



# TRENDS



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# TRENDS



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Katarina Stančić (Labour Market, Salaries and Wages)  
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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.

Knowing that the statistical system is very complex, generalized and designed to meet subsectors specific needs for information, failure to understand statistics in modern society is a frequent phenomenon. Informing users by releasing “dull” statistics is often insufficient because it renders only a partial picture of macro-economy. Actually, it has appeared that the conventional ways of data presentation (tables, releases, etc.) hampers quick understanding of the socio-economic reality and fails to convey the key message, especially when there is a large number of data.

Having in mind all of the above and keeping track of world trends in presenting statistics, as well as the interests of the community of experts, the redesigned “Trends” brings traditionally quarterly and semi-annual data, but through a new concept of presenting major economic signals by means of modern and advanced graphic solutions of presentation and dissemination.

As usual, this issue presents the movement of major statistical areas in the second quarter of 2020 (Gross domestic product, Industrial production, Construction, External trade, Domestic trade, Prices, Labour market, Salaries and wages, Tourism, Economic Sentiment Indicator and Regional economic asymmetries). Presented are also forecasts of trends in selected areas for the next period, obtained with ARIMA forecast models. A set of composite leading indicators, which can predict with high reliability cyclical trends and be used for short-term forecasts is presented in the section Macroeconomic Forecasts.

As the COVID-19 pandemic has caused serious disturbances in the global and our economy, this issue contain an particular overview of economic reaction to this global phenomenon. The special paper “Psychological aspects of GDP forecast for 2020”, authored by Goran Katić. Also, according to Eurostat recommendations, starting from this issue specific indicators that provide a more precise picture of the COVID-19 influence on the labour market will be regularly published.

In this issue a paper referring to regional demographic regression in Serbia is also published, authored by Jasmina Jotev, as this is a phenomenon that causes constantly numerous controversies among the public. The paper is enriched with the latest data related to estimations of population movements and provides an insight into the territorial demographic heterogeneity, natural increase, average age by the most important regions, and other significant demographic indicators.

Wishing to encourage youth’s research work, we invite experts dealing with macroeconomy, mathematics and statistics to send their papers, which will be published (or some parts thereof) according to current trends.

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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Author: Jasmina Jotev

The demographic picture of Serbia has been characterised for several decades by a marked uneven territorial population distribution. The latter being principally driven by pronounced differences in population fertility rates by areas and being under the influence of various migratory movements as well as of transition process effects. Ethnic population composition in certain parts of the territory of Serbia should be undoubtedly added to this, the demographic consequence of the former being a different birth rate due to the use of different reproduction models.

Demographic emptying and atomization, first of all, of rural settlements, are directly linked to industrialization, urbanization and de-agrarization processes in Serbia. The facts showing the unequal population density present that on almost 80% of the territory of Serbia lives only 40% of total population, while almost 25% of the population lives in Belgrade.

The pronounced demographic heterogeneity of the territory of the Republic of Serbia was also reflected on the changes in the total number of population. The negative tendencies in the movement of the total population of Serbia are indicated by the data of the last census, conducted in 2011 (7 186 862 inhabitants), which record a decrease in population compared to the previous census, while according to estimates in mid-2019 recorded was a population of 6 945 235, presenting continuation of the depopulation trend of Serbia.

**Table 1. Increase-decrease of the population of the Republic of Serbia, 1948–2019**

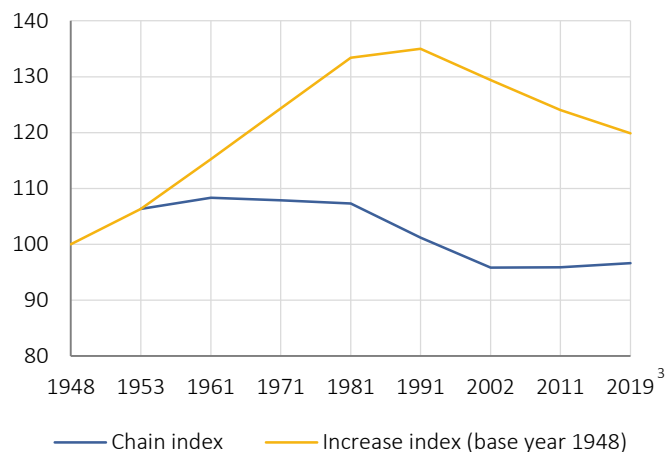
Year	Number of population <sup>1</sup>	Chain index (previous year=100)	Increase index (1948=100)
1948	5 794 932	-	100.0
1953	6 163 246	106.4	106.4
1961	6 678 239	108.4	115.2
1971	7 202 898	107.9	124.3
1981	7 729 236	107.3	133.4
1991	7 822 795	101.2	135.0
2002	7 498 001	95.8	129.4
2011	7 186 862	95.9	124.0
2019 <sup>2</sup>	6945235	96.6	119.9

Source: SORS

<sup>1</sup> Without data for K&M.

<sup>2</sup> Estimated number of mid-year population.

**Graph 1. Increase-decrease of the population of the Republic of Serbia, 1948–2019**



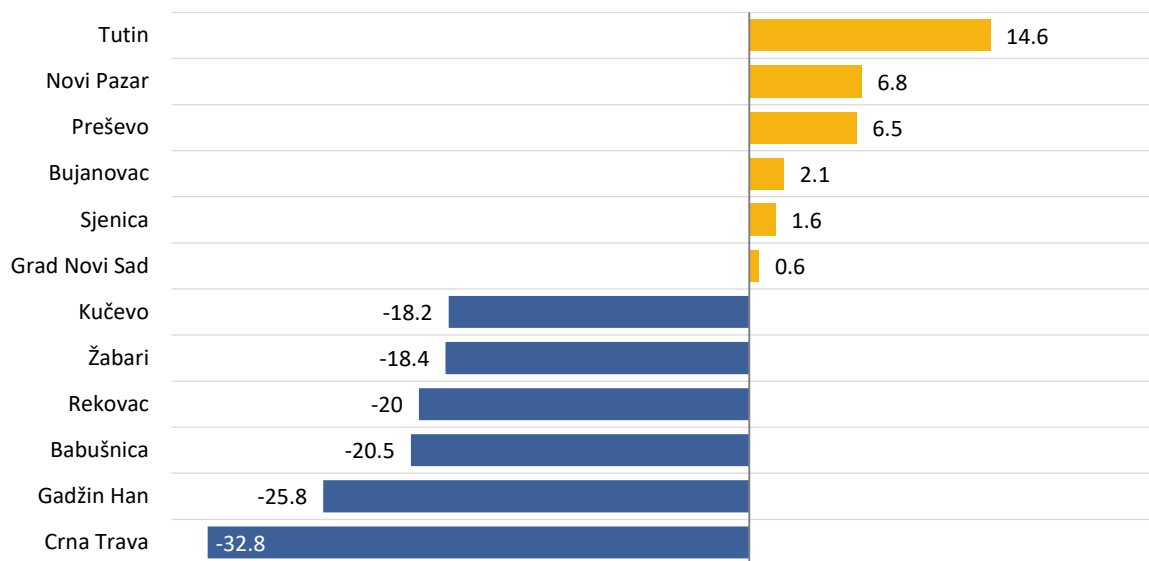
<sup>3</sup> Estimated number of mid-year population.

The atypical demographic regression in Serbia is a result of a low natural increase for many years, which has a more and more marked decreasing tendency so that simple population reproduction is endangered. Negative biological reproduction has been expanding territorially over time and homogenizing Serbia. Negative natural increase in 1991 afflicted one of two municipalities in Serbia, while in 2019 there was almost an insignificant number of municipalities with positive natural increase (six municipalities). For almost the third decade in a row, there has been a negative natural increase in the Republic of Serbia. Observed relatively per thousand population, the natural increase rate amounted to -5.3‰ in 2019. The municipalities with the largest negative natural increase are mainly located in economically underdeveloped and emigration areas. Total fertility rate is way under the needs for simple population reproduction, which is ensured with 2.1 child per woman. Nine years in a row the total number of live births per woman of fertility age in Serbia was stabilized on the level between 1.4 and 1.5 and is below the average of the European Union (1.6 in 2018).

## Professional paper – Regional demographic regression in Serbia

It is additionally worrying that the share of women in the fertile period (from 15 to 49 years) has decreased by about 2.4% compared to the 2002 census, as well as that an increasing number of women are leaving the fertile period without a child.

