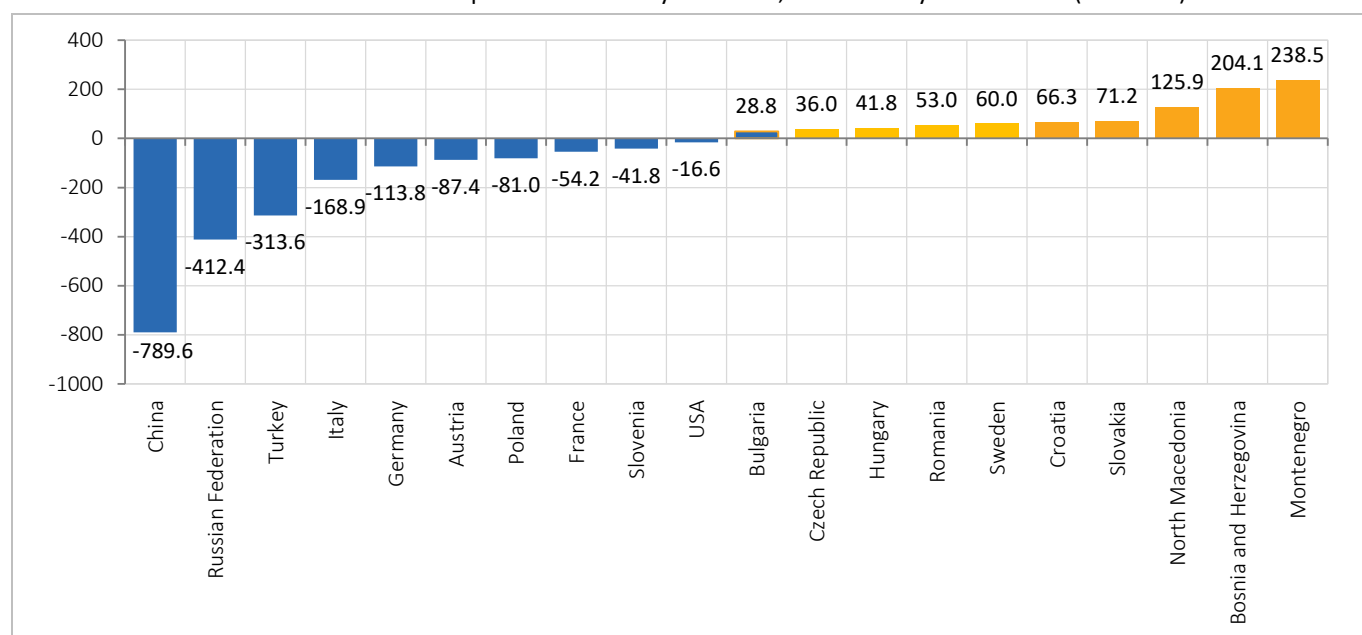
5.3. THE MOST SIGNIFICANT EXTERNAL TRADE PARTNERS

Table 5.3. The major external trade partners

Export	EUR mill.	Import	EUR mill.
Germany	1063.1	Germany	1176.9
Bosnia and Herzegovina	470.4	China	1048
Italy	467.5	Russian Federation	739
Hungary	433.1	Italy	636.5
Romania	354.2	Turkey	440.5

The most significant external trade partners in the first three months of 2023 were the countries with which Serbia has signed agreements on free trade. The EU member countries account for 59.3% of total external trade, followed by APEC (Asia-Pacific Economic Cooperation) with the share of 18.9%. Individually observed, the major external trade partners are presented in Table 5.3.

5.4. MANUFACTURING (C) (share of 83% in total export and 68.3% in total import)

Export of manufacturing recorded growth of 12% in the first three quarters of 2023, relative to the same period of the previous year. Out of 23 divisions, cumulative growth was noted in 19 divisions, mutually presenting 70.8% of total manufacturing export.

The export of **electrical equipment**, the division with the greatest export value (EUR 785.5 million) recorded a cumulative growth of 34.5% in total export, with share of 10.7% (9.2% in the same period of the previous year). The export of **motor vehicles and trailers** noted a cumulative growth of 32% and export value of EUR 715.9 million, with a share in total exports of 9.8% (8.6% in the same period of the previous year). Export of **food products**, division with an export value of EUR 669.1 million and a share of 9.2%, recorded a cumulative growth of 7%. The export of **rubber and plastic products**, with an export value of EUR 606.1 million and share in total export of 8.3%, recorded a cumulative growth of 14.1%. Export of **machinery and equipment n.e.c.** is a division positioned on the fifth place in total export of manufacturing, with a share of 6.8%, recorded a cumulative growth of 41.5% and export value of EUR 493.7 million.

Chart 5.8. Export of manufacturing by divisions, cumulative growth (%) (January-March 2023 relative to the same period of the previous year, by descending share in total export)
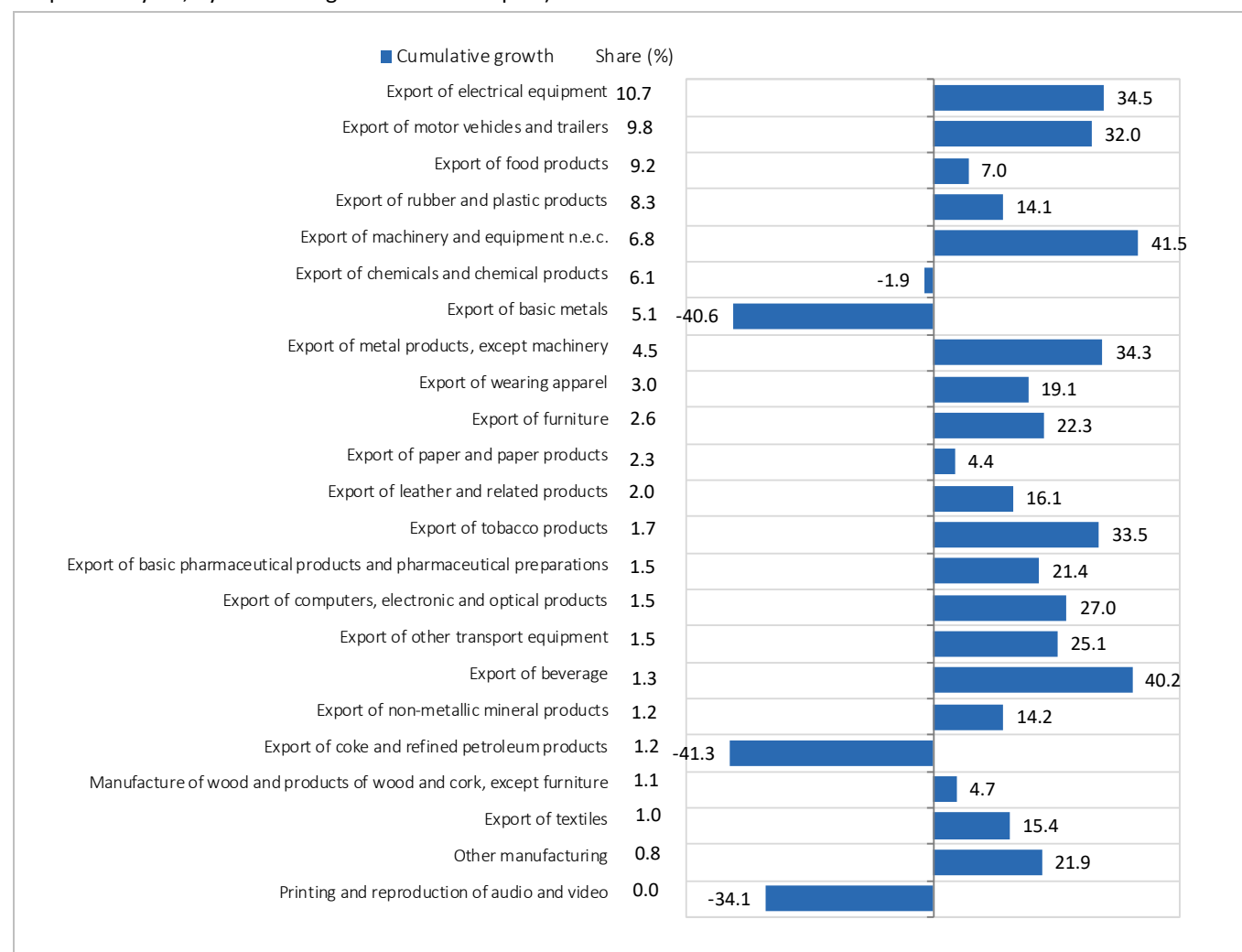
Import of manufacturing over the period January-March 2023 compared to the same period of the previous year, achieved a growth of 0.7%. Out of 23 division a cumulative growth was recorded in 12 divisions, that together accounted for 32.5% of the total manufacturing import.

Import of **chemicals and chemical products,** division with the highest import import (EUR 908 million), realised a cumulative fall 6.7%, with a share in total import of 9.6% (10.4% in the same period of the previous year). Import of **machinery and equipment n.e.c.** recorded a cumulative growth of 20.2% and import value of EUR 691 million, with a share of 7.3% in total import (6.1% in the same period of 2022). Import of **basic metals,** division with an importa value of EUR 621.2 million and share of 6.6% recorded a cumulative fall of 4.6%. Import of **electrical equipment,** with a value of EUR 583.6 million and share in total import of 6.2%, recorded a cumultive growth of 11.6%. Import of **food products** is a division positioned on the fifth place according to the activity in total manufacturing import, with a share of 5.1%, recorded a cumulative growth of 19.5% and import value of EUR 476.5 million.

Chart 5.9. Import of manufacturing by divisions, cumulative growth (%) (January-March 2023 relative to the same period of the previous year, by descending share in total import)

	Share (%)	Cumulative growth
Import of chemicals and chemical products	9.6	-6.7
Import of machinery and equipment n.e.c.	7.3	20.2
Import of basic metals	6.6	-4.6
Import of electrical equipment	6.2	11.6
Import of food products	5.1	19.5
Import of computer, electronic and optical products	4.2	-0.5
Import of motor vehicles, trailers and semi-trailers	4.0	10.5
Import of rubber and plastic products	4.0	8.1
Import of basic pharmaceutical products and pharmaceutical…	3.8	-3.0
Import of metal products except machinery	3.1	-5.3
Import of paper and paper products	2.3	-4.2
Import of coke and refined petroleum products	2.1	-39.4
Import of textiles	1.9	4.1
Import of wearing apparel	1.5	16.0
Import of non-metallic mineral products	1.5	-0.1
Import of leather and related products	1.1	8.2
Import of other manufacturing activities	1.0	-0.7
Import of wood and products of wood and cork, except furniture	0.9	-15.0
Import of other transport equipment	0.8	-11.8
Import of furniture	0.6	3.6
Import of beverages	0.4	28.6
Import of tobacco products	0.4	18.7
Printing and reproduction of audio and video	0.0	11.9

5.5. AGRICULTURE, FORESTRY AND FISHING (A) (share of 3% in total export and 3.2% in total import)

Export in this section over the period January-March 2023 realized decrease of 27.6%, as well as decreased share from 4.8% to 3% as recorded in as recorded in the first quarter of the current year. The cumulative drop of 38.2% in exports of cereals (except rice), leguminous crops and oil seeds, a group that makes up 61.8% of the entire section's exports in the observed period, contributed the most to this result. Export of pome and stone fruits - the next group by share (11.3%) decreased by 19% in the first quarter of 2023 relative to the same quarter of the previous year. On the other hand, increased export (19.2%) in this section was noted for seeding materials, accounting for 7.7% of export of this section.

On import side, the section Agriculture, forestry and fishing recorded growth of 24.5% in the first quarter of 2023 relative to the same period of 2022, as well as a share of 3.2% in total import. The group with the largest share in the section (21.0%) – cereals (except rice, leguminous and oil seeds achieved growth of 81.7% over the period January-March 2023. The next groups, by share (19.6%) are: growing of vegetables, root, and carotid plants – recorded a growth of 29.5%, as well as growing citrus fruit – recorded a growth of import in this section of 6.1% and share of 10.7%.

5.6. MINING AND QUARRYING (B) (share of 6.9% in total export and 12.9% in total import)

The section of Mining and quarrying records increase in total export, from 6.1% in the first quarter of 2022 to 6.9% in the same period of the current year. The realized value of exports over the period January-March of 2023 is EUR 501.3 million, which is by 29.4% more than exports in the same period of 2022. This result is a consequence of the growth in the export of metal ores, a group that accounts for 98.8% of the exports of the entire section, and which achieved a growth of 29.6% compared to the first quarter of 2022.

Import value of this section in the first quarter of 2023 amounts to EUR 1.2 billion, presenting the share of 12.9% in total import (13.6 in the same period of the previous year). In the first three months the section Mining and quarrying import decrease was 4.6% relative to the first quarter of 2022.

The fall in import of this section was largely caused by a 13.7% decrease in the import of crude oil and natural gas, a group that accounts for 81.5% 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 the first quarter of 2023, relative to the same period of 2022, increased by 11.7% at current and decreased by 3.4% at constant prices.

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

	2021				2022				2023	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q1-Q2[1]
Current prices	104.8	124.2	114.3	118.9	124.0	121.4	123.0	120.1	111.7	**114.5**
Constant prices[2]	104.7	118.6	107.7	108.4	111.0	106.2	105.0	102.2	96.6	**99.0**

[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 turnover, which has been present for the last ten years, continues. 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)
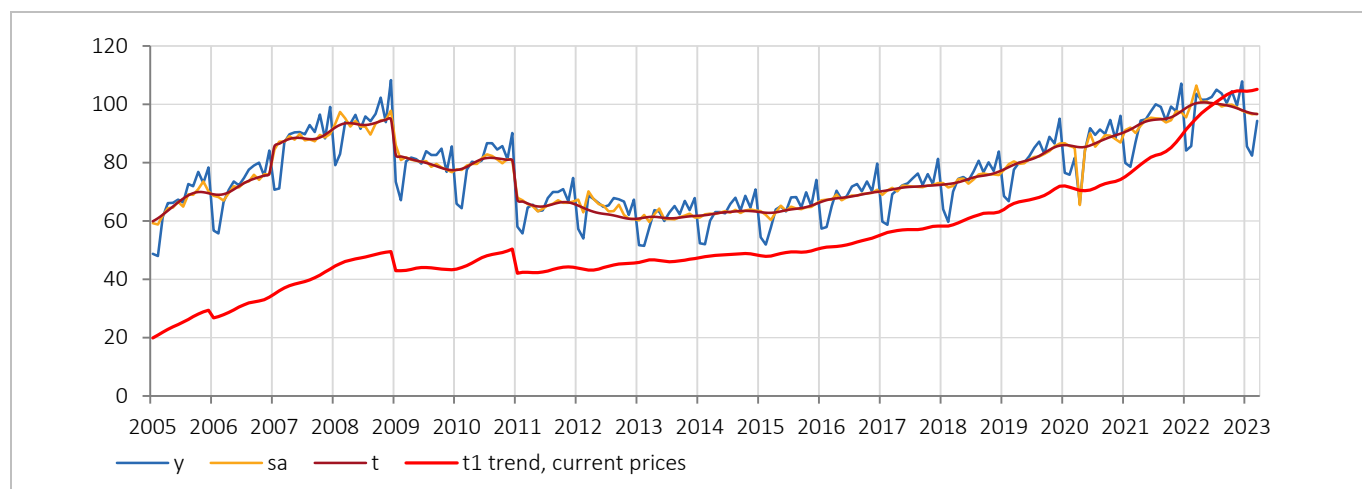
Observed according to commodity groups, in the first quarter of 2023, compared to the same quarter of the previous year, the highest turnover growth was achieved in trade of food, beverages and tobacco (15.8%), then in trade of non-food products (11.1%). The lowest growth of trades at current prices was recorded in the catetory Motor fuels, amounting to 1.9%. In contrast to current prices, all observed commodity groups in the first quarter of 2023 relative to the same quarter of the previous year, noted fall at constant prices. The largest fall of trade in constant prices was recorded in the categories Food, beverages and tobacco, and Non-food products, except motor fuels, amounting to 4.8%, while the smallest fall was recorded in the category Motor fuels and amounted to 1.9%.

In the structure of retail trade turnover of goods in the first quarter of 2023, the most notable were food products and alcoholic beverages (36.0%), followed by motor vehicles and motorcycles fuels (17.1%) and other non-food products (13.4%).