Graph 2. Natural increase rate, regional extremes, 2019, (‰)



The average age of the total population in Serbia was constantly growing and reached 43.3 years of age in 2019, where more than 20% are aged 65 and over and those under 15 encompass only 14.3%. Prolongation of life expectancy is certainly one of the factors in the increase of the elderly population, so in 2019, the life expectancy is 75.7, being by 3.4 years longer compared to 2002.

The municipalities of Svrlijig, Rekovac, Gadžin Han and Crna Trava are examples of extreme demographic regression, the average age being over 50 years. Looking at the average age, Serbia finds itself in the group of the oldest countries, among which are the countries of the region - Bulgaria (44,5), Slovenia (44) and Croatia (44).

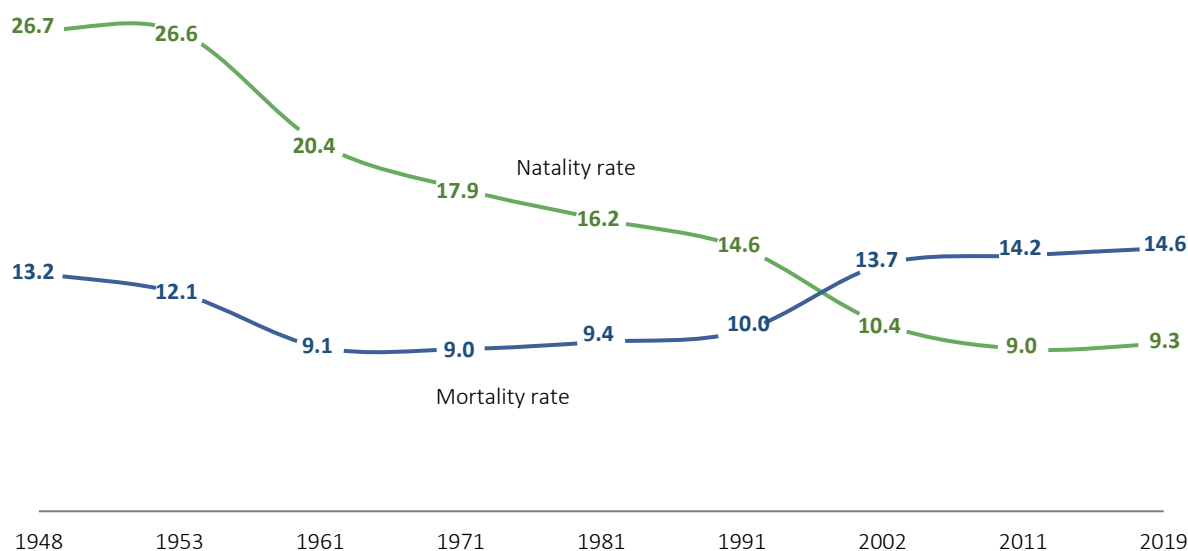
The demographic implications of aging of Serbia population are very complex, difficult and long-term. The aging of the population in the further period results in the aging of the fertile contingent, which directly affects the decline in general birth rate, thus accelerating the process of demographic aging.

Population aging determines a rather limiting demographic framework for the formation of the working contingent, and thus the active population (32 elderly people per 100 persons of working - age). The highest burden of the working age population, expressed by the dependence coefficient of the older population<sup>1</sup> is recorded in Zajecarska oblast (47.2%) and Pirotaska oblast (41.2%), while the lowest burden is in the Pcinjska oblast (22.8%).

The increase in the size of the elderly, mostly economically inactive population inevitably causes an increase in household and public consumption in Serbia, primarily in the field of allocating funds for health, social and pension insurance for the elderly. In this context, knowledge of the determinants and understanding of the consequences of the aging population in Serbia imposes itself as an important criterion in creating a policy of economic and social development.

<sup>1</sup> The dependency ratio of the elderly population represents the ratio between the total number of elderly population in the years when they are mostly economically inactive (aged 65 and over) and the number of working age population (aged from 15 to 64 years)

Graph 3. Population natural changes in Serbia – depopulation trend<sup>1</sup> (‰)



<sup>1</sup> Without data for K&M starting from 2002.

Knowing that Serbia falls into the group of countries with the demographically oldest population, the current age structure will undoubtedly reflect on further natality decrease and mortality increase, thus accelerate depopulation. Population decrease is affected not but only by a negative biological component but also by an emigration component that will in the forthcoming period determine the tendencies of the population of the Republic of Serbia.

Given that for valorising demographic resources one needs to understand as precisely as possible all relevant indicators, it is necessary, therefore, to create synthetic indicators, thus facilitating greatly the analysis of certain complex social occurrences and processes. A new methodological approach, based on the index of demographic resources ( $i_{der}$ )<sup>2</sup>, synthesizes demographic components with the aim to determine demographically threatened or progressive areas, applying the typology of territorial units in the Republic of Serbia.

The index of demographic resources ( $i_{der}$ ) has been formed by synthesizing the demographic index ( $i_{dem}$ ) and index of education ( $i_o$ ) integrating the correction coefficient  $k$ :

$$i_{der} = k \times (i_{dem} + i_o)$$

The demographic index ( $i_{dem}$ ) reflects the general direction of demographic changes in the previous period, major indicators of demographic potential as well as the age structure of the population and is based on combining four base demographic sub indicators<sup>3</sup>:

$$i_{dem} = \frac{iP_n}{P_{(n-1)}} \times p_{(0-14)} \times p_{f_{(20-29)}} \times i_v$$

<sup>2</sup> I. Nejašmić, R. Mišetić, „ Synthetic indicator of the demographic resources: contribution to the typology of Croatian space “, Croatian Geographical Bulletin 72/1, 49–62 (2010).

<sup>3</sup> For a more complete view of regional demographic resources, the influence of demographic mass (number of inhabitants of the observed municipality) is included through the corrective coefficient  $k$ , with the values defined by standardizing the relative change in population number (coefficient of dynamics), and in accordance with the methodology of Nejašmić, I. and Mišetić, R. (2010).

## Professional paper – Regional demographic regression in Serbia

- 1 -  $i_{p_n/p_{(n-1)}}$  – relative change in the number of population (dynamic coefficient)
- 2-  $p_{(0-14)}$  – share of the young prior fertility population aged 0–14 in the total population
- 3-  $p_{f(20-29)}$  – share of young female fertility population aged 20–29 in the total female population
- 4-  $iv$  – *index of vitality*, represents a synthetic indicator of the real and potential population bio dynamics. It is based on the synthesis of the indicator of population natural change (general fertility rate [ $f$ ] and general mortality rate [ $m$ ]), indicator of population age structure (index of ageing [ $is$ ]) and share of the contingent of the population aged 20–39 in the total population ( $p_{(20-39)}$ ). The index of vitality is an indicator of the level of population age and is calculated as follows:

$$iv = \frac{f \times p_{(20-39)}}{m \times is}$$

The demographic index reflects completely the extent of territorial demographic inequalities and thus the values of the index vary so that the areas with favourable demographic characteristics record high (above the average) index values, which sometimes exceed a number of times index values of demographically threatened areas.

The index of education ( $i_o$ ) includes two sub indicators, which reflect the attained population education as well as indications to the future representation of the educated population:

$$i_o = p_{oIII} \times S_s$$

- (1)  $p_{oIII}$  – share of the population with completed tertiary education in the total number of population aged 25 and over;
- (2)  $S_s$  – level of capitalization of the student population contingent as a key holder of development of the reference area. It represents the share of the number of students in the population aged 20–24.

**Table 2.** Review of variables integrated in the index of demographic resources (*ider*)

Designation	Name of demographic variables
$P_n$	Total number of population (2019)
$P_{n-1}$	Total number of population (2011)
$P_f$	Total number of female population
$P_{(0-14)}$	Number of population aged under 15
$P_{(25+)}$	Number of population aged 25 and over
$P_{(20-24)}$	Number of population aged 20–24 (student cohort)
$P_{(20-39)}$	Number of population aged 20–39 (young mature population)
$P_{f(20-29)}$	Number of female population aged 20–29 (young fertile contingent)
$P_{f(15-49)}$	Number of female population aged 15–49 (female fertile contingent)
$P_{(65+)}$	Number of population aged 65 and over (contingent of senior population)
$P_{stud}$	Number of students (2018)
$P_{oIII}$	Number of population with tertiary education
$\bar{N}$	Average number of live births (2011–2019)
$\bar{M}$	Average number of deaths (2011–2019)

## Professional paper– Regional demographic regression in Serbia

Since 95% of municipalities record the value indices of demographic resources between 0 and 85, the methodology of ranking has been performed by taking the value of 85 as the lower limit of the most favourable interval, thus establishing six types of demographic areas (municipalities, divisions) in the Republic of Serbia.

**Table 3. Typology of spatial units (municipalities) of Serbia by index of demographic resources (*ider*)**

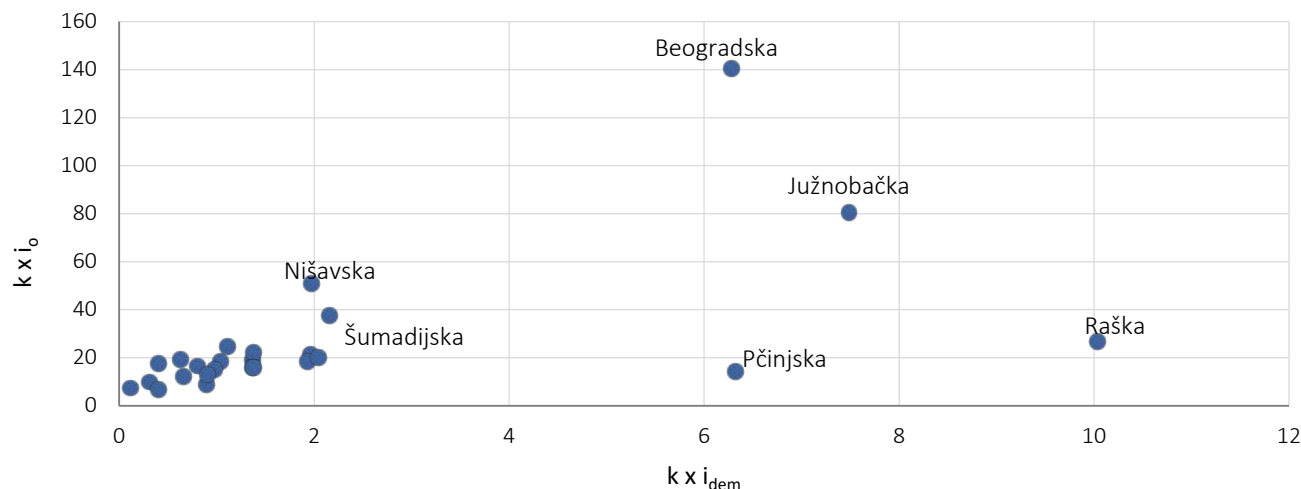
A	Area of particularly favourable demographic resources	Particularly good demographic characteristics and potentials, very high educational level, immigration	$\geq 85$
B	Area of favourable demographic resources	Very good, stable demographic characteristics and potentials, high educational level	35,1–85
C	Area of good demographic resources	Mainly good demographic characteristics and potentials, mostly good educational level	25,1–35
D	Area of weak demographic resources	Partially good demographic characteristics and potentials, depopulation, mostly low educational level	15,1–25
E	Area of very weak demographic resources	Very bad/ weak demographic characteristics and potentials, particular depopulation, mostly very low educational level	5,1–15
F	Area of particularly weak demographic resources	Particularly bad/ weak demographic characteristics and potentials, “extinction”, socio-demographic depression, extremely low educational level	$\leq 5$

Source: According to methodology of Nejašmić, I. and Mišetić, R. (2010), data processing by SORS.

Serbia, as a whole, with the value of 21.8 regarding index of demographic resources (*ider*) belongs to the type D (Area of bad/ weak demographic resources), characterized by depopulation and relatively low educational level, primarily relating to undeveloped and border area.

Regionally observed, index of demographic resources (*ider*) involves very wide range of values, from 7.2 (Branicevska oblast) to 147 (Beogradska oblast). The expressed problem of regional disparities is also confirmed by the fact that Beogradska oblast records almost seven times greater value of demographic resources index relative to the average of Serbia, i.e. its index is even 20 times greater than the one in Branicevska oblast. Beogradska oblast (147), Juznobačka oblast (87.9) and Nisavska oblast (52.9) belong to the type A (Area of particularly favourable demographic resources), as areas with extreme population concentration, primarily caused by internal migrations (local and regional), thus establishing strong population potentials. In favour of this fact also comes the fact that in 2019, 127 421 persons changed their place of residence, meaning that they permanently moved from the previous place of residence to another place in Serbia, and also, the majority came to Belgrade (52 964) and Region Vojvodine (28 729). The greatest number of areas in Serbia belongs to the category D, characterized by bad/ weak demographic resources, requiring special scenario of development support. It is also noticeable that zones of demographically endangered areas are widening and creating two relatively compact and spatially huge depopulation areas in east, west and south-west parts of Serbia, but also in the immediate vicinity of the largest urban agglomerations in the Republic of Serbia.

Graph 4. Positioning of areas by demographic index ( $i_{dem}$ ) and index of education ( $i_o$ )



Beogradska and Južnobačka oblast are distinguished as areas of the most pronounced positive correlation between the demographic and educational index, in contrast to Pčinjska and Raška oblast, where the education index significantly lagged behind the demographic index (Graph 4).

Typology of areas by index of demographic resources ( $i_{der}$ )

Type A	Type B	Type C	Type D	Type E	Type F
Beogradska	Šumadijska	Zlatiborska	Rasinska	Toplička	Severnobanatska
Južnobačka	Raška	Južnobanatska	Kolubarska	Zapadnobačka	Zaječarska
Nišavska	Moravička	Sremska	Pirotska	Borska	Braničevska
		Pčinjska	Pomoravska		
		Srednjobanatska	Podunavska		
		Severnobačka	Mačvanska		
			Jablanička		

Observed by the level of municipalities, the demographic resource index indicates that as many as 63 municipalities in Serbia belong to a group of very bad/ weak demographic resources (E), and 11 to groups with particularly poor demographic resources (F), with the municipalities of Crna Trava, Gadzin Han, Malo Crnice and Rekovac already traditionally singled out as demographically most endangered areas.

The developmental consequences of demographic aging in the area of Serbia (103 or 71% of the municipalities belong to the groups D, E and F) are reflected in low economic activity and level of development measured through gross value added - as many as 136 municipalities in 2019 achieved below 1% of average GVA of Serbia, out of which 49 municipalities participated with less than 0.1%. However, the areas belonging to the demographically stable and progressive groups also fail to provide a higher economic effect, as the municipalities of Novi Pazar, Tutin, Sjenica and Presevo make up only 0.05% to 0.4% of the average GVA of the Republic. The most vulnerable municipalities have five times lower GVA than the average of the Republic. The balance between the volume and the structure of population, educational level and vitality has only been achieved in cities - Belgrade, Novi Sad and Niš, where labour market flexibility, qualification structure and population concentration can provide adequate labour force supply in response to the needs of change and development of the sector of economy and services.



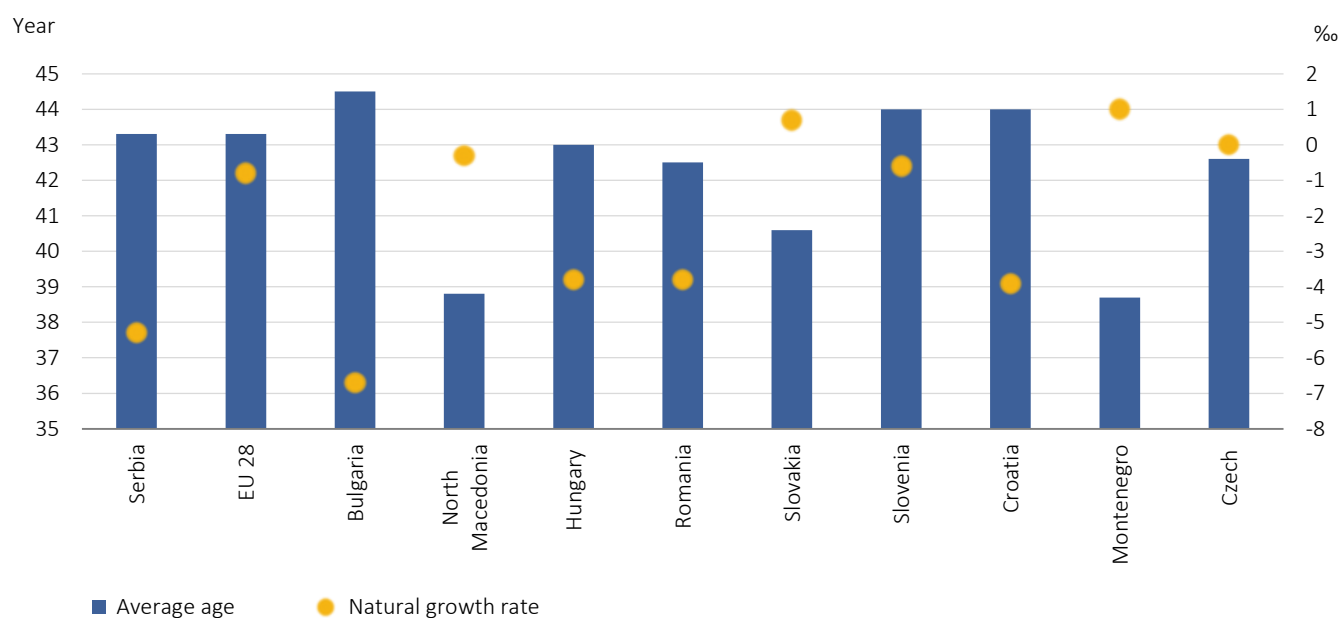
## Professional paper – Regional demographic regression in Serbia

In case the negative demographic trends continue, it is very likely that numerous forecasts will come true, including the UN forecast that announces decrease of three million inhabitants in Serbia by the end of 2061.