Chart 6.2. Structure of retail trade turnover by commodity groups (%)
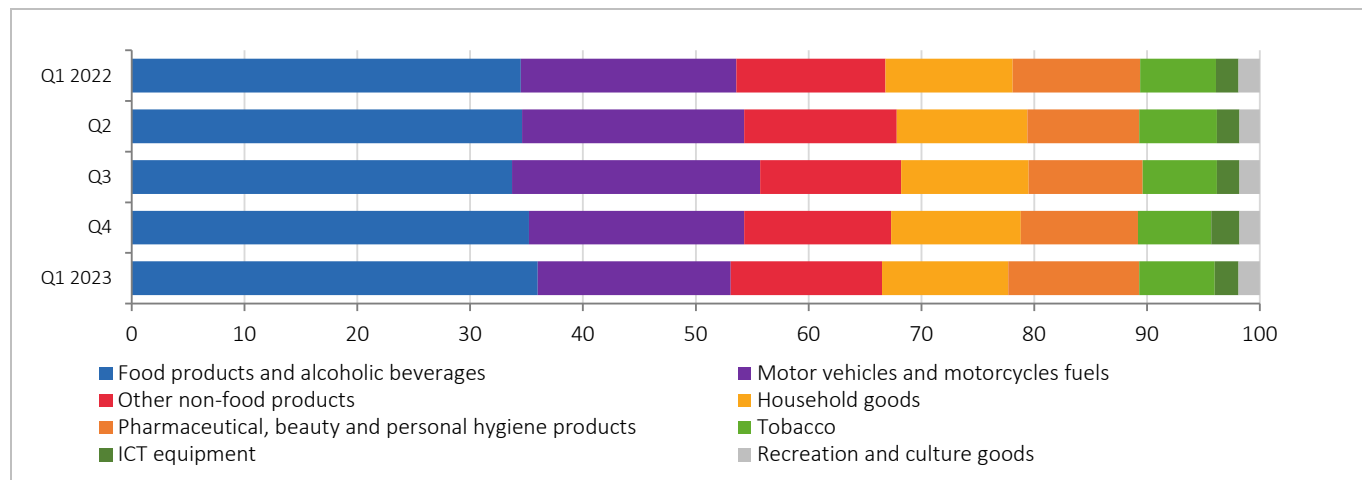
6.2. WHOLESALE TRADE TURNOVER (Division 46 of the Classification of Activities)

Wholesale trade turnover in the first quarter 2023, compared with the same period 2022 noted increase of 4.3% at current prices.

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
Current prices	110.9	133.5	123.6	126.5	120.1	122.6	115.2	111.4	104.3

Observed by commodity groups, in the first quarter of 2023, in the structure of wholesale trade turnover the most notable were food products, beverages and tobacco (21.7%), followed by other food products (20.7%), and solid, liquid, and gaseous fuels, (16.1%).

Chart 6.3. Structure of wholesale trade turnover by commodity groups (%)
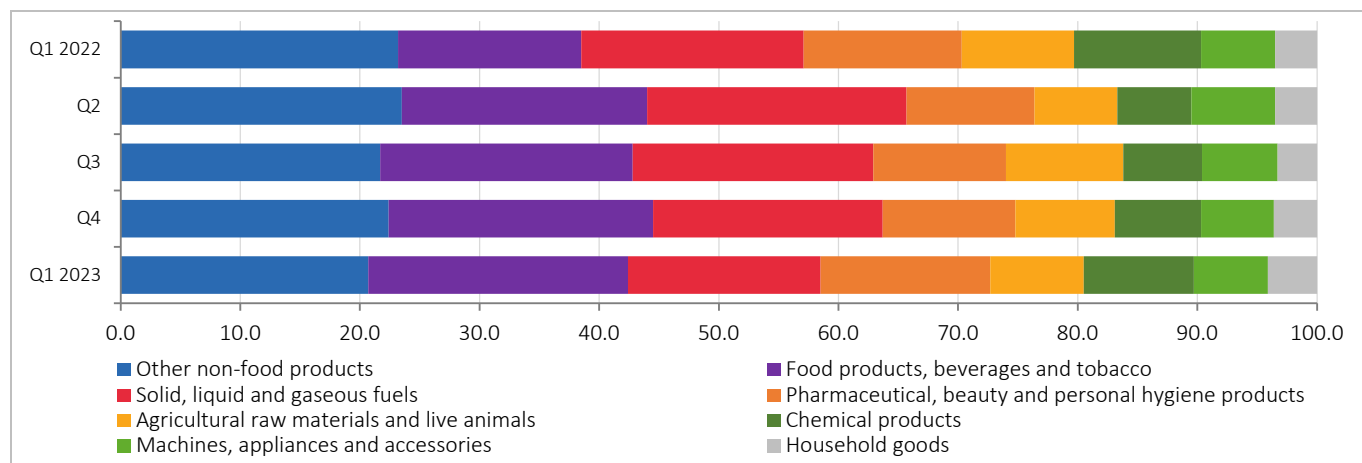
6.3. TURNOVER IN WHOLESALE AND RETAIL TRADE AND MOTOR VEHICLES REPAIR
(Division 45 of the Classification of Activities)

Turnover of goods in wholesale and retail trade and repair of motor vehicles in the first quarter 2023, relative to the same period 2022, recorded increase of 12.5% at current prices.

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
Current year	111.1	138.4	113.6	116.1	124.5	124.8	118.8	121.3	112.5

Observed by commodity groups, in the first 2022, similarly as in the previous quarters, in the structure of wholesale and retail trade turnover and motor vehicles repair, the most notable were motor vehicles (53.0%), and motor vehicles parts and accessories (36.4%).

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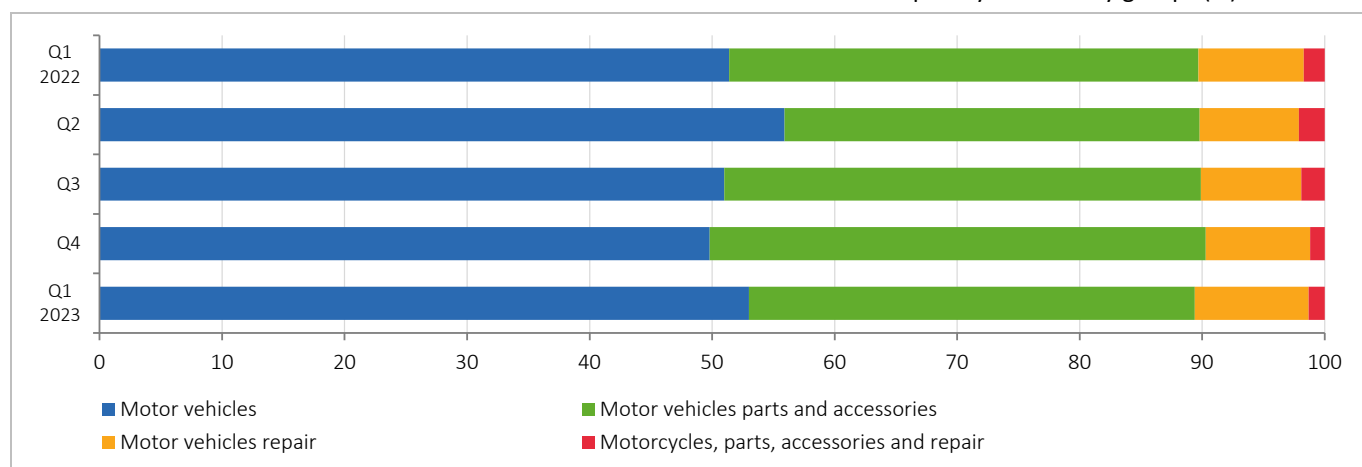
🔊 NOTE

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 Q1 2023 consumer prices saw an averge year-on-year growth of 16.0%. Observed on product level, **the largest influence** on the growth of consumer prices was that of **the prices of milk, cheese and eggs, meat, solid fuels (fuelwood), bread and cereals, and electricity for households**.

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	-	-	-

Chart 7.1. Inflation rate measured with consumer price indices (%) (monthly – month to the previous month; annually – month to the same month of the previous year)
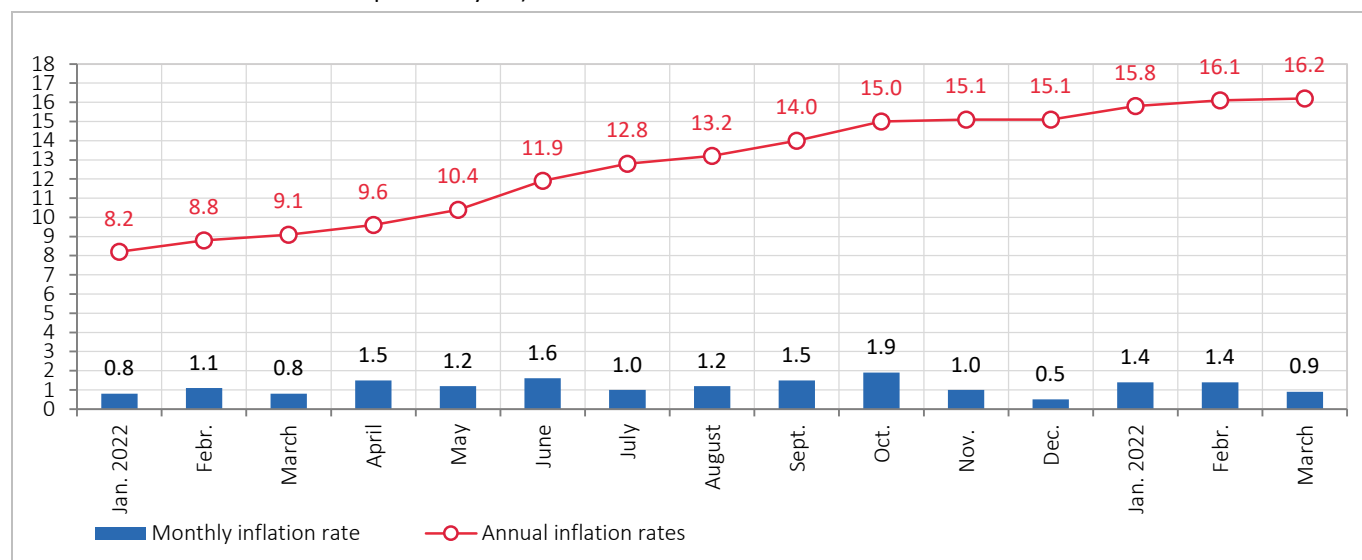
Chart 7.2. Structure of the average annual consumer rice growth rate (of 16.0%), by purpose and main groups of products, Q1 2023 (total = 100) (%)
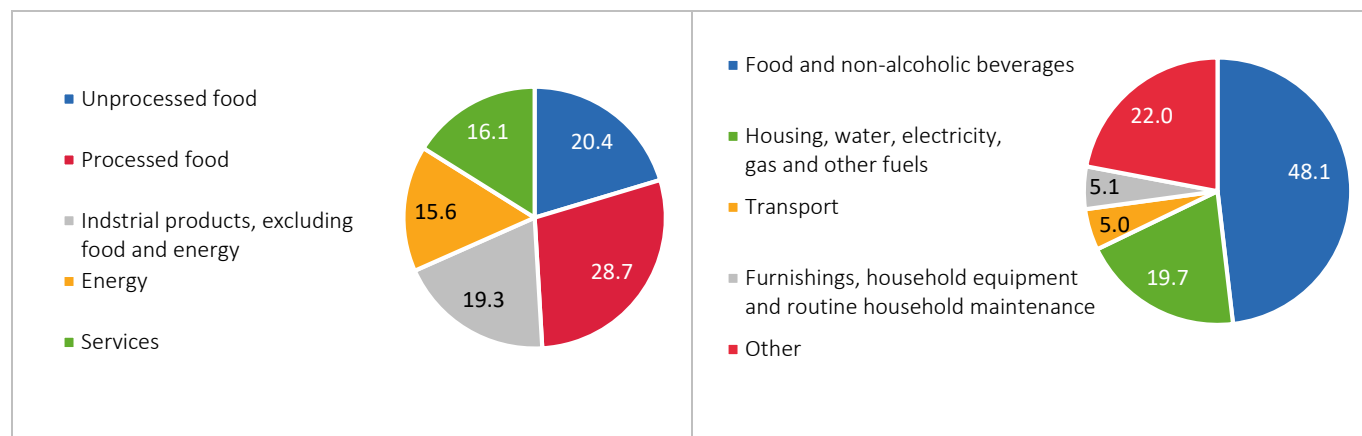
7.1. DAIRY PRODUCTS, MEAT, BREAD, CEREALS AND VEGETABLES

(share in the annual consumer price growth rate in Q1 2023 – 35.6%)

Chart 7.3. Movement of the prices of food and non-alcoholic beverages, and producers prices of agricultural products; seasonally adjusted and standardised quarterly data, deviations from the average for the period (%), Q1 2007 – Q1 2023

Legend:
- Food and non-alcoholic beverages
- Producers' prices of agriculture and fishing
- Long-term average for the period
- Fuel price in Serbia

In Q1 2023 the largest influence on the growth of consumer prices was that of the annual growth of the prices of milk, cheese and eggs, primarily because the price of yoghurt went up (yoghurt, fruit yoghurt, with cereals added, kefir, etc.), fresh cheese (all kinds) and milk, participating in the total structure of the consumer price rate growth rate in Q1 2023 with 13.8%. The increase in the prices of meat of 19,7% was mostly influenced by the growth of the prices of dried, smoked and salted meat (primarily bacon and sausages of pig, beef and mixed meat), boneless pork, beef and veal, and chicken fillet, which total share in the structure of the annual growth rate of meat price in Q1 2023 amounted to 47.2%. The largest contribution to the annual annual growth of the prices of bread and cerals (of 23.4%) was that of the prices of white bread, salty snacks, burek, pies, cookies, cakes and sweet pies accounting for 62.8% in the total structure of the total growth rate of bread and cereals. In Q1 2023, the **price of vegetables** was dominantly determined by the price of potatoes (especially red), tomatoes and paprika.. It is interesting that the only deflationary influence was that of the fall of the prices of cabbage, thus the price of vegetables finally resulting in an annual growth rate of 26.3%.

The data in chart 7.3 presents (and exactly confirm via collerogram) that fuel price is ahead for about one quarter of the producers' prices of agricultural products, while producers' prices of agricultural producs are ahead also for one quartter of food prices. Thus, this means that the growth (fall) of fuel prices in the current quarter leads to the growth (fall) of the producers' prices of agricultural products in the next quarter, and consequently that the growth (fall) producers' prices of agricultural products in the current quarter leads to the growth (fall) of food prices in the next quarter. In other words, the change in food prices sees its final epilogue on food prices, on average, after two quarters.

7.2. SOLID FUELS – FUELWOOD (share in the annual consumer price growth rate in Q1 2023 – 6.9%)

Chart 7.4. Movement of the prices of fuelwood and producers' prices of the section of manufacturing and processing of wood (except furniture for domestic market; detrended and standardises data, deviations from the average for the period (%), Q1 2014 – Q1 2023

— Producers' prices of the section Manufacture of wood and product of wood and cork (except furniture) for domestic market

— Long-term average for the period

— Fuelwood price

The average growth of fuel prices in Q1 2023 amounted to 46.7%. Observed by the structure of the growth rate of solid fuels prices, the latter were mostly influenced by the growth of fuelwood prices (accounting for 7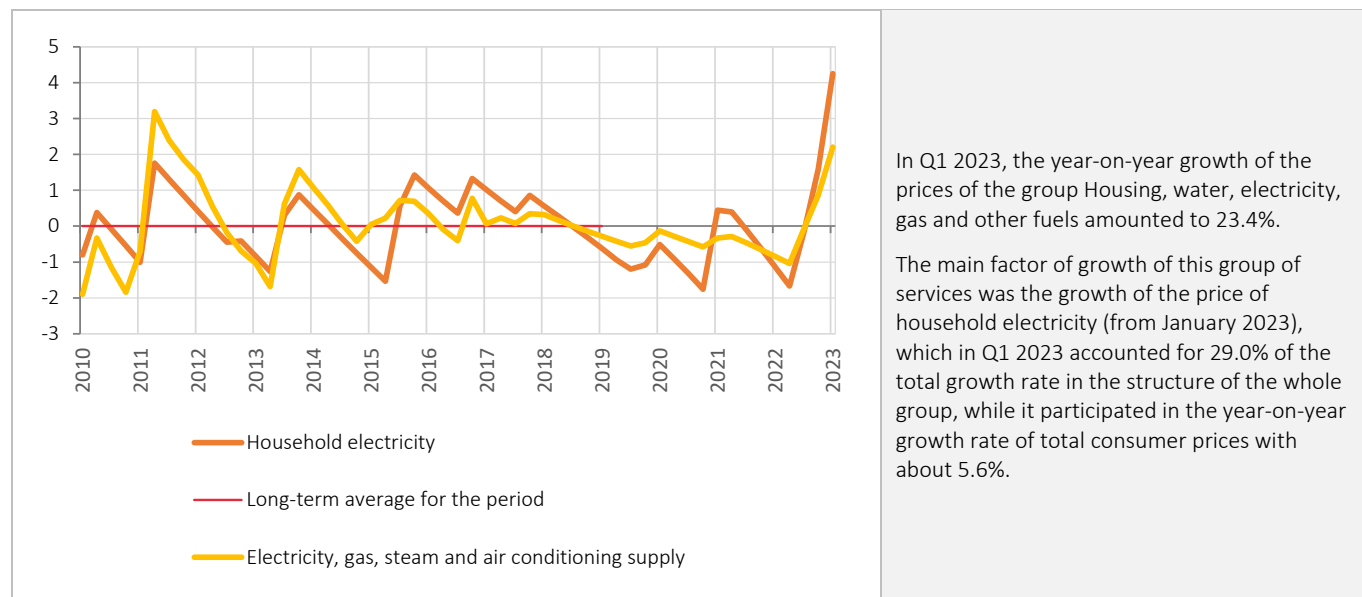4.6% of the total annual growth rate of solid fuels in Q1 2023) then by the price of brown coal, lignite and price of the transportation of coal and wood felling.

As shown in chart 7.3 one can see (and exactly confirm via a cross correlogram), that in the period from Q1 2014 to Q1 2023, producers' costs and the costs of the processing of wood and wood products were ahead for about one quarter of the price of solid fuels.

7.3. ELECTRICITY OF ENERGY FOR HOUSEHOLDS
(share in the total annual consumer price growth rate in Q1 2023 – 5.6%)

Chart 7.5. Movements of the price of households electricity and producers' prices of the section Electricity, gas, steam and air conditioing supply, detrended, standardised data, deviations from the average for the period (%) Q1 2010 – Q1 2023

— Household electricity

— Long-term average for the period

— Electricity, gas, steam and air conditioning supply

In Q1 2023, the year-on-year growth of the prices of the group Housing, water, electricity, gas and other fuels amounted to 23.4%.

The main factor of growth of this group of services was the growth of the price of household electricity (from January 2023), which in Q1 2023 accounted for 29.0% of the total growth rate in the structure of the whole group, while it participated in the year-on-year growth rate of total consumer prices with about 5.6%.
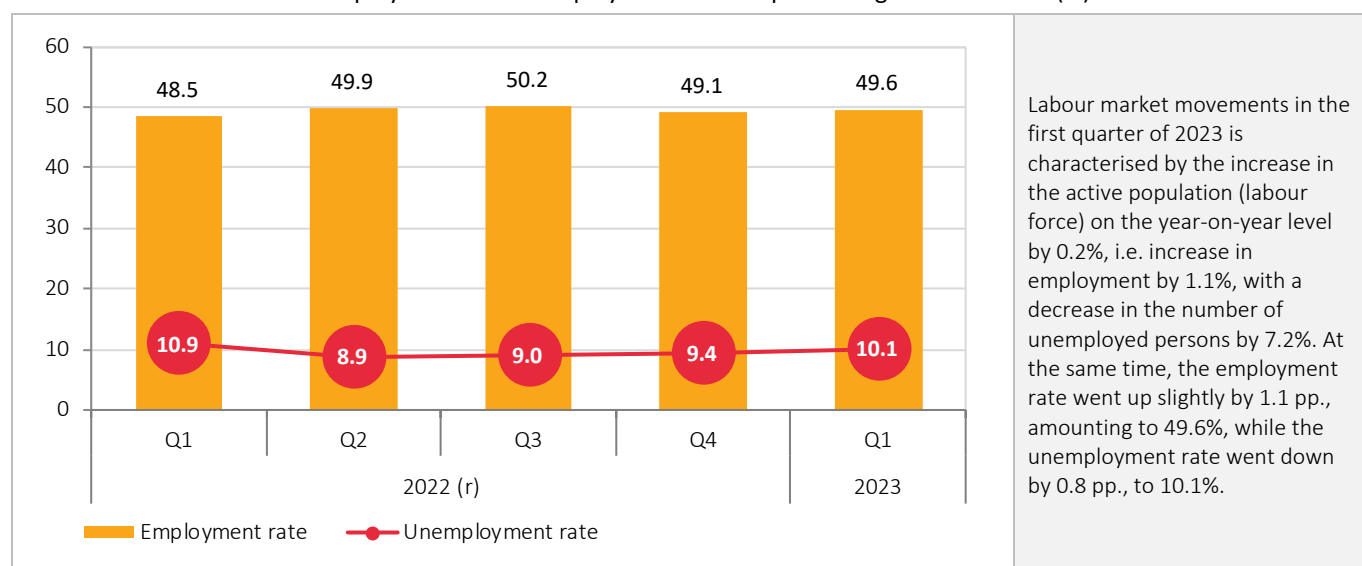
8. LABOUR MARKET

In the Republic of Serbia in the first quarter of 2023 there were 2,836 million employed persons, 317,8 thousand unemployed persons, and 2,562 million persons outside labour force aged over 15.

The unemployment rate was 10.1% and, compared with the fourth quarter of 2022 higher by 0.7 pp., the number unemployed persons was up by 25,2 thousand, while the number of persons outside labour force went down by 61,4 thousand.

Looking at regional level, the unemployment rate in the first quarter of 2023, compared with the previous quarter, saw a growth in Beogradski region (from 7.8% to 7.6%) in Region Šumadije i Zapadne Srbije (from 10.4% to 10.2%), in contrast with Region Vojvodine (from 7.8% to 8.8%) and Region Južne i Istočne Srbije)from 12.3% to 14.9%), where the unemployment rate went up.

Chart 8.1. Movement of the employment and unemployment rate for persons aged 15 and over (%)[10]

Labour market movements in the first quarter of 2023 is characterised by the increase in the active population (labour force) on the year-on-year level by 0.2%, i.e. increase in employment by 1.1%, with a decrease in the number of unemployed persons by 7.2%. At the same time, the employment rate went up slightly by 1.1 pp., amounting to 49.6%, while the unemployment rate went down by 0.8 pp., to 10.1%.

(r) – revised data[11]

Table 8.1. Activity, employment, and unemployment rates

	2022 (r)				2023
	Q1	Q2	Q3	Q4	Q1
Activity rate (%)	54.4	54.8	55.1	54.2	55.2
Employment rate(%)	48.5	49.9	50.2	49.1	49.6
Unemployment rate (%)	10.9	8.9	9.0	9.4	10.1

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[10] Since 2021, the Statistical Office of the Republic of Serbia has been carrying out the Labour Survey according to the new, revised Eurostat methodology. The methodology has been modified in line with the Regulation of the European Parliament and European Council, which entered into force on 1 January 2021. More information on methodological changes and their effects on major statistical indicators are available on: https://www.stat.gov.rs/vesti/20210628-anketa-o-radnoj-snazi-nova-metodologija/

[11] Estimates for the first quarter of 2023 were calculated on the basis of demographic estimates for 2022, according to the 2022 census of Population, Households, and Dwellings. Demographic estimates based on the 2011 Census were used to calculate estimates with the fourth quarter of 2022 included. For the purpose of data comparability from the first quarter of 2023 with those from 2022, a revision of LFS data was made on the basis of the revision of demographic estimates based on the 2022 Census. In the next months, based on the revised population data for the inter-census period, LFS data will be revised for the relevant period before 2022. the inter-census revision was made in line with the General Revision Policy of the Statistical Office of the Republic of Serbia, which was fully harmonised with the ESS Guidelines on Revision Policy, which was adopted by the European Statistical System Committee. The objective of the inter-census LFS data revision is to ensure comparability without interrupting time series.

Table 8.2. Labour market – persons aged 15 and over

|	Current quarter	Previous quarter (r)		The same quarter of the previous year (r)	
	Q1 2023 (in thous.)	Q4 2022 (in thous.)	Change, %	Q1 2022 (in thous.)	Change, %
Unemployment	317.8	292.6	8.6	342.6	-7.2
Employment	2 835.9	2 816.8	0.7	2 804.3	1.1
	%	%	Change. pp.	%	Change. pp.
Unemployment rate	10.1	9.4	0.7	10.9	-0.8
Employment rate	49.6	49.1	0.5	48.5	1.1

(r) – revised data

Observed by sections, the largest share of the number of employed persons in the first quarter of 2023 was recorded in Services (57.5%), then in Manufacturing (24%) and Agriculture (12.8%), and the lowest in Construction (5.7%). 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 12.8%), and Manufacturing (from 24.8% to 57.5%). On the other hand, a growth of the share of persons employed was recorded in Services (from 56% to 24.9%) and Construction (from 5.6% to 5.7%).

In year-on-year periodicity (quarter I of 2023 – quarter I of 2022), the largest fall of the share of employed persons was recorded in Agriculture, forestry, and fishing (from 14.1% to 12.8%), in contrast to Manufacturing, where the largest growth was noted (from 22.8% to 24%).

Chart 8.2. Share of employees, by sections (%)

Agriculture, forestry and fishing ■ Manufacturing – total ■ Construction ■ Services
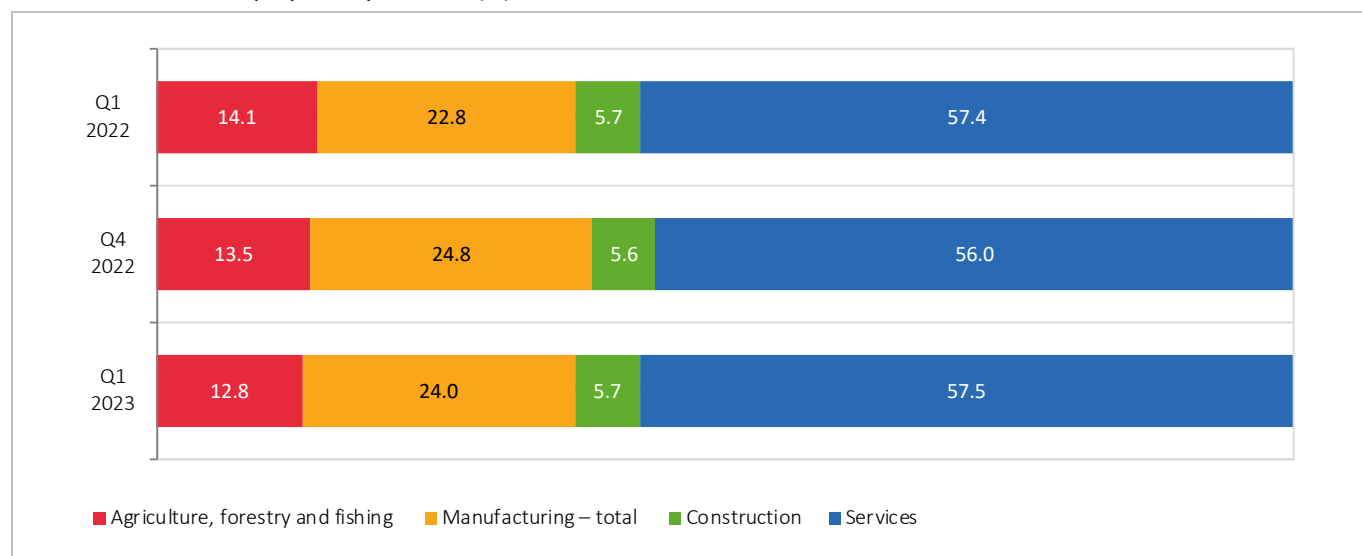
Trends in the labour market remained considerably resilient to the slowing down of the dynamics of the economic activity, owing primarily to the macroeconomic stability established in the previous period. Therefore in 2023, positive trends were recorded, which are primarily reflected through the year-on-year growth of employment with a simultaneous fall or unemployment, but under the influence of geopolitical tensions with a slower dynamics.

Chart 8.3. Laobur market – major indicators for the previous quarter, the same quarter of the previous year, and the current quarter (%)
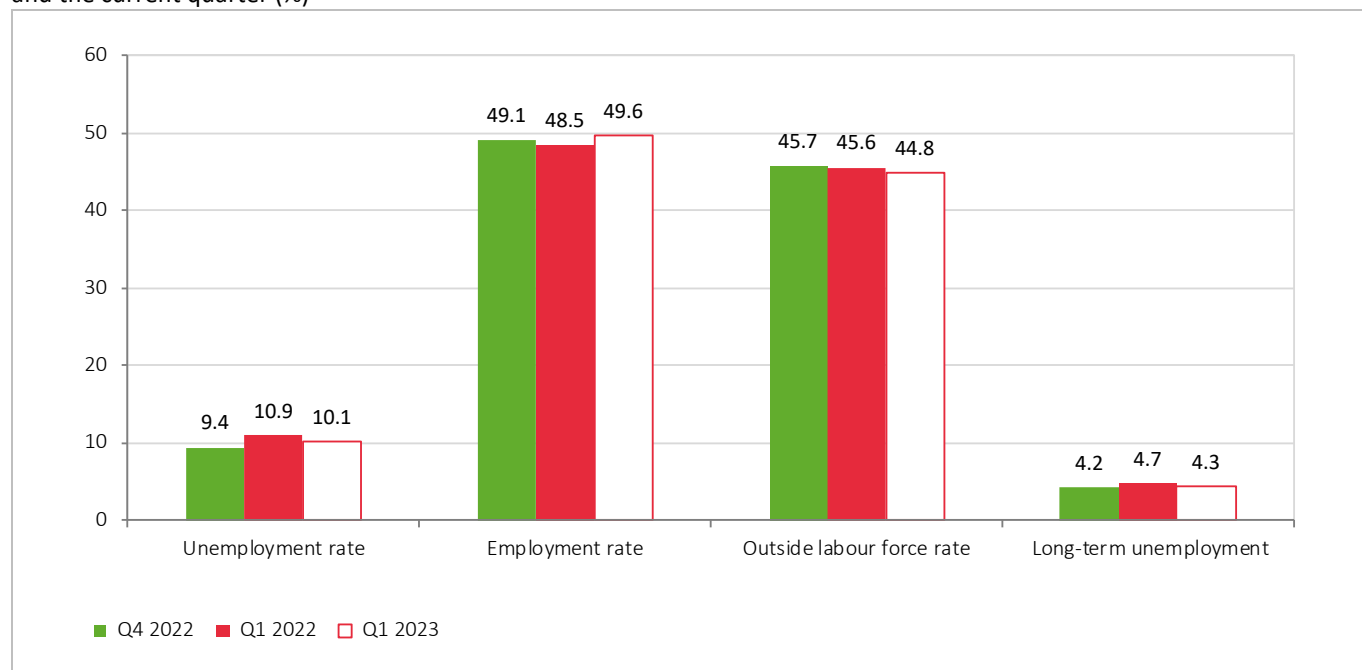
8.1. COMPARISON WITH THE PREVIOUS QUARTER

When compared with the previous, fourth quarter of 2022, the number of employed persons grew by 19,1 thousand, with a growth of unemployed persons of 25,2 thousand and fall of persons outside labour force of 61,4 thousand, which led to the increase in the employment rate of 0.5 pp., increase in the unemployment rate by 0.7 pp., and decrease in the outside labour force population of 0.9 pp.

In the population of young people, aged 15–24, the same trends between quarters were recorded in the movement of the main population contingents, as well as in the total population. The fall of the rate of the population outside labour force of 0.7 pp. was followed by the growth of the employment rate (0.3 pp.) and unemployment rate (0.6 pp.).

The long-term unemployment rate amounted to 4.3%, by 0.1 pp. more than in the fourth quarter of 2022.

Observed by sex, the unemployment rate in the first quarter of 2023, compared with the previous quarter, saw a growth of 1.2 p.p. among women and of 0.2 pp. among men.

The unemployment rate among men increased in all the regions: in Region of Vojvodina from 7.8% to 9.3%, and in Region of Southern and Eastern Serbia, from 12.7% to 14.1%. In contrast, the unemployment rate fell in Region of Sumadija and Western Serbia, from 10.1% to 9.9% and Belgrade Region, from 8.5% to 6.8%.

As far as the unemployment rate among women is concerned, almost all the regions recorded a growth: in Belgrade Region, from 7% to 8.4%, Region of Vojvodina, from 7.7% to 8.2%, and in Region of Southern and Eastern Serbia, from 11.7% to 16.1%, with the exception of Region of Sumadija and Western Serbia, where it fell from 10.9% to 10.5%.

Observed by professional status, and compared with the previous quarter, the number of employed persons increased only in the category of self-employed (by 1.3%), and contributing family members (by 5.8%), while it fell by 4.1% among employed workers.

Table 8.3. Employment by professional status, comparison Q4 2022 – Q1 2023

	Q4 2022 (in thous.)	Q1 2023 (in thous.)	Change, %
Employed persons – total	**2 816.8**	**2 835.9**	**0.7**
Self-employed	474.5	454.9	1.3
Employed workers	2 182.5	2 211.9	-4.1
Contributing family members	159.8	169.1	5.8

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 7.2% (from 342,6 thousand to 317,8 thousand). At the same time, the number of employed persons grew by 1.1% (from 2 804,3 in the first quarter of 2022 to 2 835,9 in the first quarter of 2023).

The youth unemployment rate (aged from 15 to 24) in the first quarter of 2023 amounted to 24.9%, by 3.7 p.p. less than in the first quarter of 2022, when it amounted to 21.2%

The long-term unemployment rate recorded fall on year-on-year level. In the first quarter of 2023 it amounted to 4.3%, by 0.4% down relative to the first quarter of 2022.

Observed by sex, the unemployment rate in the first quarter of 2023, compared with the same quarter of the previous year, saw a fall among women, by 1%, and among men by 0.7 pp.

Observed by regions, the unemployment rate among men saw a fall in almost all the regions: in Belgrade Region from 8.1% to 6.8%, Region of Vojvodina, from 10% to 9.3%, and in Region of Sumadija and Western Serbia from 10.9% to 9.9%, with the exception of Region Southern and Eastern Serbia, where a slight growth was recorded (from 13.4% to 14.1%).

The unemployment rate among women recorded agrowth in Belgrade Region from 8.2% to 8.4% and Region Southern and Eastern Serbia, from 14.3% to 16.1%, while, contrary to that, a fall of the unemployment rate was recorded in Region of Sumadija and Western Serbia, from 14.1% to 10.5% and Region of Vojvodina, from 9.4% to 8.2%.

Observed by professional status, compared with the same quarter of 2022, the number of employed persons increased in the category of contributing family members (by 1.7%), and in employees (by 2%), while the category of self-employed saw a fall of 3.3%.