Demographic indicators initiate the conclusion that regional development policy must describe, within the strategic decisions, the measures determining the future demographic potential of Serbia as a whole, and particularly regarding its already endangered areas.

The population of the EU is recording a constant growth, primarily thanks to the mechanical movement of the population, because the process of population aging is widely present in the whole of Europe. However, despite this, for the third year in row, the mortality rate in the EU exceeds the birth rate, which was reflected in the negative natural increase.

Graph 5 Natural increase and average age by countries, 2019



With the aim of achieving sustainable demographic development of Serbia, the increase in natural growth is a priority. However, in order for the population to reach the predicted stage of the stationary (the population in which the following generations will be the same size as the existing ones), and in order to compensate the losses so far, the level of reproduction would initially have to be above the level necessary for the simple restoration of the population and it should be kept in mind that changes in this area do not happen suddenly and spontaneously. The role of the state at all levels in solving these problems is significant. Observing the case of some European countries, it can be seen that the most effective measures are financial support to the families and assistance in aligning business and parental responsibilities.

The population policy measures in Serbia, targeting the phenomenon of insufficient childbearing and its consequences, are based on strategic documents, such as the Strategy for Birth Promotion and the National Strategy for Gender Equality. Also, two direct measures of the population policy important for encouraging birth in Serbia are related to the parental allowance and the parental leave. These measures are prescribed by the Law on Financial Support to the Family with Children ("Official Gazette of RS", No. 50/18) and the Labour Law ("Official Gazette of RS", No. 95/18).

Author: Goran Katic, Msc

“Les adultes dorment dans les trains, ou bien ils baillent,  
Les enfants seuls écrasent leurs nez contre les vitres.  
Les enfants seuls savent ce qu’ils cherchent...”

Antoine de Saint-Exupery, “Le Petit Prince”

### The concept of macroeconomic forecasts

Forecast is an attitude towards a future event. The expressed stochasticity of economic data is the main problem faced by efficient economic forecasts. Forecasting is one of the most important, final stages for the analysis of time series of data of analyzed variables, which comes only after the stage of model estimation and adequacy. The process of producing efficient economic forecasts implies: precise definition and comprehension of an occurrence subject of a forecast, definition of factors considerably affecting a given variable, use of an adequate forecasting method and reduction as far as possible of irregular influences on the observed variable in future.

### SORS forecasting methods

The main forecasting methods in the economy can be classified into the following groups<sup>4</sup>: expert estimation, extrapolation method, system of leading indicators, time series models, business expectations and econometric models. The SORS developed a system of composite indicators that is ahead of the cycles of economic activity, on average, by one to two quarters, and when combined with econometric models makes possible quantitative evaluation of the dynamics of the annual growth rate of economic activity in the short-term.

### Optimism versus pessimism

The importance of optimistic and pessimistic assumptions of forecast models is not only a matter of the objectivity of an approach and unbiased derivations. In every scenario, bad or good, i.e. pessimistic or optimistic assumptions can be drawn, and as such the forecast results are not intercomparable. Thus, it is fundamental to bear in mind that every forecasting process has some of its own assumptions and that comparability of several different forecasts (with different assumptions) provided by relevant institutions is in fact a objective, complementary approach that takes into account different attitudes about a future event. Therefore, it is possible to present several alternative scenarios - if they exist. Unfortunately, if the forecasting processes are not understood and the results wrongly interpreted by those who report on them in the media and by a large number of economic analysts, there is place for confusion, erroneous conclusions and use of the results in political purposes because there is a tendency to show them as wrong even before they come true. Thus, in practice and in professional literature about economic forecasting, reporting is not the same for experts, journalists and Government members.

Therefore, forecasts of all relevant national and international institutions should be observed only as a comparative set of academic-professional different attitudes about a future event, which realisation will confirm or contest them and about what it would be possible to discuss. They should not be looked at as an “announcement” of an attitude about a future event that should be accepted by everyone, as it is done by a number of public media. The optimistic approach of a forecasting process cannot be seen at all as biased, but only as one set of assumptions from which one starts on the basis of arguments.

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<sup>4</sup> David.F.Hendry, Neil R. Ericsson, “Understanding Economic Forecasts”, The MIT Press, Cambridge, Massachusetts, London, England 2001.

## Paper – Psychological aspects of GDP forecast for 2020

### “Fears” of international economic institutions

Big international institutions (IMF, World Bank, European Commission) have their annual and semi-annual reporting on the situation and forecast of economic growth of Serbia for the current year. The important authority of these institutions, after publication of Serbia GDP forecasts, is often in practice seen by the public media and a number of economic experts in Serbia as something *de facto*. Such an approach on “forecast infallibility” of international institutions often is not in the interest of science and stakeholders of the economic life in Serbia. In addition, the story of international economic institutions about the “big fall” intensifies the tension of economic subjects. Such a way of reporting by international institutions and the public medias, such as IMF, after publication of its revised June forecast for the world economy (revision due to the expected second wave) and the largest European economy can only add more tension and fear among the stakeholders of economic flows, from investors to consumers, which additionally deepens the crisis by reducing the already bad aggregate demand. Particularly, when knowing that every GDP forecast bears a certain risk and that the behaviour of economic subjects in a potential second wave cannot be predicted with certainty because everything is “dèjà vu” in the first wave. Consequently, it is justified to assume that the fears of economic subjects will also be smaller in future.

**Table 1.** Comparative analysis of April GDP forecasts by international institutions and the SORS from previous years<sup>5</sup>

Forecasts period, (April-June)	2012	2013	2014	2015	2016	2017	2018	2019	2020
VIPAS indicator (SORS)	0.5	2.0	-1.6	0.7	2.5	2.9	3.8	3.3	0.0
European Commission	0.3	1.7	-	-0.1	2.0	3.2	3.3	3.1	-4.1
World Bank	1.5	2.0	-	-0.5	1.8	2.8	3.0	3.5	-0.5
IMF	0.5	2.0	-	-0.5	1.8	3.0	3.5	3.5	-3.0
<b>SORS (realisation)</b>	<b>-0.7</b>	<b>2.9</b>	<b>-1.6</b>	<b>1.8</b>	<b>3.3</b>	<b>2.0</b>	<b>4.4</b>	<b>4.2</b>	<b>-</b>

Source: Analysis by the SORS. VIPAS - model of the composite leading indicator of the economic activity of Serbia, SORS. The system of composite leading indicators (abbreviated VIPAS), which have been used in their original name since 2009 and used by the author for GDP forecasts for the needs of the Government of Serbia.

### V, U, Y, I or L ?

The reactions of the world economy as a global phenomenon, before modeling starts, requires careful diagnostics of the nature of the crisis and provision of certain assumptions as *ex ante* stages in the process of producing forecasts. The crisis in Serbia started in March 10, when the BELEX 15 index registered an abrupt fall of the value 7-8 days consecutively. In a similar time and similar way, this happened also with major brokers indices and our largest foreign trade partners, especially German DAX. A similar scenario took place also with major brokers indices throughout the world. In this context, certain world forecasters have defined so-called 3D profile of epidemiological economic crises in 2020, describing the necessity of understanding its depth, scattering and short duration (recovery has started in May)<sup>6</sup>. As far as the SORS is concerned, all

<sup>5</sup> Data on GDP forecast of the IMF (World Economic Outlook) and European Commission (Spring forecast) are taken from their reports on forecast that they publish every year in April, i.e. May (second deadline for forecast publication is October-November, Autumn Forecast), while the forecasts of the World Bank (Global Prospects) for 012–2019 are taken every year from its reports of June (the first deadline is January). Data for 2014 were not taken for comparison because of natural disasters in May. Since 2018, the results of the VIPAS indicators have been published by the SORS in the publication *Trends* from the first quarter of 2018. The forecast of the World Bank for 2020 has been revised (with -2.5) and published in *Macro Poverty Outlook 2020*.