Table 8.4. Employment by professional status, comparison Q1 2022 – Q1 2023

	Q1 2022 (in thous.)	Q1 2023 (in thous.)	Change, %
Employed persons – total	**2 804.3**	**2 835.9**	**1.1**
Self-employed	470.4	454.9	-3.3
Employed workers	2 167.6	2 211.9	2.0
Contributing family members	166.3	169.1	1.7

🔈 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 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.
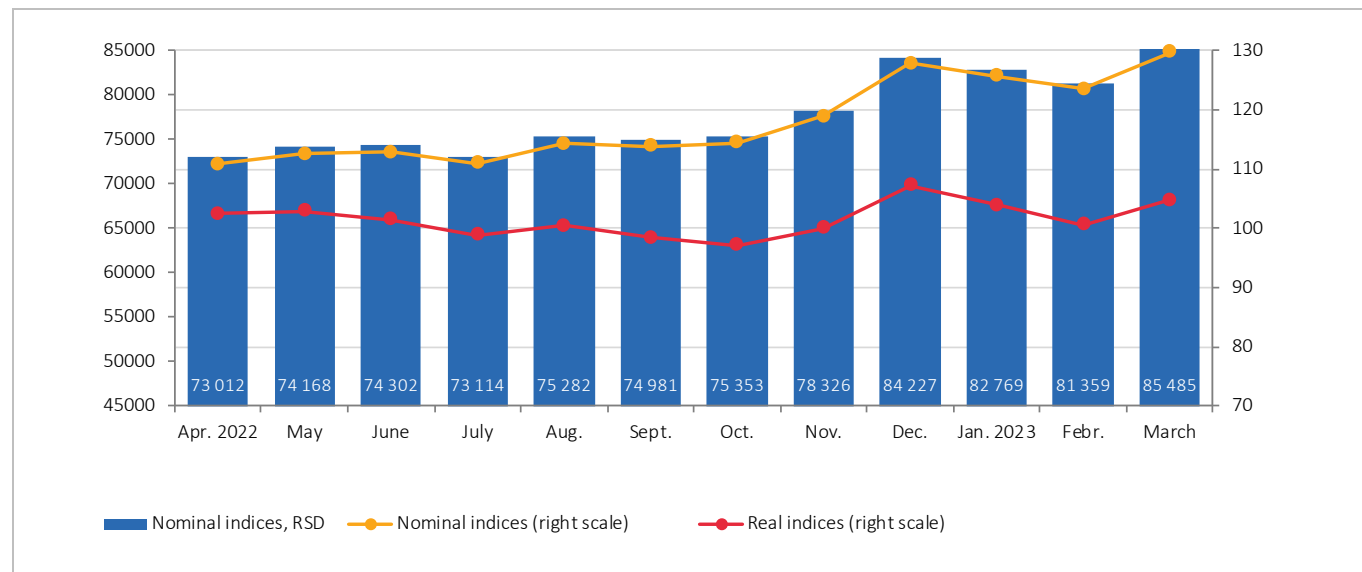
9. SALARIES AND WAGES

Average net salaries and wages calculated in the Republic of Serbia for the first quarter of 2023 amounted to 83 208 dinars.
Compared with the same quarter of the previous year, they were nominally up by 15.5%, and down by 0.4% in real terms. Compared with the previous quarter, fourth quarter of 2022, they were up by 4.9% nominally and down by 1.5% in real terms.

Table 9.1. Net salaries and wages – real and nominal indices (comparison with the same period of the previous year)
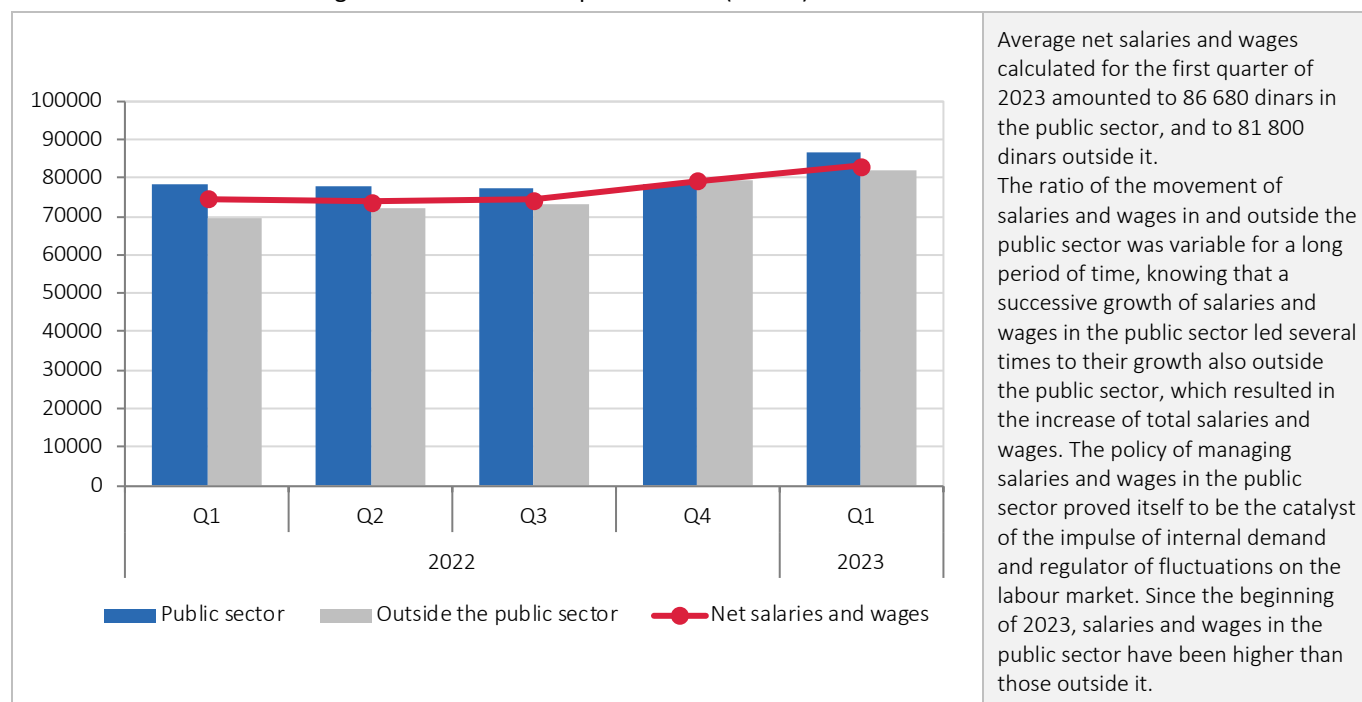
	2020				2021				2022				2023
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Real indices	108.3	107.4	107.4	107.6	105.8	106.4	104.5	104.5	104.3	102.7	101.3	98.6	99.6
Nominal indices	110.3	108.5	109.4	109.3	107.3	109.8	109.2	112.1	113.4	113.6	114.8	113.4	115.5

Chart 9.1. Net salaries and wages, movement 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 ascending trend in March 2023 amounting to RSD 85 485, reaching a year-on-year growth of 14.5% nominally, and fall of 1.5% in real terms. The decision on increasing the minimal pay from 201.2 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 March 2023, reaching a value of EUR 729 or year-on-year growth of 15%, which is close to the nominal growth of salaries and wages due to the relative stability of the exchange rate of RSD to EUR.

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

Average net salaries and wages calculated for the first quarter of 2023 amounted to 86 680 dinars in the public sector, and to 81 800 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 managing salaries and wages in the public sector proved itself to be the catalyst of the impulse of internal demand and regulator of fluctuations on the labour market. Since the beginning of 2023, salaries and wages in the public sector have been higher than those outside it.

Average net salaries and wages in the public sector
(January–March 2023)

Public sector – total	RSD 86 680
Public state-owned enterprises	RSD 93 621
Public local enterprises	RSD 77 515
Administration – all levels	RSD 93 975
Government level	RSD 98 010
Autonomous province level	RSD 106 485
Local authorities level	RSD 73 452
Human health and social work	RSD 86 272
Education and culture	RSD 79 129

When comparing net salaries and wages by CA (2010), one notices that the largest real growth in Q1 2023 to the same period of 2022, was realised in the sections Retail and wholesale trade and repair of motor vehicles (1.3%), Manufacturing (0.8%) and Professional, scientific and technical activities (0.7%).

The highest net salaries and wages in Q1 2023 were recorded in the following divisions: Computer programming and consultancy activities (255 439 dinars), Air transport (178 606 dinars), Scientific research and development activities (174 434), and Extraction of crude petroleum and natural gas (167 123).

In all other divisions salaries and wages ranged from 46 393 dinars (Food and beverages service activities) to 150 978 dinars (Activities of head offices; Management consultancy activities).

Observed by regions, the highest average net salaries and wages in Q1 2023 were paid in Belgrade Region, 105 304 dinars. In Region Vojvodina average salaries and wages totaled 79 113 dinars, in Region of Southern and Eastern Serbia, 71 461 dinars, and in Region of Sumadija and Western Serbia, 69 240 dinars.

Chart 9.3. Real growth of net salaries and wages by CA (2010) sections
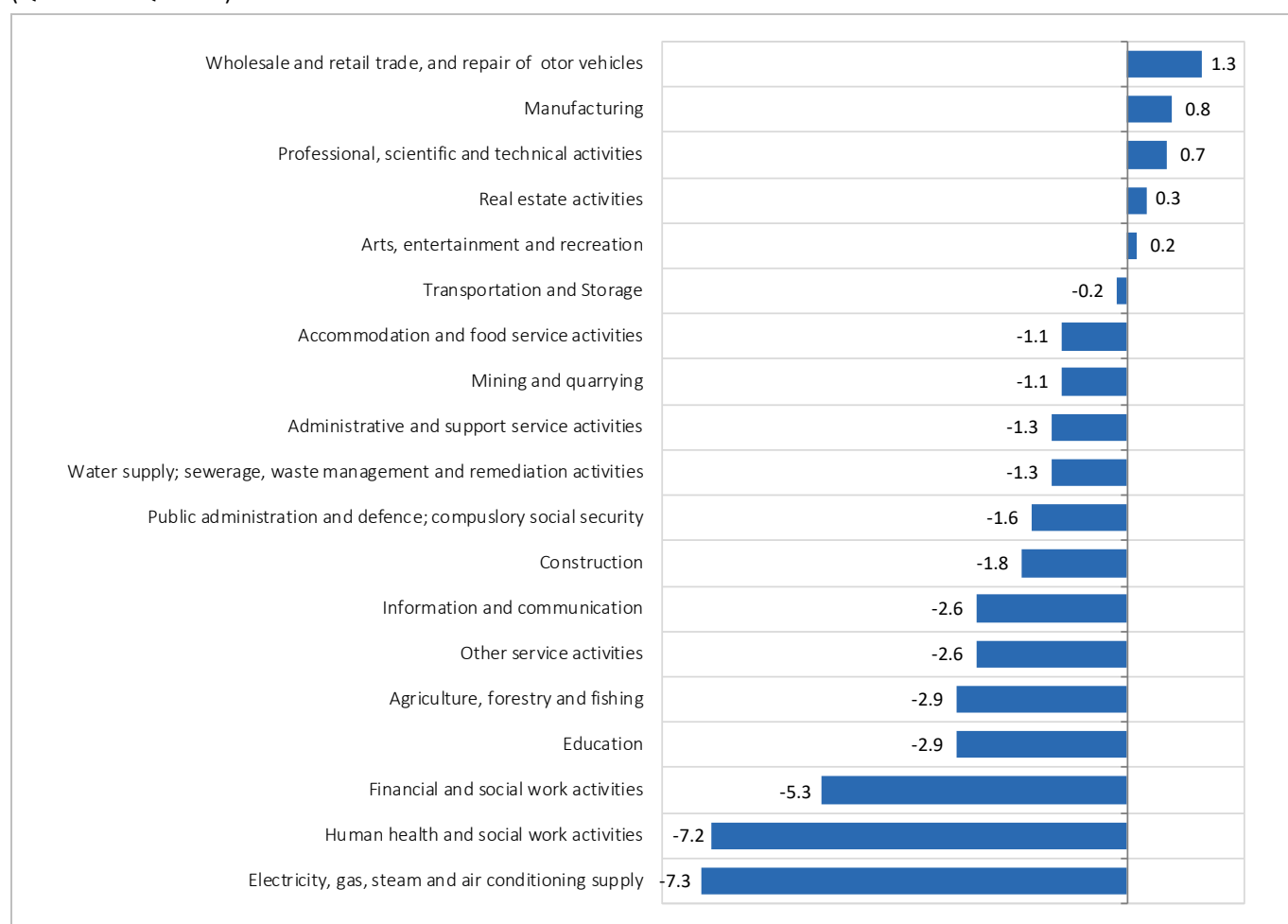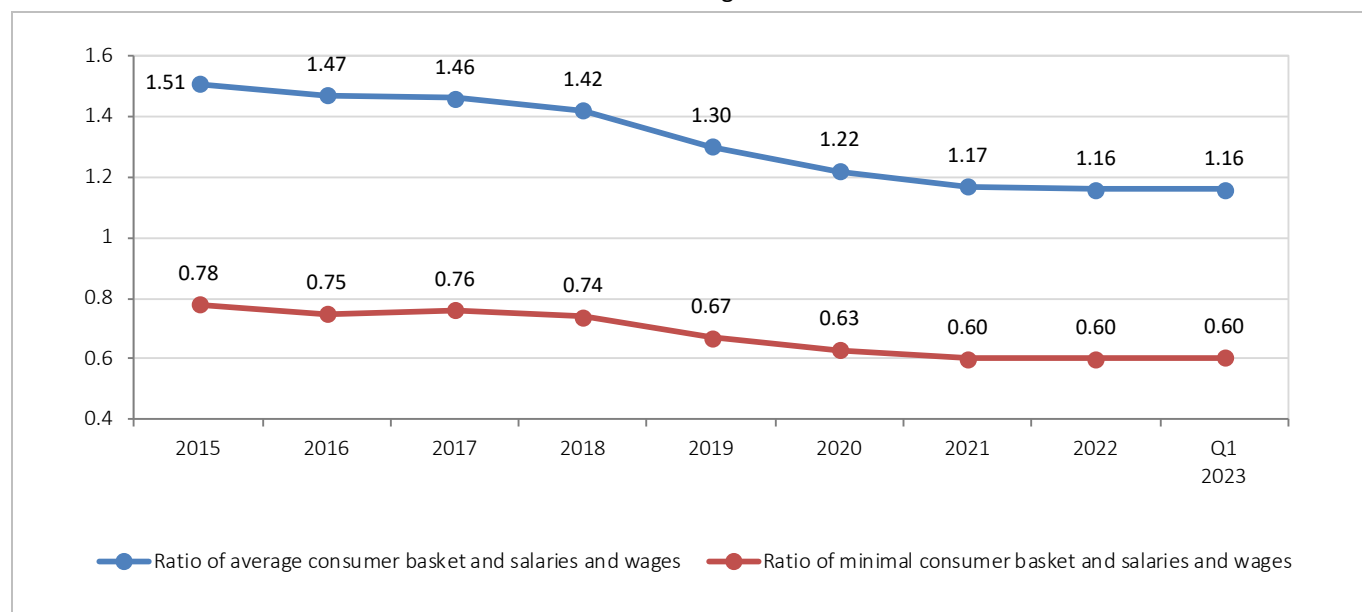(Q1 2023 to Q1 2022)

Section	Value
Wholesale and retail trade, and repair of otor vehicles	1.3
Manufacturing	0.8
Professional, scientific and technical activities	0.7
Real estate activities	0.3
Arts, entertainment and recreation	0.2
Transportation and Storage	-0.2
Accommodation and food service activities	-1.1
Mining and quarrying	-1.1
Administrative and support service activities	-1.3
Water supply; sewerage, waste management and remediation activities	-1.3
Public administration and defence; compuslory social security	-1.6
Construction	-1.8
Information and communication	-2.6
Other service activities	-2.6
Agriculture, forestry and fishing	-2.9
Education	-2.9
Financial and social work activities	-5.3
Human health and social work activities	-7.2
Electricity, gas, steam and air conditioning supply	-7.3

Chart 9.4. Ratio of the consumer basket[12] and net salaries and wages

Increased population living standard over 2015–2022 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 2022 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 2022 this ratio grew 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 first quarter of 2023 indicates that the purchasing power grew slightly when compared with the previous quarter. To cover the average consumer basket in the first quarter of 2023, 1.16 average salaries and wages (in the fourth quarter of 2022, 1.17), and to cover the minimum consumer basket only 0.60 of average (in the fourth quarter of 2022, 0.61).

When compared to the same quarter of the previous year, the ratio of the average consumer basket and net salaries and wages of 1.16 indicates a fall of the purchasing power (in the first quarter of 2022 − 1.13), while the minimum average consumer basket of 0.60 of average salaries and wages exceeds the level from the same quarter of the previous year (0.59).

Observed by towns, in the first quarter of 2023, purchasing power (ratio of the average consumer basket and average salaries and wages) above the average of the Republic (1.17) was recorded in Belgrade (0.95), Novi Sad (1.09), Nis (1.14) and Kragujevac (1.16), while in other statistically monitored towns, average salaries and wages covered the minimum, but not average household consumer basket.

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[12] *Minimum consumer basket* – refers to 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 multidimensional and complex nature, is an activity intertwined with many other economic activities, as, besides, providing accommodation food services, the indispensable activities related to tourism are the following ones: transport, 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 increasing trend expressed in the number of tourist overnight stays in the Republic of Serbia continued also in the previous 2022, when there were 12,2 million overnight stays, 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 first quarter of 2023, the number of spent tourist nights amounted to 2.4 million, by 16% more than in the first quarter of 2022. Domestic tourists accounted for 3.9% and foreign ones for 34.4% of the total number of overnight stays

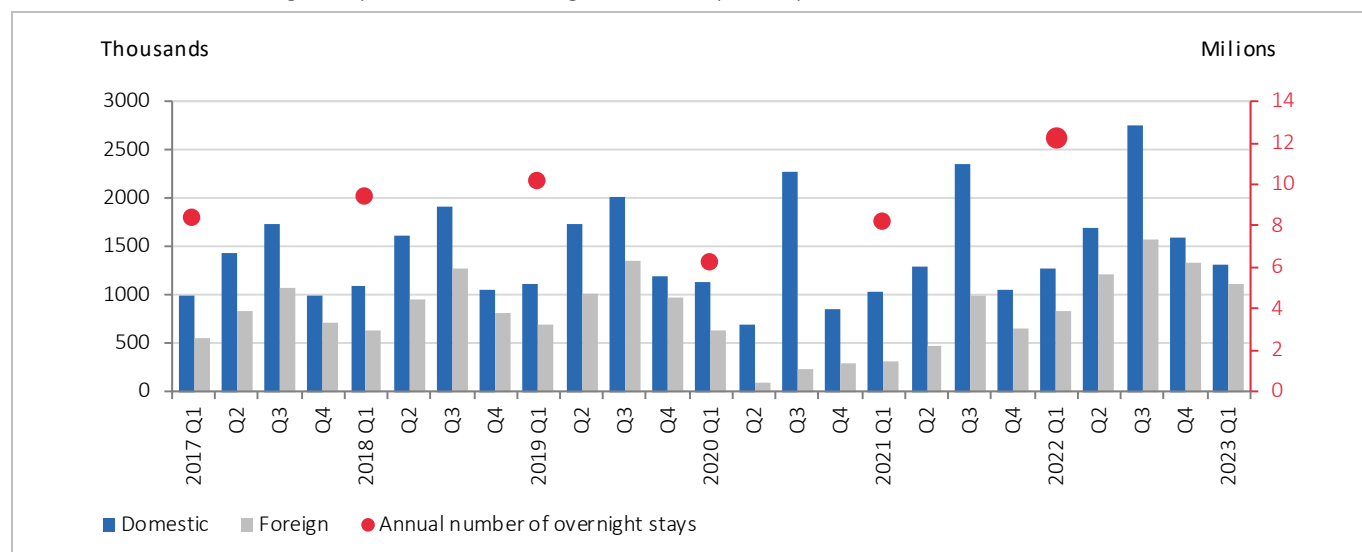Chart 10.1. Tourist overnight stays – domestic, foreign and total; quarterly and annual data

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
Total	76.1	228.4	133.3	148.2	156.3	164.1	129.2	171.7	116.0
Domestic tourists	91.9	188.5	103.6	123.5	122.2	130.8	117.2	151.4	103.9
Foreign tourists	48.3	535.8	412.6	220.0	270.1	253.8	157.5	204.7	134.4

10.2. MAJOR TOURISM RESORTS

Expressed in number of tourist overnight stays[13], the most frequently visited tourism resorts in the first quarter of 2023 were **Other tourism resorts**, with 1.3 million overnight stays (or about 53.3% of total overnight stays), by 25.6% more than in the same period of 2022. This category comprises Belgrade (658,5 thousand overnight stays) and larger towns of Serbia (Novi Sad, Subotica, Nis). Most of the visitors to Belgrade were foreign tourists (84.8%), and a similar situation was recorded in Novi Sad (foreign tourists 70.5%) and Subotica, where about 57.6% of visitors were from abroad.

In **Montain resorts,** second category according to the number of tourist overnight stays, in the first three months of 2023 there were 805 thousand million overnight stays (or 32.4% of the total number of overnight stays), by 5.8% more than in the same period of the previous year. Kopaonik attracted the largest number of tourists (272,4 thousand), who were mostly from the Republic of Serbia (181.2 thousand). Zlatibor recorded 231,8 thousand tourist overnight stays, of which most were from the Republic of Serbia (181,4 thousand). These two mountains accommodated about 62.6% of the total number of tourists who spent nights in mountain resorts.

In **spa resorts** in the first quarter of 2023 there were about 354.7 million overnight stays, by 5.7% more than in the same period of the previous year. Tourists were mainly from the Republic of Serbia (77.5%), and the most visited was Vrnjacka banja with 91.8 thousand visitors, followed by Sokobanja (62.7 thousand), Banja Vrdnik (31.8 thousand), Banja Koviljaca (31.8 thousand), and other spas.

Almost all tourism resorts saw a growth of the number of tourist overnight stays in the first quarters of 2023 in relation to the same period of 2022, and mostly in Goc (growth of 637.9%), Rudnik (growth of 277%), Becej (growth of 159.9%) and Pirot (growth of 98.3%).

Chart 10.2. **Tourist overnight stays by selected tourism resorts, January-March 2023**

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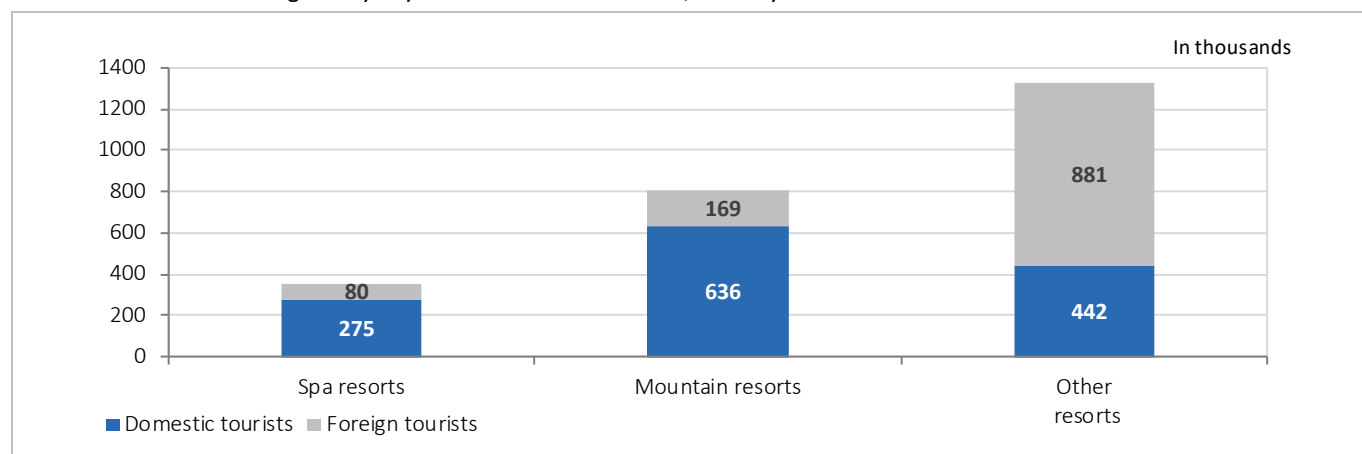
[13] The sum of data by type of resorts (spas, mountains, other resorts) does not give the correct number of tourist overnight stays in the Republic of Serbia knowing that the areas of some tourist resorts belong at the same time to different resorts (e.g. they are at the same time spa and mountain resorts).

10.3. COUNTRY OF ORIGIN OF FOREIGN TOURISTS

In the first quarter of 2023, the number of foreign tourist overnight stays increased by 34.4%, compared with the same quarter of 2022. In the period January-March 2023 tourists from about fifty different countries visited Serbia. Tourists from Europe were the most numerous to have spent nights (85.4%).

Three countries which tourists spent the largest number of nights were the Russian Federation (180.8 thousand), Turkey (89.3 thousand), and North Macedonia (83.7 thousand). Vistors from Bosnia and Herzegovina were at the fourth place (68.5 thousand), then from Romania (58.8 thousand), Montenegro (56.8 thousand) and Bulgaria (53.7 thousand). Overnight stays of tourists from these seven countries account for almost a half of the total number of nights spent in the first quarter of 2023.

For the purpose of comparison, chart 10.4 presents the number of tourist overnight stays in 2022., when tourism was still under the negative influence of the coronavirus epidemic.

Chart 10.3. Overnight stays of foreign tourists by countries from which they came from, January-March 2023
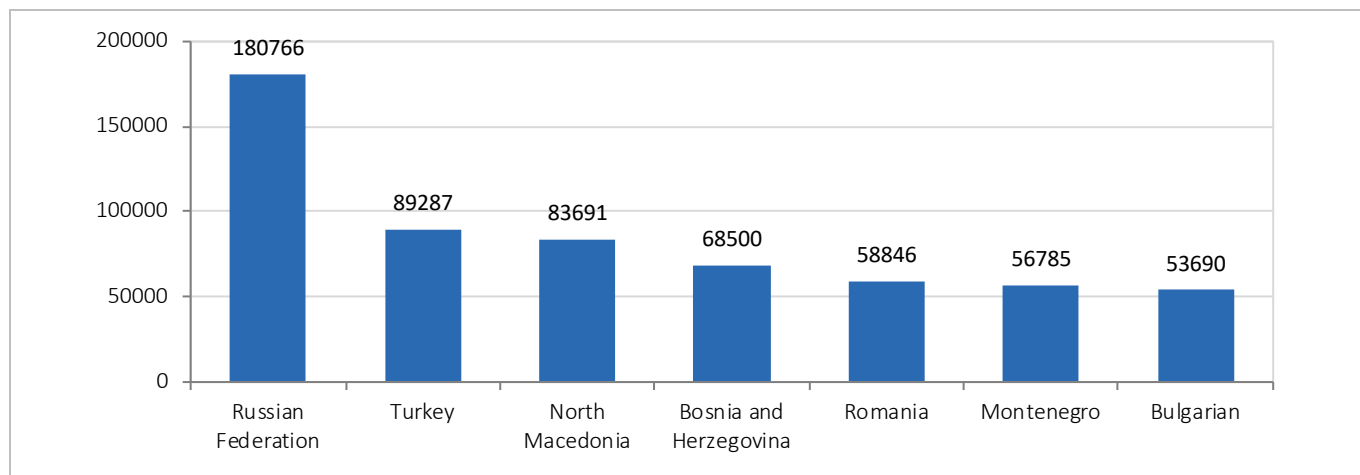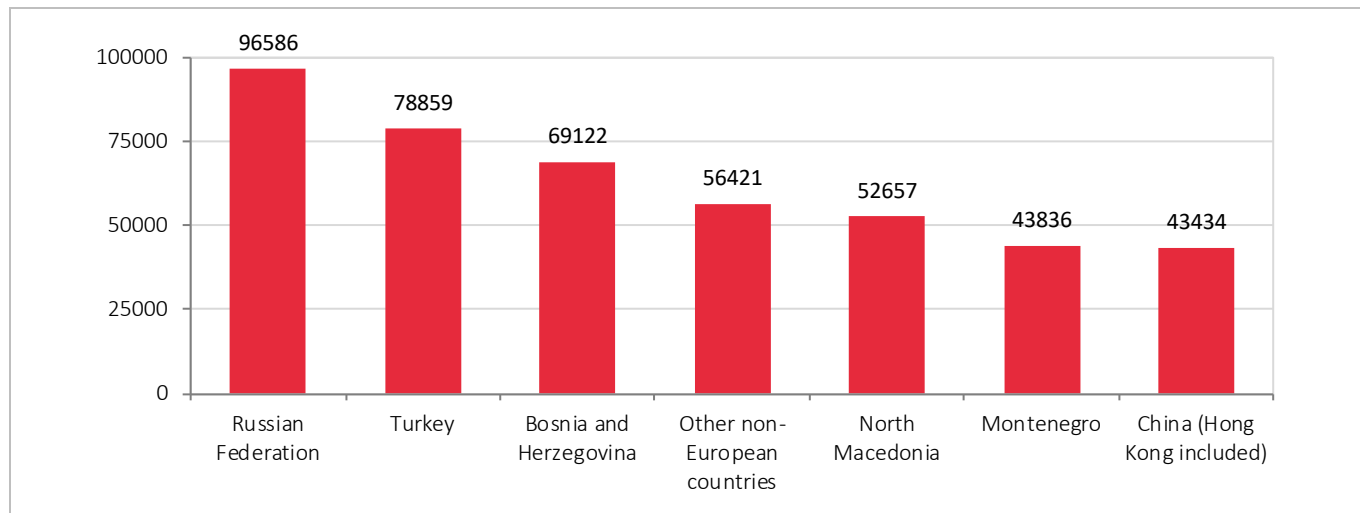

Chart 10.4. Overnight stays of foreign tourists by countries which they came from, January-March 2022

⚠ 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 Catering and Tourism (eTourist). 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.
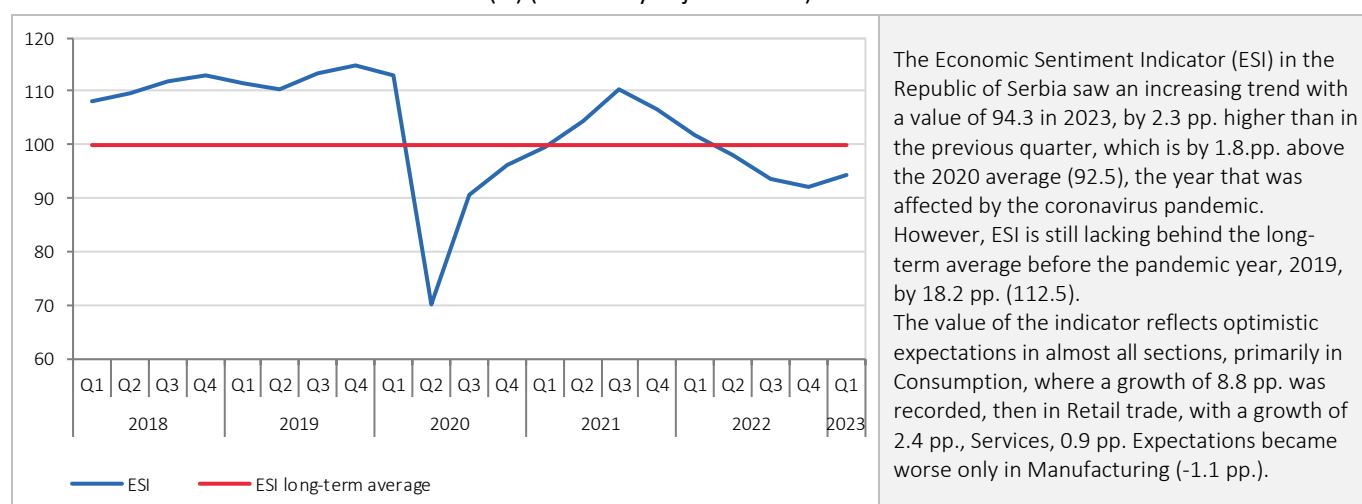
11. ECONOMIC SENTIMENT INDICATOR

11.1. ECONOMIC SENTIMENT INDICATOR - 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. [14]

Chart 11.1. Economic Sentiment Indicator[15] (%) (seasonally adjusted data)

The Economic Sentiment Indicator (ESI) in the Republic of Serbia saw an increasing trend with a value of 94.3 in 2023, by 2.3 pp. higher than in the previous quarter, which is by 1.8.pp. above the 2020 average (92.5), the year that was affected by the coronavirus pandemic. However, ESI is still lacking behind the long-term average before the pandemic year, 2019, by 18.2 pp. (112.5).
The value of the indicator reflects optimistic expectations in almost all sections, primarily in Consumption, where a growth of 8.8 pp. was recorded, then in Retail trade, with a growth of 2.4 pp., Services, 0.9 pp. Expectations became worse only in Manufacturing (-1.1 pp.).