<sup>6</sup> Lakshman Achuthan: „What cycles teach us about what to expect post coronavirus“, May, 2020. <https://www.macrovoices.com/guest-content/list-guest-transcripts/3657-2020-05-07-transcript-of-the-podcast-interview-between-erik-townsend-and-lakshman-achuthan/file>,

these aspects have been carefully analysed and imputed in the GDP forecast for Serbia for Q2 and the whole 2020, which had from the beginning for their ground an integrated logic of V curve, primarily starting from the month of the second quarter.

### Between 2009 and 2020 the difference is only in 11 years of passed time.

As it is known, at the beginning of 2020, the world economy faced a big crisis of aggregate demand, caused by the epidemiological crisis and was additionally prompted by the slowing down of the world economy since mid-2019. When speaking of European economies, the suddenness of the crisis in March was a big shock for everyone, followed by an abrupt fall of both offer and demand. Taking into account that such an occurrence could not be predicted with at that time available data (except for some leading indicators, to some extent), many works of economic forecasters could only observe the ravage of the EU countries economy and their forecasts for 2020.

Thus, let us mention an interesting example of about fifty professional economic forecaster who were engaged by the European Central Bank (ECB) in their regular quarterly forecast surveys. At the end of January, they forecast for the whole 2020 GDP growth of about 6.0% for the Euro area, and lowered their projections by about 5.5%. This showed not only to professional circles the weakness of structural econometric models by letter (so-called Lucas critique in terms of structural breaks) but also of the existing monthly data of statistical institutes throughout the world, which are released with some delay, as well as the necessity to find a lot of responsive, i.e. high-frequency indicators in the current period. In other words, the nature of the epidemiological crises is very different from that from 2019.

When looking at global level, while the crises in 2009 started from the section of real estates and gradually became stronger, the epidemiological crisis in 2020 is only *a simple* global shock caused by the reactions of governments of many countries to the closing of their borders, limiting this way the main market postulate about free movement of goods, people and capital.

### Positivism and economic expectations

The economic expectations are the main stochastic variable in the movement of economic flows. The American Nobel prize winner Milton Friedman said once: "If we all believe that inflation growth in the next period will be 2%, then it will be 2%", wishing to point out in this way the great importance of economic expectations by all economic subjects. In fact, such a logic may be applied also in the sphere of model approach to anticipating future values of economic variables from any economic sphere.

As it has already been said, such a premise does not have to imply non-objectivity at all, even less partiality in the appraisal of the parameters of forecast values. The production of a forecasting model is a goal by itself, but it should demonstrate a future event and have a positive effect on this flow.

Moreover, it should reflect a quantified vision of a future forecast scenario. In order not to install more fear in economic flow stakeholders by negative expectations, i.e. announced bad prognosis, which is done constantly by big international economic institutions, this additionally deepens the crisis. In fact, the psychology in men is such that one can always expect something bad for some reason, but there are always other angles of observation.

With the positivist approach, applied to the GDP approach for 2020 by the SORS, the psychological component has been carefully singled out, which, in contrast to a large number of bad and pessimistic announcements, should be primarily a product or expert work and real circumstances. In every crisis, thus in this epidemiological one too, fear is a commodity that sells best because if there was no fear among the consumers, for instance, but instead of which there is application of precautionary measures, which happened anyway, there would not be any breaks or fall of production nor need for that. Nevertheless, human psyche adapts easily to new situations. In other words, the psychosis of fear in men after the initial impulse has been diminishing by adapting to the existing situation, which has, after the first shock, an effect on stabilisation of rational expectations.

So, for instance, in March we saw an accumulation of commodity reserves of Serbia citizens even though there was not need for such a thing at all. In April consumers' behaviour changed and went to normal in May and June. One could also mention the behaviour of a "rational consumer", our Serbian tourists, who in June went massively to Greece despite undefined circumstances of transit. Such reactions of our consumers only point out that, despite everything, they are not willing to abandon their paid arrangements, as was the case some years ago in Egypt after the terrorist attack on English tourists. This indicates that despite all circumstances, even when protection measures are reinforced, the tourist season in Serbia should not be written off. Such behaviour may help to make psychological profiles of domestic tourists, which may be used also in the modeling process in the last instance. The estimation of such psychological effects by the SORS forecasting team, both consumers and investors, would be of great help. The projection of the economic activity in quarters of 2020 is still being in the process of production.

### Further researches

Taking into account all limitations in applying the forecasting method and technique, as well as the suddenness of March events, the SORS has started voluminous surveys for the collection of high-frequency data and derivation of GDP indicators in real time. The new fast SORS surveys on the situation in manufacturing, construction and services simply continue to improve existing forecasting methodologies, which results will be thoroughly monitored and compared with the realised values in periodic publications for the sake of transparent presentation of the efficiency of published forecasts.

### The light at the end of the tunnel

The big epidemiological crisis is, first of all, a big psychological, biological and then an economic war.

As it is known, the methodology of scientific research as the first step after having defined a phenomenon as the object of an analysis implies the setting up of certain hypothesis, which will confirm or contest the research. By applying statistical methods and models, and taking into account previously formed large databases, the hypothesis are subject to testing. The production of forecasting models and scenarios may be based on optimistic and/or pessimistic assumptions. Both may be based on real facts. The same way, both may be derived impartially and professionally.

The main analytical starting point of the SORS forecasting team is positive assumptions, because there are realistic ground to believe that they can still be realised. Data are being carefully monitored regarding the behaviour of economic stakeholders. Consequently, one tries to anticipate the part of the concept of behavioural approach.

Along with this process, since the beginning of the epidemiological crisis, new techniques for the measurement of current business expectations have been developed based on which are formed the indicators in the GDP forecast, through the system of existing leading indicators (VIPAS) and structural models. Faith in success is needed in every battle, otherwise failure and fall in deep recession are inevitable.

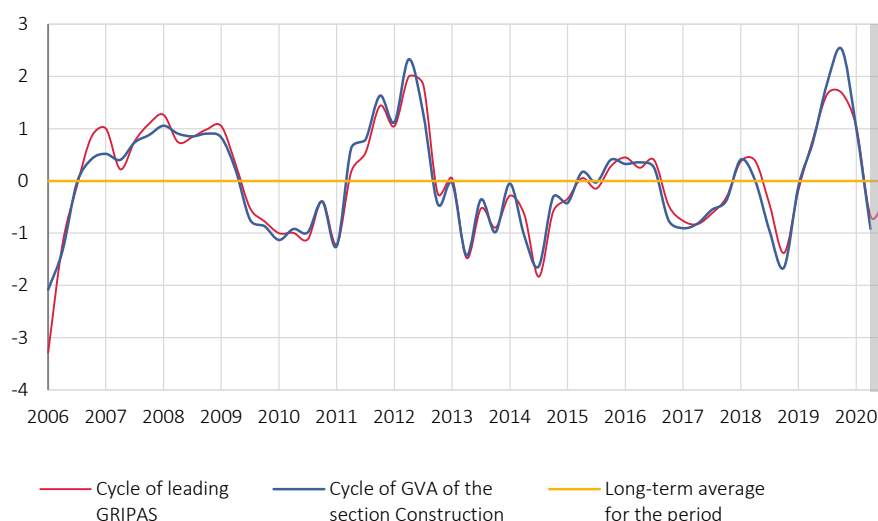
# 1. Macroeconomic forecasts

The developed system of SORS composite leading indicators is, on average, one to two quarters at most ahead of economic activity, and combined with econometric models it allows to make a quantitative evaluation of the dynamics of the annual growth rate of economic activity in the short term. The family of leading indicators by sections and corresponding forecasts are described below.