Source: European Commission, processing: Statistical Office of the Republic of Serbia. Quarterly data represent the quarterly average.
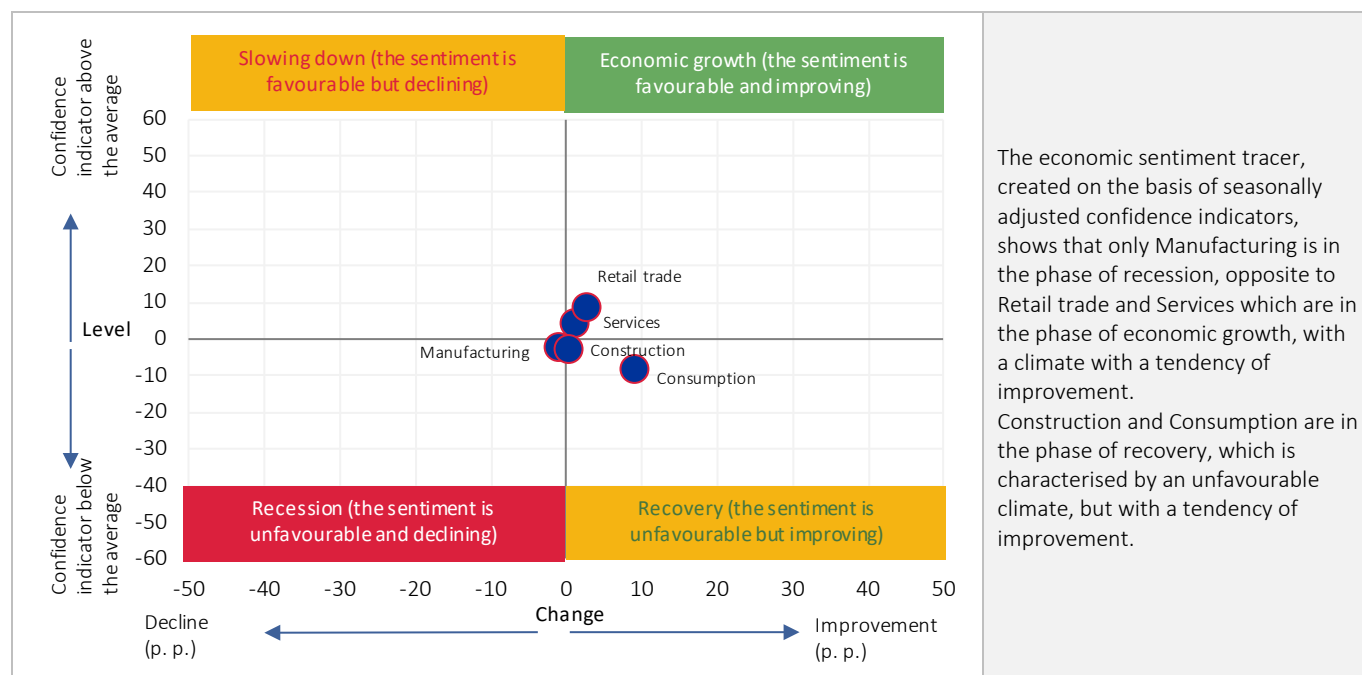
Table 11.1. Confidence indicators by sections and Economic Sentiment Indicator – growth relative to the long-term average (%)

Confidence indicators	Minimum		Average	Maximum		2021				2022				2023
	Quarter	Value		Quarter	Value	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Manufacturing	Q2 2020	-9.4	3.6	Q3 2018	8.0	0.6	1.6	3.9	4.7	0.5	1.3	0.8	-0.8	-1.9
Services	Q2 2020	-43.2	6.6	Q2 2016	16.1	0.6	8.1	14.7	8.6	7.6	5.4	1.3	3.7	4.6
Retail trade	Q2 2020	-12.8	8.2	Q4 2019	17.8	3.1	7.3	11.2	6.9	9.9	7.6	7.0	6.4	8.8
Construction	Q3 2013	-40.9	-10.4	Q3 2019	6.9	-4.8	-2.1	-2.0	-1.3	-0.9	-6.2	-8.1	-2.8	-2.5
Consumption	Q4 2014	-20.6	-5.0	Q1 2020	10.7	4.1	5.7	6.8	2.2	2.3	-6.0	-12.3	-17.2	-8.4
Economic Sentiment Indicator	*Q2 2020*	*70.2*	*102.6*	*Q4 2019*	*114.9*	*99.5*	*104.5*	*110.3*	*106.7*	*101.9*	*98.2*	*93.8*	*92.0*	*94.3*

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[14] 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

[15] Data for the Economic Sentiment Indicator (ESI) have been revised in line with the improved methodology of data seasonal adjustment, which has been in use since April 2022 as well as with regular annual methodological adjustments.
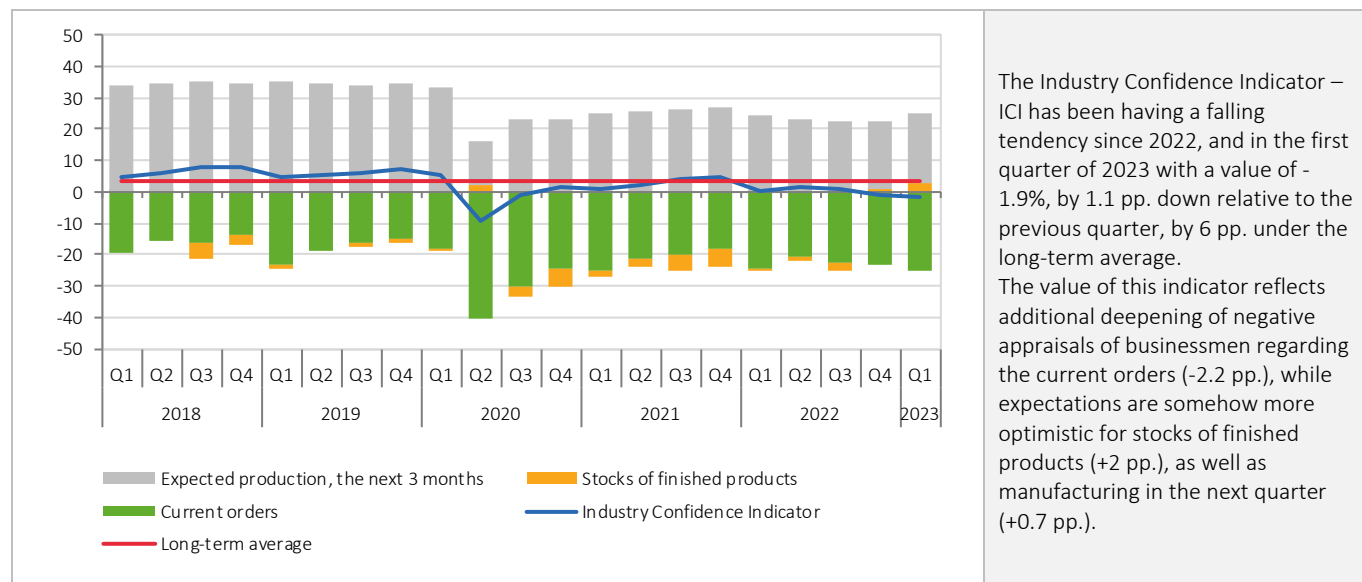
Chart 11.2. Economic sentiment tracer

The economic sentiment tracer, created on the basis of seasonally adjusted confidence indicators, shows that only Manufacturing is in the phase of recession, opposite to Retail trade and Services which are in the phase of economic growth, with a climate with a tendency of improvement.
Construction and Consumption are in the phase of recovery, which is characterised by an unfavourable climate, but with a tendency of improvement.

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 has been having a falling tendency since 2022, and in the first quarter of 2023 with a value of -1.9%, by 1.1 pp. down relative to the previous quarter, by 6 pp. under the long-term average.
The value of this indicator reflects additional deepening of negative appraisals of businessmen regarding the current orders (-2.2 pp.), while expectations are somehow more optimistic for stocks of finished products (+2 pp.), as well as manufacturing in the next quarter (+0.7 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)
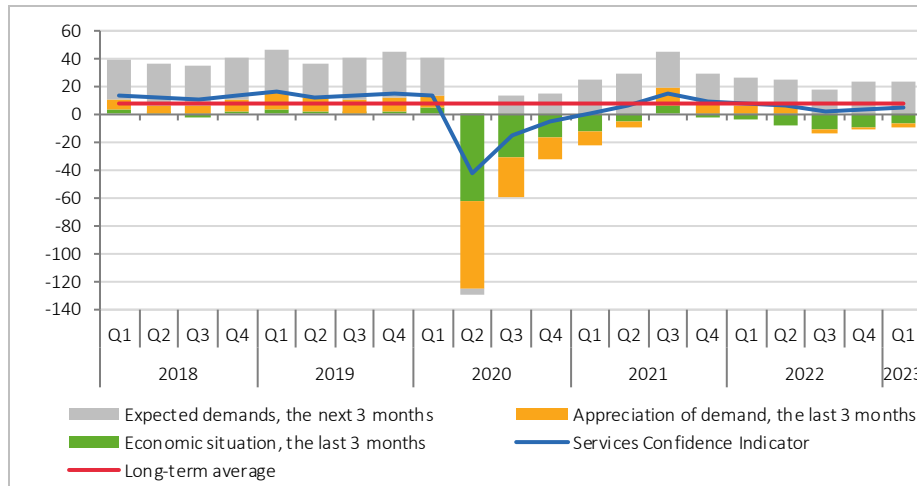

The Service Confidence Indicator – SCI, with a value of 4.6%, was up by 0.9 pp. relative to the previous quarter, but still under the long-term average (by 2 pp.).
The growth of this indicator reflects primarily a higher appraisal of the economic situation in the next quarter (+2.2 pp.), and also of the appraisal of demand in the last quarter but also in the next three quarters (by 0.3 pp.).

Legend:
- Expected demands, the next 3 months
- Appreciation of demand, the last 3 months
- Economic situation, the last 3 months
- Services Confidence Indicator
- Long-term average

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.

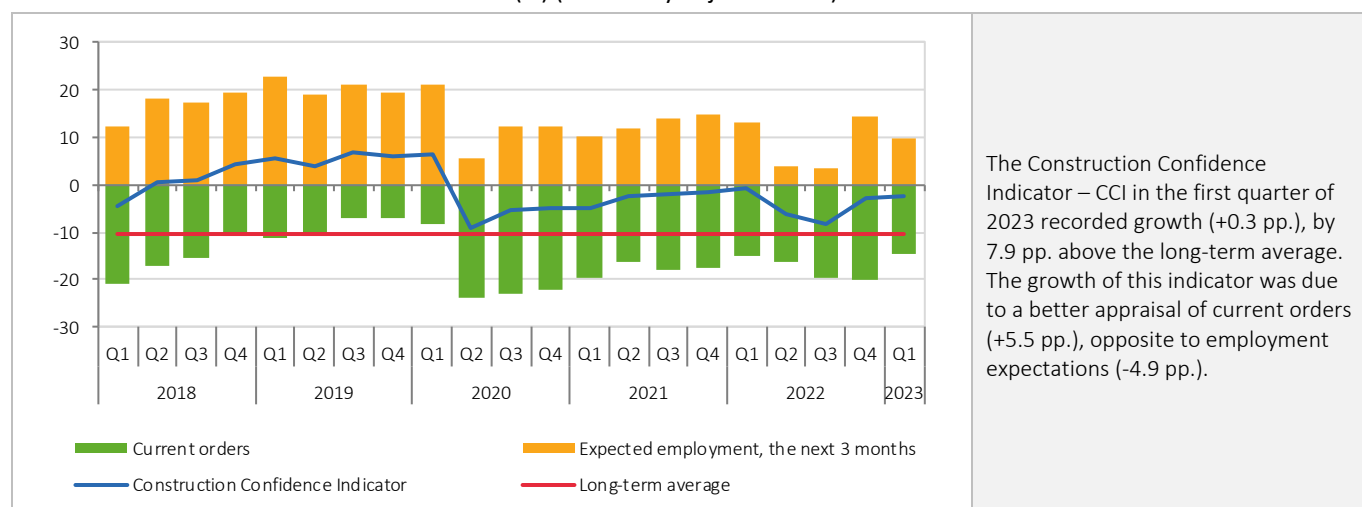Chart 11.5. Trade Confidence Indicator (%) (seasonally adjusted data)
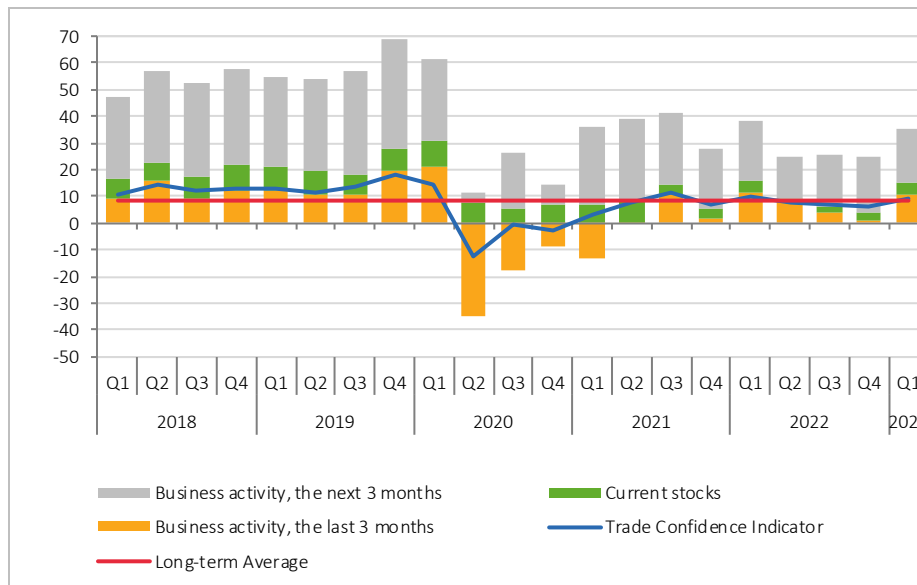
The Trade Confidence Indicator – TCI in the first quarter of 2023, with a value of 8.8, saw a growth of 2.4 pp. relative to the previous quarter, by 0.6 pp. above the long-term average. While attitudes concerning business activity in the last three quarter and current stocks (growth relative to the previous quarter amounted to 9.4 and 1.4 pp., respectively), the appraisal of business activity fell in the next quarter (-0.7 pp.).

Legend:
- Business activity, the next 3 months
- Current stocks
- Business activity, the last 3 months
- Trade Confidence Indicator
- Long-term Average

11.5. CONSTRUCTION CONFIDENCE INDICATOR

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

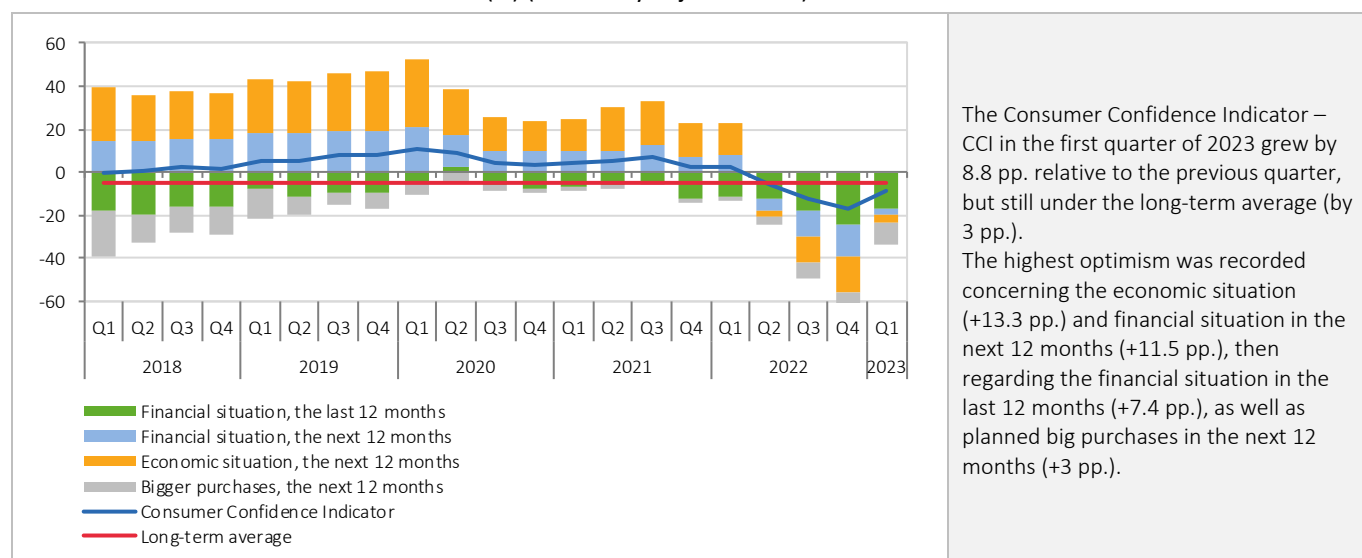Chart 11.6. Construction Confidence Indicator (%) (seasonally adjusted data)

The Construction Confidence Indicator – CCI in the first quarter of 2023 recorded growth (+0.3 pp.), by 7.9 pp. above the long-term average. The growth of this indicator was due to a better appraisal of current orders (+5.5 pp.), opposite to employment expectations (-4.9 pp.).

11.6. CONSUMER CONFIDENCE INDICATOR[16]

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 in the first quarter of 2023 grew by 8.8 pp. relative to the previous quarter, but still under the long-term average (by 3 pp.).
The highest optimism was recorded concerning the economic situation (+13.3 pp.) and financial situation in the next 12 months (+11.5 pp.), then regarding the financial situation in the last 12 months (+7.4 pp.), as well as planned big purchases in the next 12 months (+3 pp.).

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[16] 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 THE REPUBLIC 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 the Republic of Serbia
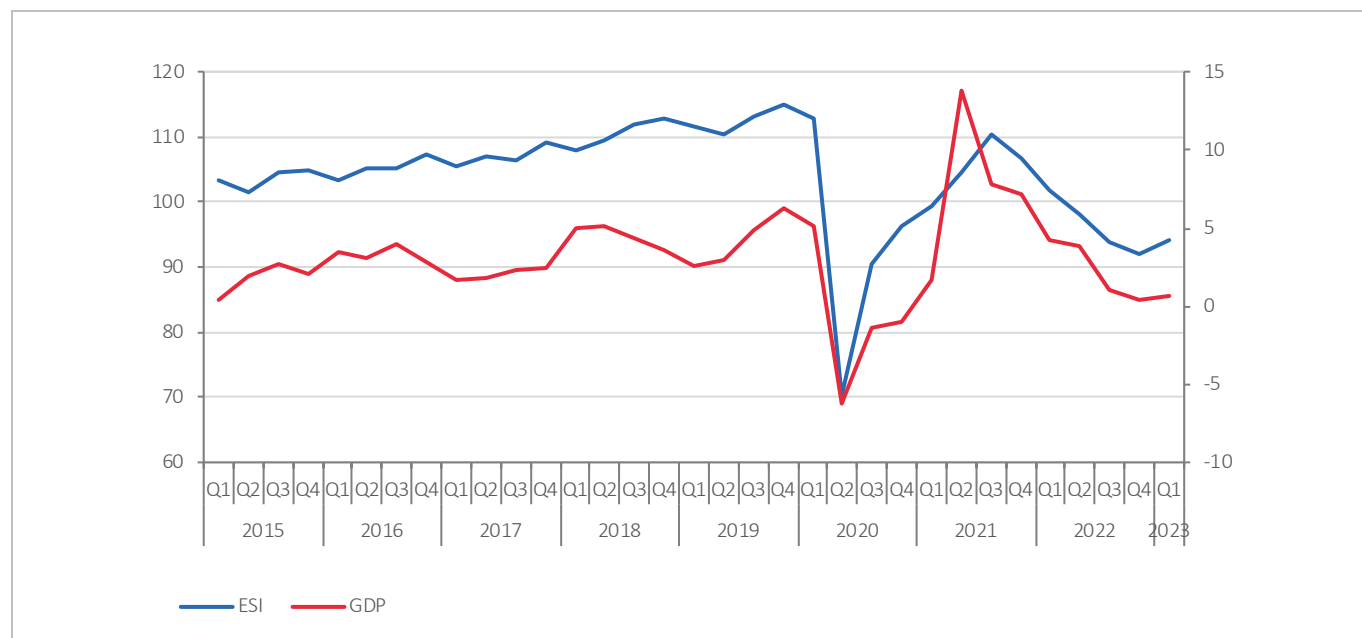
11.8. ECONOMIC SENTIMENT INDICATOR IN THE EUROPEAN UNION

Economic expectations in most of EU member states improved in the first quarter of 2023 (relative to the previous quarter), which made ESI go up by 3.4 p.p. (with a value of 97.6). The largest growth in expectations in the EU was recorded in Consumption (-7.4 pp.), then in Retail trade (+4.3 pp.)

Chart 11.9. Economic Sentiment Indicators
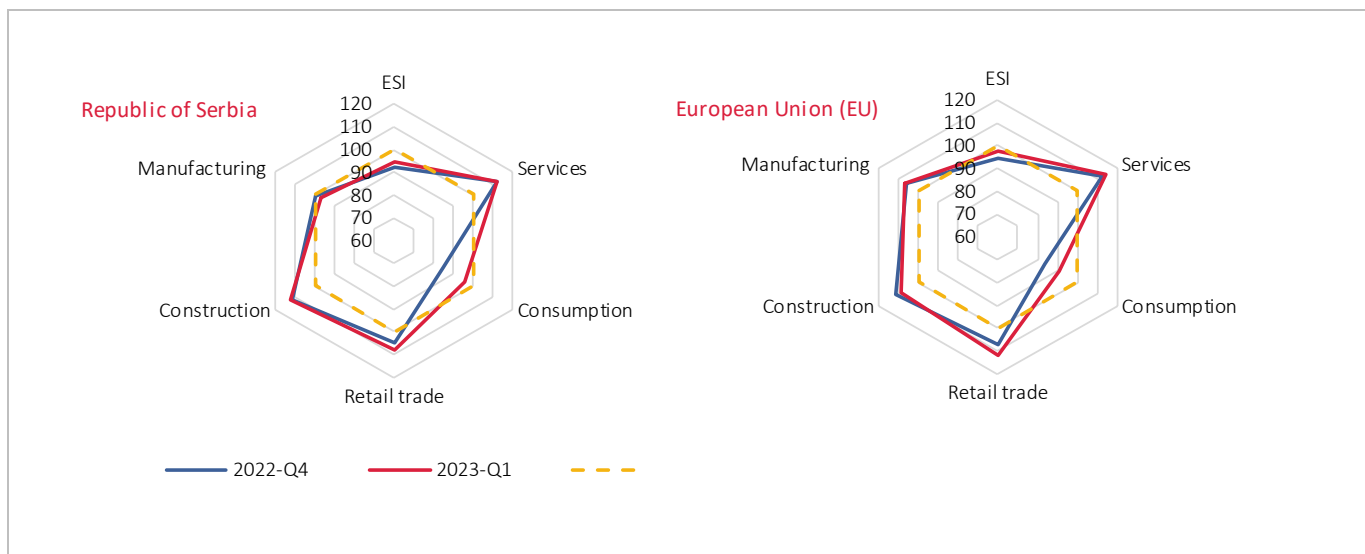
HOW TO INTERPRETE THE TRACER?

The tracer scale of the chart ranges from 60 to 120 (average = 100). The most recent quarterly outcomes (Q1 2023) are compared with the previous quarterly outcomes (Q4 2022) 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 center its decline.

12. REGIONAL ECONOMIC ASYMMETRIES

The starting point in realizing aspects of regional asymmetries is the status of cities and municipalities of the Republic of Serbia for 2014 (Official Gazette of RS, no 104/2014). In compliance with the Regulation, excluding Belgrade that comprises no municipality with the status of undeveloped area, in other three regions, number and size of undeveloped municipalities varies – Region of Vojvodina 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 of 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 the Republic of Serbia in the last several decades has contributed to deeper, already existing territorial inequalities. Regional polarization is apparent at several levels – undeveloped area, developed center 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 2021, observed by level of NSTU 2 regions, the greatest realized GDP was in Belgrade region (40.2%), followed by Region of Vojvodina (25.6%), Region Sumadija and Western Serbia (18.3%) and Region Southern and Eastern Serbia (14%).

Knowing that Belgrade region covers 3.7% of the area inhabited by 24% of the population of the Republic of Serbia, it is clear that it is also the region with the highest GDP per capita (1 492 000 RSD / per capita, i.e. 62.6 % above the republic average or almost double than in Region Southern and Eastern Serbia). Other regions record GDP per capita under the average, i.e. Region of Vojvodina -3.5%, Region Sumadija and Western Serbia -31.6% and Region Southern and Eastern Serbia -27.9%.

Chart 12.1. Share of the region in national GDP, 2021

Beogradski region, 40.2%
Region Vojvodina, 25.8%
Region Sumadija and Western Serbia, 18.7%
Region Southern and Eastern Serbia, 15.3%
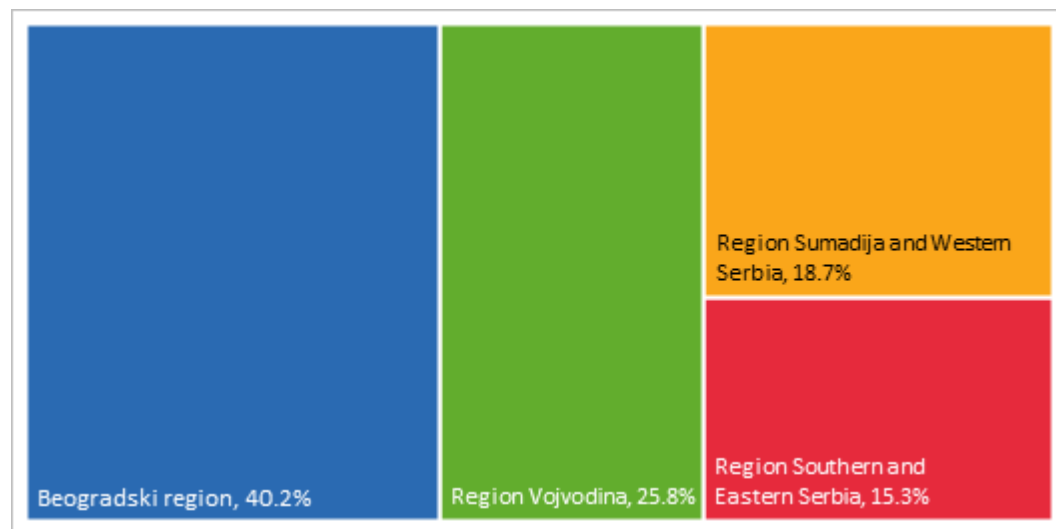
■ Average salaries and wages

Level of regions' development, measured by average net salaries and wages in the first quarter of 2023 varies in ratio 1.5:1, i.e. the highest salaries and wages are recorded in Belgrade, and lowest ones in Region Sumadija and Western Serbia. Average net salaries and wages in Belgrade region amounted to RSD 105 304, or 127% of RS average (RSD 83 208), in Region of Vojvodina, they were insignificantly below RS average (RSD 79 113, or 95% of RS average), while in Region Southern and Eastern Serbia and Region Sumadija and Western Serbia, they were about 86% and 83% of the Republic average (RSD 71 461 and RSD 69 240, respectively). In all regions, average salaries and wages recorded growth relative to same period of the previous year, and the greatest relative increase was noted in Belgrade region, by 16.1%.

In 78 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 Bojnik (with the lowest average salaries and wages of RSD 56 239). Moreover, at the bottom of the list are the municipalities of Presevo with an average salary of RSD 56 352, Blace (57 841) and Crna Trava (58 155).

■ 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 14.9% in the first quarter of 2023, by 47.5% exceeds the average of national average (10.1%), versus Belgrade region, where the unemployment rate is the lowest (7.6%, i.e. 24.8% under national average. Additionally, referring to employment rate, it is the highest in Belgrade region with a rate of 54.9% or 10.7% above Republic average, while Region Southern and Eastern Serbia, noted was the lowest employment rate of 43.9%, or 11.5% below the Republic average (49.6%).

In the first quarter of 2023, Belgrade region recorded the largest share in total employment (27.7%) with simultaneously the smallest unemployment rate (20.2%). Region of Southern and Eastern Serbia with 19% has the lowest share in total employment of the Republic of Serbia, participating with 29.&% in total unemployment of the Republic of Serbia (according to the Labour Force Survey).

■ Export activity

In contrast to other indicators, in the first quarter of 2023, Belgrade region was not on the first place regarding total export of the Republic of Serbia (share of 23.8%). Region of Vojvodina is on the first place with the share of 32.6% in export, followed by Region Sumadija and Western Serbia (20.4%) and Region Southern and Eastern Serbia (20%). Export per capita reflects regional asymmetries – Region
Vojvodina records the export of EUR 1 416 per capita, and it is by 29% above the Republic average and it almost double exceeds the export value per capita in Region Sumadija and Western Serbia (EUR 820), which is by 25% below the average of the Republic. Region of Vojvodina, as the leading exporter in the first quarter of 2023, recorded in the structure of export[17] the greatest share in export the greatest share of agricultural and food products (18.3%), primarily cereals (23.7%), the most important export product being maize (10% of export of agricultural and food products).

■ Demographic structure

According to census data for 2022, population density in Belgrade region is by 6.9 times greater than average population density in the Republic of Serbia, while in Region Southern and Eastern Serbia, population density was the lowest – 29% below the Republic average. Although all regions participate relatively equally in total population of the Republic of Serbia, interregional differences are particularly apparent. For example, in eight towns in Region of 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 Belgrade region is constantly increasing (by 1.3% between

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

2011 and 2022), while the number of population in other three regions will still grow 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 Belgrade 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 the Republic 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 40 municipalities[18] have an out-of-band participation of municipal roads with a modern roadway under the average, 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 2022 from 5.7 in Region Southern and Eastern Serbia to 7.8 in Belgrade region, where every four vehicles was registered. The number of first-time registered cars compared to the number of inhabitants in over the period January-March 2023 reflects a similar ratio, with Belgrade region exceeds the Republic average by 34% 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 9 times the population density in Region Southern and Eastern Serbia, where it is the lowest (Table 12.1).

Table 12.1. Extreme values of the regional asymmetry indicator, January–March 2023.

Indicators	Population density, km^2, 2021	GDP per capita, 2021	Average net salaries and wages	Unemployment rate	Export per capita	Demographic empting, 2011–2022 (%)
	9 : 1	2.3 : 1	1.5 : 1	1.5 : 1	1.6 : 1	(-10.5) : (+1.3)
Extreme vakues (the highest: the lowest	Beogradski region: Region Southern and Eastern Serbia	Beogradski region: Region Southern and Eastern Serbia	Beogradski region: Region Sumadija and Western Serbia	Region of Southern and Eastern Serbia: Belgrade region	Region Vojvodina: Region Sumadija and Western Serbia	Region of Sumadija and Western Serbia: Belgrade region

Chart 12.2. Disproportions at the regional level in Serbia, (RS level = 100%), Januar-March 2023
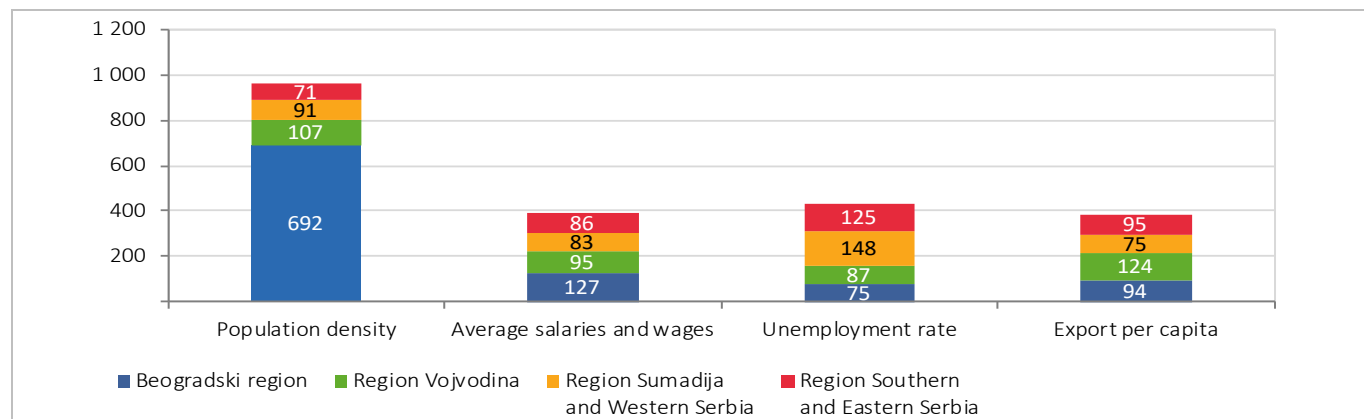
Table 12.2. Indicators of regional development of Serbia (NSTJ 2) (RS level = 100%)

	2020				2021[19]				2022[20]				2023
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Belgrade region													
Average salaries and wages in dinars	124.0	123.5	123.3	124.1	124.0	123.8	124.6	126.2	125.8	125.8	126.3	128.0	126.6
Стопа запослености	109.0	104.1	102.0	102.6	109.5	109.1	107.2	106.2	107.6	108.2	110.6	110.2	110.7
Стопа незапослености	73.2	83.6	86.7	89.9	75.0	81.1	83.8	81.6	75.2	83.1	82.2	83.0	75.2
Export per capita in euros	99.5	110.4	97.6	98.8	93.2	94.2	97.4	96.4	88.9	89.1	92.0	98.2	93.9
Number of first-time registered passenger car, per 1000 inhabitants	130.7	137.3	130.0	125.7	125.0	136.8	124.3	125.4	123.4	132.6	129.5	131.9	133.8
Region of Vojvodina													
Average salaries and wages in dinars	95.2	94.9	95.2	95.5	95.2	94.8	94.5	95.1	95.1	94.9	94.9	95.4	95.1
Employment rate	97.7	97.5	100.0	99.2	101.9	99.2	101.6	102.8	98.8	99.4	100.6	99.2	99.8
Unemployment rate	86.6	82.2	80.0	87.9	85.2	86.5	83.8	89.8	89.9	85.4	76.7	83.0	87.1
Export per capita in euros	134.3	134.9	130.8	135.4	136.8	131.8	125.6	123.1	128.2	131.4	127.9	125.5	124.4
Number of first-time registered passenger car, per 1000 inhabitants	95.1	91.7	91.1	94.7	94.4	89.7	90.2	94.1	97.2	92.3	90.4	93.4	95.1
Region Sumadija and Western Serbia													
Average salaries and wages in dinars	84.8	85.1	85.5	84.7	84.9	85.2	85.2	84.2	83.9	83.9	83.9	83.0	83.2
Employment rate	101.4	102.3	102.6	103.6	98.9	100.0	101.0	100.4	101.2	98.8	97.2	101.0	99.4
Unemployment rate	118.6	106.8	107.8	104.0	114.8	122.5	110.5	109.2	112.8	122.5	116.7	110.6	101.0
Export per capita in euros	81.3	74.5	84.2	83.1	79.6	80.4	79.0	76.9	76.7	77.2	76.8	76.8	74.6
Number of first-time registered passenger car, per 1000 inhabitants	95.2	94.2	97.0	97.5	98.9	94.5	101.0	99.7	96.7	94.2	100.0	97.7	95.0
Region of Southern and Eastern Serbia													
Average salaries and wages in dinars	87.6	88.4	88.2	87.8	87.8	88.3	87.9	85.7	86.6	86.9	86.1	83.9	85.9
Employment rate	90.8	95.6	93.6	92.6	88.3	90.3	88.2	88.4	89.5	93.2	90.2	89.6	88.5
Unemployment rate	126.8	131.5	133.3	123.2	131.3	109.0	127.6	124.5	126.6	109.0	132.2	130.9	147.5
Export per capita in euros	81.4	76.8	84.2	78.5	82.6	88.0	93.1	98.4	101.4	95.4	90.8	89.7	94.7
Number of first-time registered passenger car, per 1000 inhabitants	75.8	74.1	79.5	79.1	78.2	76.0	81.7	77.6	79.0	77.1	76.0	72.7	72.1

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[19] 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 1st, 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/

[20] Data on employment and unemployment rates for 2022 were revised and are not comparable with those from earlier years. Estimates for the first quarter of 2023 were calculated based on demographic estimates for 2022, according to the 2022 Census of Population, Households and Dwellings. To calculate the estimates with the fourth quarter of 2022 included, demographic estimates were used based on the 2011 Census. In order to ensure data comparability from the first quarter of 2023 with data from 2022, LFS data were revised based on the revision of demographic estimates that are based on the 2022 Census. In the next months, based on the revised data of population estimates for inter-census period, LFS data will revised for the relevant period before 2022. Post-census revision is performed according to the General Revision Policy of the Statistical Office, which is completely harmonized with the guidelines from the ESS Guidelines on Revision Policy), which was adopted by the European Statistical System Committee. The objective of the post-census LFS data revision is to provide comparability without interrupting the time series.