## 1.1. Construction indicator of the economic activity of Serbia – GRIPAS<sup>6</sup>



**Chart 1.1.** Cycles of construction GRIPAS and GVA, detrended, leveled out and standardised data, deviations of the average for the period, (%)



Based on the leading indicator GRIPAS, a year-on-year growth of construction GVA of about 5.6% is expected in Q3 2020. The slowed down projects from the previous quarter, particularly those related to house building and other infrastructures (roads, pipelines, complex construction on industrial sites) was intensified in Q3.

**Table 1.1.** Structure of the contribution to the annual construction GVA growth rate

	2018				2019				2020	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
<b>Construction GVA, annual growth rate, %</b>	<b>26.8</b>	<b>20.5</b>	<b>10.0</b>	<b>2.8</b>	<b>9.0</b>	<b>17.4</b>	<b>36.0</b>	<b>48.3</b>	<b>20.4</b>	<b>0.1</b>
<b>Buildings, pp.</b>	<b>11.4</b>	<b>8.5</b>	<b>6.3</b>	<b>3.0</b>	<b>4.8</b>	<b>7.8</b>	<b>5.6</b>	<b>14.1</b>	<b>5.9</b>	<b>-0.3</b>
<i>Residential buildings, pp.</i>	8.6	4.1	-2.8	0.4	1.9	4.3	1.8	5.5	0.0	-0.2
<i>Non-residential buildings, pp.</i>	2.8	4.3	9.1	2.6	2.9	3.5	3.9	8.6	5.9	0.0
<b>Civil engineering, pp.</b>	<b>15.3</b>	<b>12.0</b>	<b>3.7</b>	<b>-0.2</b>	<b>4.2</b>	<b>9.6</b>	<b>30.4</b>	<b>34.3</b>	<b>14.5</b>	<b>0.4</b>
<i>Transport infrastructure, pp.</i>	10.9	6.9	-0.2	-2.7	1.9	-0.2	12.1	16.2	1.1	0.4
<i>Pipelines, communication and electricity lines, pp.</i>	2.0	1.0	2.3	1.6	1.9	10.6	18.1	17.4	9.7	0.3
<i>Complex construction on industrial sites, pp.</i>	1.6	3.4	1.5	0.8	0.6	-0.6	0.1	0.5	0.5	0.1
<i>Other civil engineering not elsewhere classified, pp.</i>	0,8	0,8	0,1	0,1	-0,1	-0,3	0,0	0,1	3,1	-0,4
Contribution of construction GVA to the annual GDP growth rate, pp.	0.7	0.8	0.5	0.1	0.3	0.8	1.7	2.4	0.7	0.0

<sup>6</sup> The leading composite construction indicator GRIPAS is on average about 1-2 quarters ahead of the cycle of construction gross value added. its main task is the forecast and detection of cyclical GVA trends in construction in the next period. Highly correlated with the movement of the total number of building permits, total number of hours of work and number of employees on construction sites, the indicator GRIPAS includes also information on the the production and purchase of building materials and equipment as well as the forecast of the value of works, reflecting all relevant influences on the construction activity..

# 1. Macroeconomic forecasts

In Q2 the construction activity referred mostly to finalisation of the Turkish Stream (border of Bulgaria - border of Hungary), modernisation of the railway Belgrade - Novi Sad (via Stara Pazova), bypass motorway via Belgrade, construction of housing complexes in Belgrade and Novi Sad, and especially continuation of the project of building the eco-friendly "Landfill Vinca", classified into the group "Other civil engineering, not elsewhere classified".

**Table 1.2.** Relative deviation of the forecast values of the leading indicator GRIPAS from the realised quarterly construction GVA growth rates, (%)

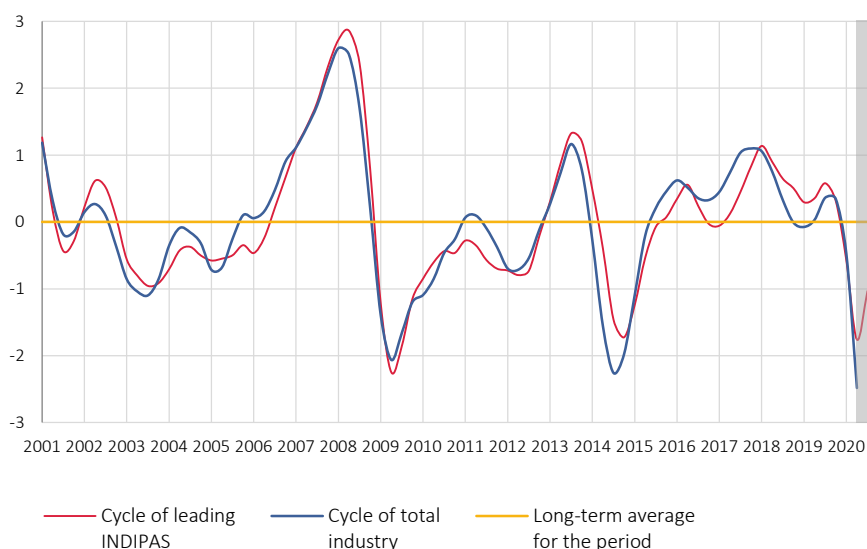
	2019				2020		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Real values	9.0	17.4	36.0	48.3	20.4	0.1	-
Forecast values	10.4	13.8	31.3	45.6	18.0	-9.5	-5.6
Deviation of the real values from the forecast ones, % (absolute values)	1.3	3.2	3.6	1.8	2.0	10.6	-

Remark: Relative deviation of the forecast value from the realised one by (+/-) 5% is considered an interval limit of validity of a given forecast (95-percent interval of reliability of the indicator). The forecast values indicated in the table were published in the previous issues of *Trends*.

## 1.2. Industry indicator of the economic activity of Serbia - INDIPAS



**Chart 1.2.** Comparison of the leading indicator INDIPAS and physical volume of total industry, calculated and standardized data, deviation from the average for the period, (%)



Based on the leading indicator INDIPAS, a year-on-year growth of industrial production of about 1.0% is expected in Q3. It is expected that this growth will be primarily caused by a larger activity in the production in section Manufacture of fabricated metal products, except machinery and equipment, Manufacture of food products, Manufacture of electrical equipment, Manufacture of furniture, Manufacture of wearing apparel, and Electricity, gas, steam and air conditioning supply.

# 1. Macroeconomic forecasts

**Table 1.3.** Relative deviation of the forecast values of the leading indicator INDIPAS from the realised quarterly industry GVA growth rates, (%)

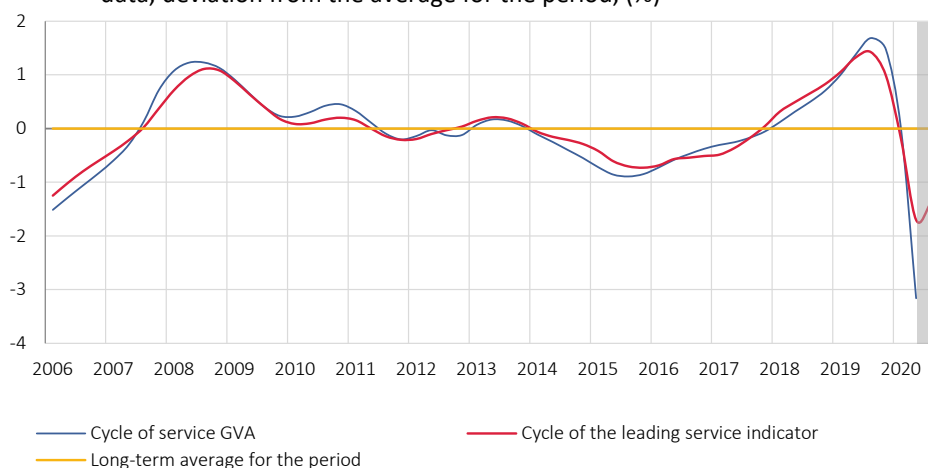
	2019				2020		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Real values	-1.5	-2.1	2.1	3.1	4.3	-7.7	-
Forecast values	-3.9	-2.4	2.3	2.5	3.2	-10.0	1.0
Deviation of the real values from the forecast ones, % (absolute values)	2.5	0.3	0.2	0.6	1.1	2.3	

Remark: Considering that the forecasting process has been done on the previously seasonally adjusted data, the latter can be insignificantly different from original growth rates that are officially published. The relative deviation of forecast value from the realized one of (+/-) 5% is considered an interval limit of validity of a given forecast (95% interval of reliability of the indicator). The forecast values indicated in the table were published in the previous issues of *Trends*.