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, (Belgrade Region and Region of 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 first quarter of 2023. The analysed occurrences are the following:
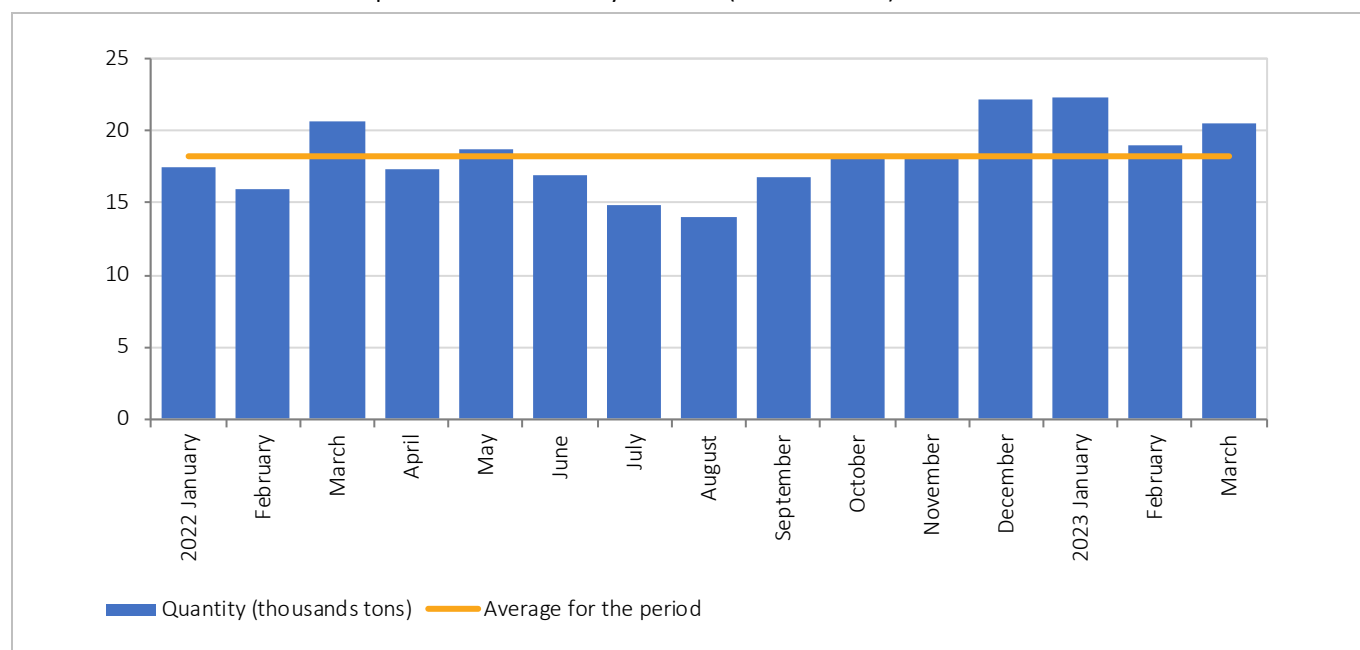
- occurrences in livestock production (production of consumption cow milk in dairy factories and livestock slaughtering in slaughtering houses),
- prices of agricultural products and intermediate goods, and
- external trade in agricultural products.

13.1. PRODUCTION OF MILK, CEREALS AND LIVESTOCK

Estimates show that agricultural holdings dealing with the production of cow milk distribute to milk collection stations (dairy factories) about 59% of the total production[21]. Of the quantity of milk that stays on the holding (abour 41%) about 10% is consumed for feeding household members and livestock on the holding, about 22% are processed into dairy products (mainly cheese and cream), 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 the first quarter of 2023, the production of consumption cow milk in dairy factories is higher by 14.2% than that in the same quarter of the previous year. Observed by months, the production of cow milk saw a year-on-year growth of 27.3% and 18.8% in January and February, respectively, while in March there was a year-on-year fall of 0.5%

Chart 13.1. Production of consumption cow milk in dairy factories (in thous. Tons)

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

Purchase prices of cow milk increased by 67.6% over January-March of the current year relative to the same period of the previous year[22]. The prices in January, February and March were higher by 76%, 68% and 59% than those in the same months of the previous year. When compared with the average milk price of the previous year, a growth of 40.2% for price milk was recorded in the first three months of the current year.

Consumer prices of cow milk increased by 77.5% over January-March relative to the same period of the previous year. In January, February and March prices were up by 79%, 78% and 76% relative to the same months of the previous year. Compared with the average price of milk of the previous year, a growth of 69% was recorded in the first three months of the current 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 quarter of the current year, while consumer prices in the first three months of the current year were stable.

Table 13.1. Comparative review of purchase and consumer prices of cow milk

Month	Milk price, din./l.	
	Purchase price	Consumer 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
Jaanuary 2023	65.04	170.25
February	63.05	169.92
March	60.53	170.40

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.

Over January-March **the index of cereal prices** amounted to 110.4%. In this period the purchase price of wheat went up by 1% and that of maize by 6.7% relative to the same period of the previous year. In the first quarter of the current year **industrial plants** saw a growth of 8.5% relative to the same quarter of the previous year.

Observed by **categories of livestock**, over January-March of the current year, the purchase price of bovine animals increased by 15.2% and of pigs by 31.8%, compared with the same period of the previous year.

Table 13.2. Indices of producers prices of agricultural and fishing products

	III 2023 / II 2023	I-III 2023 / I-III 2022	I-III 2023 / Ø 2022
Agriculture and fishing	99.6	125.9	109.6
Cereals	87.2	110.4	99.7
Wheat	85	101	91.4
Maize	87.6	106.7	93.7
Industrial plants	127.3	108.5	101.7
Livestock and poultry	104.1	123.9	104.9
Bovine animals	101.2	115.2	103.4
Pigs	106.6	131.8	105.9

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[22] 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.

13.2. 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)[23], and their price indices are presented in table 13.3.

The total intermediate consumption, i.e. the prices of intermediate goods, capital goods and services in agriculture in the first quarter of 2023 increased by 10.6% compared with the same quarter of the previous year. Observed by groups of products, the largest price increase in the first quarter of 2023, relative to the same quarter of the previous year, was recorded in: Seeds (47.9%), Facility maintenance (19.2%), other products and services (12.5%).

In the first quarter of 2023 relative to the fourth quarter of 2022, the prices of intermediate goods increased, on average, by 2.2%.

Table 13.3. Indices of the prices of intermediate goods, capital goods and services in agriculture

	Quarter I 2023 Quarter I 2022	Quarter I 2023 Quarter IV 2022	I 2023 Ø 2022
Total	**110.6**	**102.2**	**105.7**
Products and services for current use in agriculture	**110.8**	**102.3**	**105.9**
Seed	147.9	118.7	137.9
Energy commodities	110.7	100.3	104.2
Mineral fertilizers	110.8	94.6	95.1
Plant protection preparations	106.0	102.9	105.0
Animal feed	102.1	98.1	100.1
Equipment maintenance	110.1	101.8	106.0
Facilities maintenance	119.2	109.3	113.1
Other products and services	112.5	109.6	110.6
Products and services for investments in agriculture	**108.5**	**100.1**	**102.7**
Machinery in agriculture	108.5	100.1	102.7

[23] https://publikacije.stat.gov.rs/G2021/Pdf/G202110118.pdf (page 19)

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 in the territory of the Republic of Serbia, totaling on 31 March 2023 to 344. In this issue of Trends, the analysis is focused on livestock slaughter in slaughtering houses.

In the first quarter of 2023, the total number of slaughtered bovine animals amounted to 37,4 thousand. Compared with the same quarter of the previous year, a fall of bovine animals slaughtered in slaughtering houses was noted, amounting to 9.5%. Observed by months, the fall was 11% in January, 12.7% in February and 5.2% in March, compared with the same months of the previous year. Observed by categories of bovine animals, the largest share in total slaughter in the first quarter of this year was that of bovine animals aged 1–2, amounting to 75.2%.

Chart 13.2. Number of pigs, sheep and bovine animals slaughtered in slaughtering houses (in thous.)
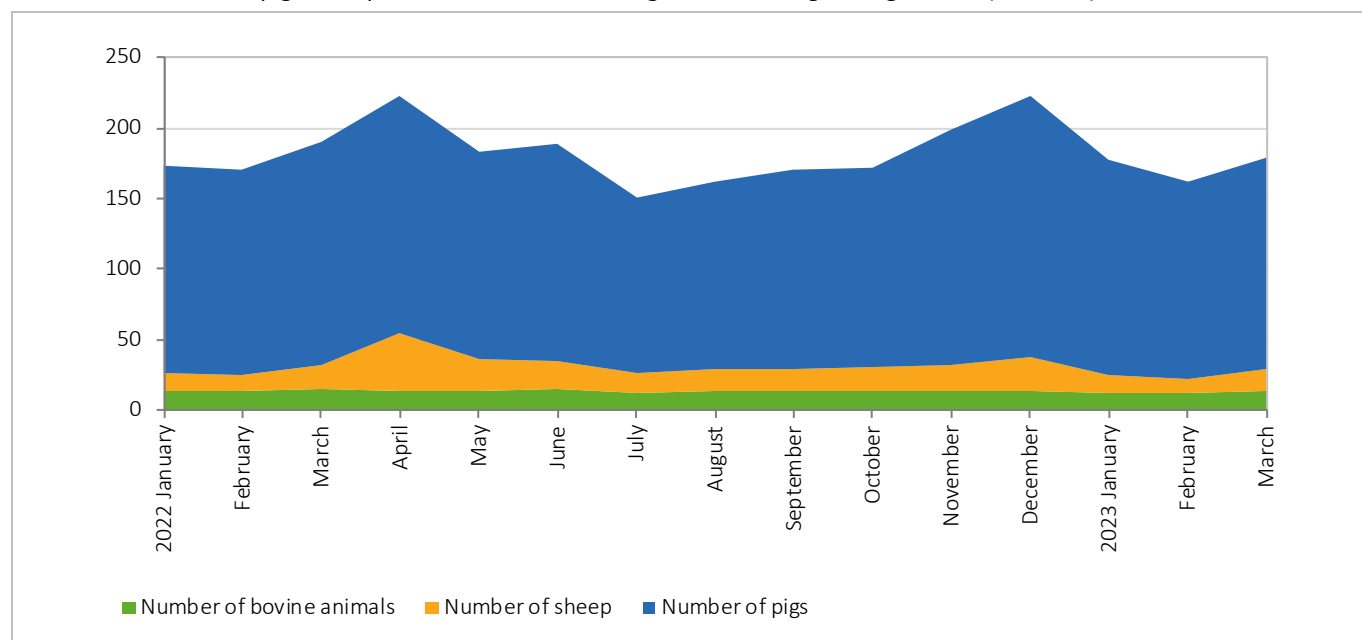
The number of **pigs** slaughtered in slaughtering houses in the first quarter of 2023 was 441,1 thousand, by 2.4% less than in the same period of the previous year. Observed by months, slaughtered pigs saw a growth of 3.4% in January, and a fall of 4.7% and 5.8% in February and March, respectively, relative to the same months of the previous year. Of total slaughtered pigs, the largest share was that of pigs over 50 kg, amounting to 91.6%.

Of the total number of slaughtered **sheep** in the territory of the Republic of Serbia only about 17% were slaughtered in slaughtering houses. In the first quarter of 2023, the number of sheep slaughtered in slaughtering houses was 39,9 thousand, 0.9% less than in the same quarter of the previous year. Observed by months, a growth of 9.1% was recorded in January, and a fall of 2.3% and 7.3% in February and March, respectively, relative to the same months of the previous year. Of totally slaughtered sheep in slaughtering houses the largest share (80.4%) in the total slaughter of this species of livestock was that of lambs up to six months.

## 13.4. EXTERNAL TRADE IN AGRICULTURAL PRODUCTS

In the first quarter of 2023, the section Agriculture, forestry and fishing[24] realised a negative external trade balance of EUR -82,3 million. Exports of this section amounted to about EUR 219,3 billion, by 27.6% less than in the same period of 2022, and the share in total exports in the observed period fell from 4.8% to 3%, amount reached in the first quarter of 2023. Imports of this section in the first three months of the currrent year amounted to EUR 301,6 million, by 24.5% more than in the same period of the previous year, and the share in total imports grew from 2.6% to 3.2%.

Exports fall in the first three months of the current year is mostly a result of a cumulative fall of 38.2% in exports of wheat (except for rice), leguminous and oil seed, the most representative groups in this section (share of 58.9%). As with exports, on import side, the most representative groups of products is wheat (except rice) leguminous and oil seed (share of 28.5% in imports in the section of agriculture), which recorded a cumulative growth of 81.7% in the first quarter of 2023.

Export of maize over January-March of the current year amounted to EUR 61,9 million, a fall of 53.5% relative to the same period of the previous year. Most of maize, when looking a the value, was exported to Bosnia and Herzegovina (27.9% of total exports of this crop). 8.2% were exported to Italy, then to Germany, Croatia and the Russian Federation, with 7.2%, 6.9% and 6.7% share of the total exports of this crop.

Export of wheat in the first quarter of 2023 amounted to EUR 33,1 million, a fall of 14.2% relative to the same period of the previous year. Looking at values, in the first three months of the current year most of the wheat was exported to Italy (44.2% of total exports of wheat), then to Romania (18.4%) followed by Bosnia and Herzegovina, North Macedonia and Albania with 15.4%, 10.7% and 6.2%, respectively.

Chart 13.3. Export of wheat and maize by months (in mill. euros)

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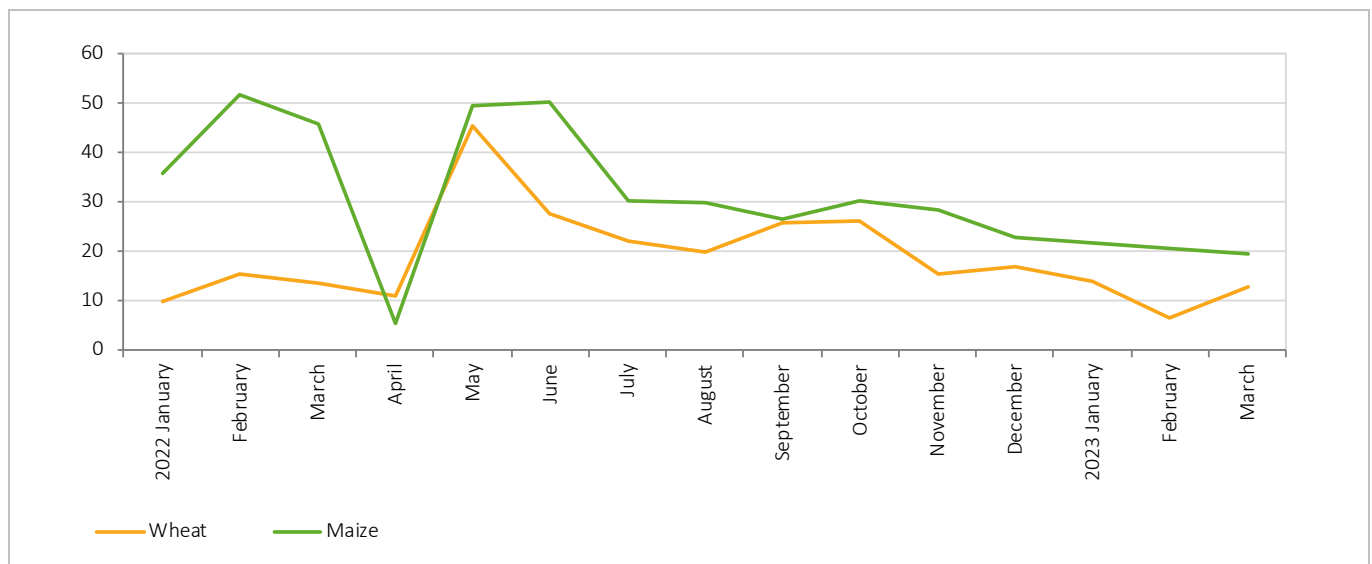
[24] According to CA (2010).

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