## 1.3. Service leading indicator of Serbia



**Graph 1.3.** Comparison of the cycle of the service leading indicator and service GVA, detrended, leveled out and standardized data, deviation from the average for the period, (%)



By applying the service leading indicator in Q3, a slight year-on-year fall of service GVA of about 0.5% is expected. It is expected that such a result will be primarily determined by a fall of the activity in Tourism and catering trades, Wholesale trade, Science, Arts and Recreation, as well as in Transportation and communication.

**Table 1.4.** Relative deviation of the forecast values of the service leading indicator from realised quarterly service GVA growth rates, (%)

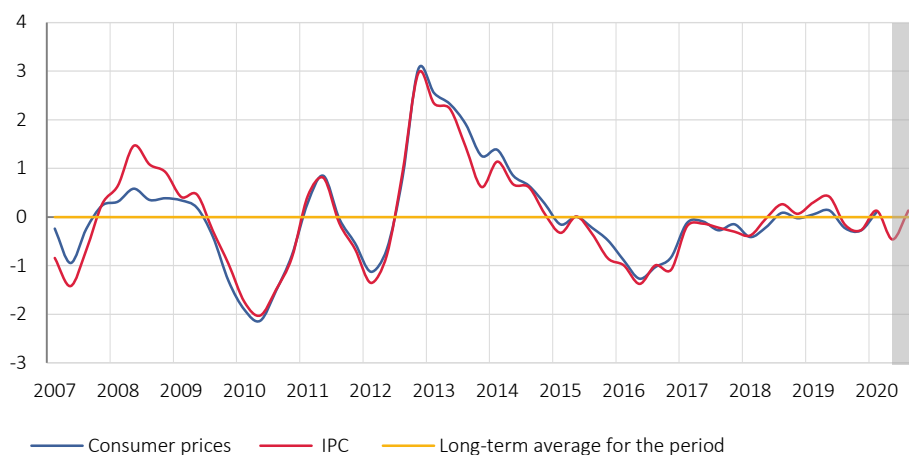
	2019				2020		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Real values	3.9	3.8	4.2	5.1	4.9	-7.3	-
Forecast values	3.9	3.2	3.5	4.3	4.3	-5.0	-0.5
Deviation of the real values from the forecast ones, % (absolute values)	0.0	0.6	0.7	0.8	0.6	2.4	

Comment: Considering that the forecasting process has been done on the previously seasonally adjusted data, the latter can be insignificantly different from original growth rates that are officially published. The relative deviation of the forecast value from the realized one of (+/-) 5% is considered an interval limit of validity of a given forecast (95% interval of reliability of the indicator). The forecast values indicated in the table were published in the previous issues of *Trends*.

# 1. Macroeconomic forecasts

## 1.4. Model of forecast of SORS consumer prices

**Chart 1.4.** Comparison of the cycle of the composite leading indicator of consumer prices (CPI) and total retail consumer prices in Serbia, level out and standardised data, deviation from the average for the period, (%)



Based on the consumer price indicator CPI, a slight growth of the level of consumer prices is expected in the second half of 2020. That is, in Q3 a year-on-year price growth of about 1.8% is expected and of about 2.8% in Q4, primarily due to the increase in of food price.

**Table 1.5.** Leading composite indicators of the forecast of total consumer prices for Q3 2020 and Q4 2020, (%)

Year-on-year growth rate	Indicator of fuel price (IPC-G) <sup>1</sup>	Indicator of the price of food and non-alcoholic beverages (IPC-H) <sup>2</sup>	Indicator of tobacco price (IPC-D) <sup>3</sup>	Total consumer prices (IPC) <sup>4</sup>
Q3 2020	-11.0	4.0	7.8	<b>1.8</b>
Q4 2020	-2.7	4.3	6.5	<b>2.8</b>

<sup>1</sup> IPC-G is a weighted composite leading indicator that contains information on the movement of the most relevant indicators influencing oil price in Serbia, and that in its movement **precedes 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, stocks in the production of crude oil in the territory of Serbia and import of oil, oil refined products in Serbia.

<sup>2</sup> An analysis of food price trends in Serbia has allowed to obtain the composite leading indicator of food price (IPC-H), which main goal is the forecast of food price for the next three months. After having analysed a large number of variables, several ones with the best leading forecast characteristics for food price have been in Serbia have been singled out: harmonised 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.

<sup>3</sup> 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.

<sup>4</sup> 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: (IPC-G), food and non-alcoholic beverages (IPC-H) 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 IPC), which aim is to forecast retail consumer prices for one quarter ahead.

# 1. Macroeconomic forecasts

## 1.5. Model of forecast agriculture -AGRIPAS system<sup>7</sup> ("September scenario")



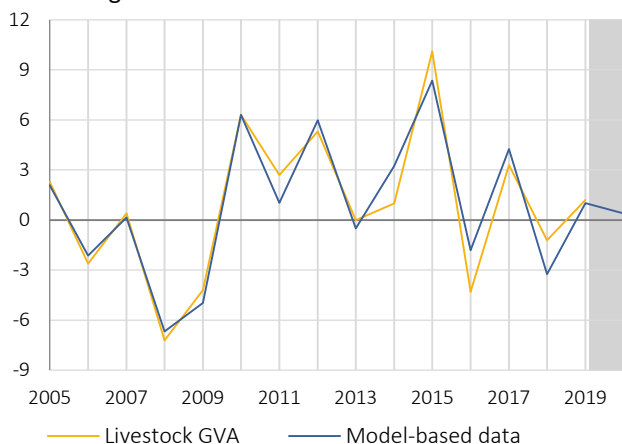
By applying the AGRIPAS system (model of crop and livestock production), and on the basis of realised parameters of both models in the so-called "September scenario (the May scenario was based on the estimated inputs of the model), the annual agriculture GVA growth rate is estimated to be about 2.3%. According to the "September scenario", in 2020 a year-on-year GVA growth of about 2.3% is expected for crop production and for livestock production of about 0.4%. According to the obtained results, the contribution of GVA to the section of Agriculture to the annual GVA growth in 2020 would be approximately 0.1 pp.

**Table 1.6.** Comparison of the forecast and realised growth rates and agriculture GVA growth rates.

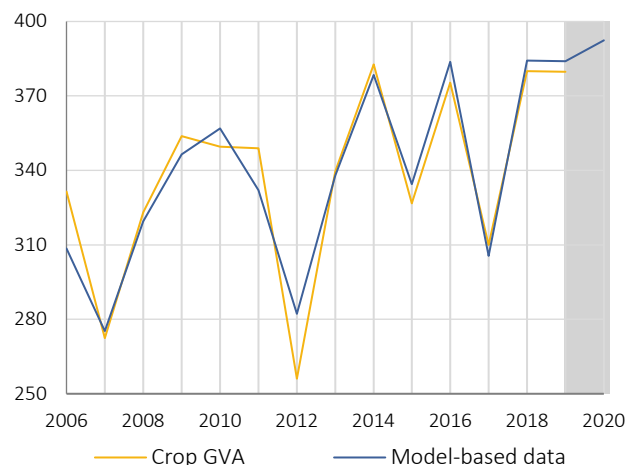
Year	May scenario	September scenario	Realisation	Absolute deviations of the May scenario from the realisation, %	Absolute deviations of the September scenario from the realisation, %
2018	12.8	16.5	<b>15.2</b>	2.1	1.1
2019	-3.8	-2.3	<b>0.0</b>	3.8	2.3
2020	1.5	2.3	-	-	-

Remark: The realisation for 2019 is a preliminary data. The relative deviation of the forecast value from the realised one by (+/-) 5% is considered an interval limit of validity of a given forecast (95-percent interval of reliability of the indicator). The forecast values indicated in the table were published in the previous issues of *Trends*.

**Chart 1.5.** Real and model-based livestock GVA, annual growth rates



**Chart 1.6.** Real and model-based crop GVA, 1947=100



<sup>7</sup> The model of crop production covers separately the modeling of wheat and maize production, taking into account the factors of rainfall in sowing periods, as well as in periods of generative growth phases - from tillering, accelerated growth to the phase of grain filling of wheat and maize, the estimated harvesting areas, variables of drought years, the indicators of soil humidity (standardised index of rainfall and Palmer Z index), etc. The results of the estimations of agriculture trends, based on the model of crop production, will be available in May and September when it is approximately possible to obtain the final agriculture result and its quantitative influence on the GVA rate in the current year. The model of livestock production is based on a structural model of livestock increase and model of primary livestock products (which mostly depends on the result of the model of milk production).

# 1. Macroeconomic forecasts

## 1.6. Summary of obtained results of the leading indicators by GVA sections for the third quarter of 2020 and the whole year

**Table 1.7.** Forecasts of GVA forecast for the selected sections and their estimated contribution to GDP

	Agriculture	Taxes and contributions	Industry	Construction	Services
<b>Q3 – 2020</b>					
Annual growth rates, %	2.8	0.8	1.0	-5.6	-0.5
Contributions to GDP growth rate, pp.	0.2	0.1	0.2	-0.4	-0.3
<b>2020</b>					
Annual growth rates, %	2.3	0.0	-0.6	1.6	-0.6
Contributions to GDP growth rate, pp.	0.1	0.0	-0.1	0.1	-0.3

Remark: As the contributions have been rounded up for a whole decimal, the sums of contributions in the table may show values smaller/larger by 0.1 to 0.2 pp. when compared with those for the whole growth rate of a given section and GDP, but in fact they are equal to the values of GDP growth rates indicated in the table.

## 2. Gross Domestic Product

### 2.1. GDP trend

In the second quarter of 2020, GDP real decrease of 6.4% was recorded relative to the same period last year. In the service section, which was the leading factor of economic growth in the previous period, the effects of the pandemic caused by the Corona virus were most pronounced, so this section, in the second quarter 2020, most significantly influenced the negative GDP trend (-2.8 p.p.). Important negative contribution was also provided by industry (-1.5 p.p.).

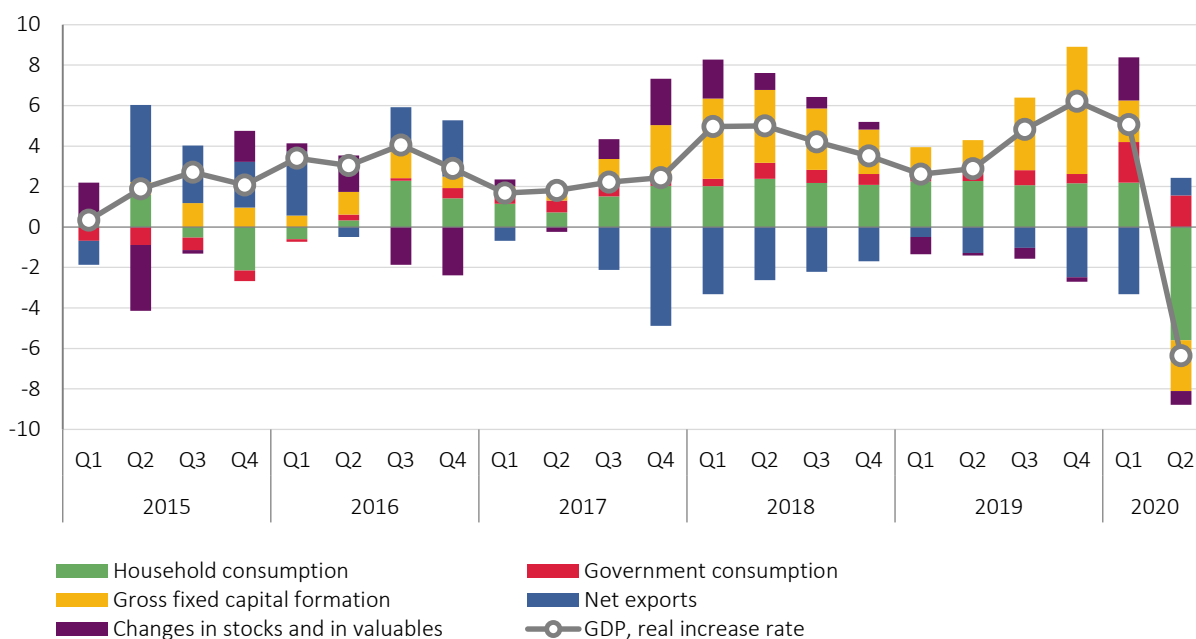
In the first half of 2020, GDP decrease of 0.8% was recorded.

Observed by expenditure aggregates, in the second quarter of 2020, relative to the same period last year, Household consumption, with realized fall of 7.9%, most significantly influenced negative GDP trend (-5.5 p.p.). Investment activity was decreased by 11.9% relative to the same period last year (contribution to GDP was -2.5 p.p.). Dynamics of export and import, with negative rates of 20.7% and 19.3%, respectively, resulted in negative contribution to GDP (-10.9 p.p. and -11.8 p.p. (Table 2.1).

**Table 2.1. GDP – expenditure aggregates, real inter-annual growth rates, Q1 2018 – Q2 2020 (%)**  
(comparison with the same period of the previous year)

	2018				2019				2020	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
<b>GDP</b>	<b>5.0</b>	<b>5.0</b>	<b>4.2</b>	<b>3.5</b>	<b>2.6</b>	<b>2.9</b>	<b>4.8</b>	<b>6.2</b>	<b>5.1</b>	<b>-6.4</b>
Household consumption	2.9	3.3	3.1	3.0	3.3	3.2	3.0	3.1	3.2	-7.9
Government consumption	2.3	4.9	4.1	3.2	2.4	2.1	4.7	2.5	11.8	8.9
Gross fixed capital formation	26.0	20.6	16.7	11.1	7.2	8.2	17.5	29.6	10.8	-11.9
Exports	8.6	6.0	8.7	10.0	8.1	8.0	9.0	8.7	3.0	-20.7
Imports	13.6	9.9	11.8	11.4	7.8	9.0	9.6	11.4	8.1	-19.3

**Graph 2.1 Contributions to inter-annual GDP growth rate – expenditure aggregates (p.p.)**



## 2. Gross Domestic Product

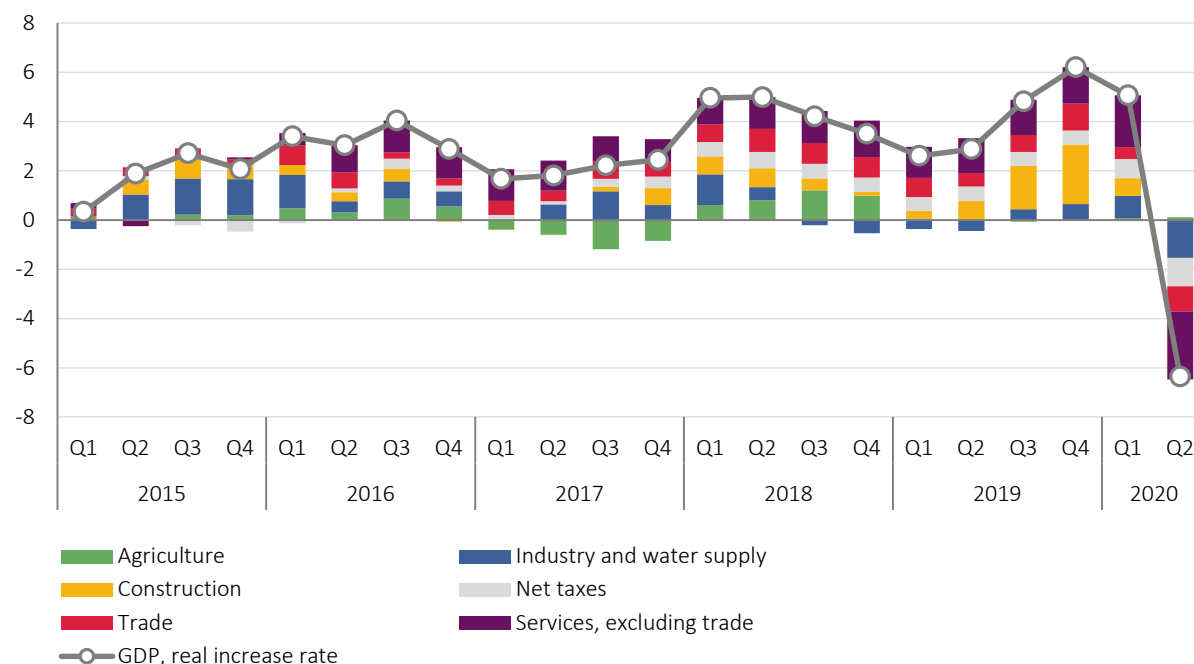
Observed from the **production side**, the negative contribution to GDP increase in Q2 2020 resulted from decreased activity in service sections (excluding trade), -2.8 p.p., and trade -1.0 p.p. Apart from services, negative contribution was also provided by industry (-1.5 p.p.).

Despite the unfavourable effects caused by the corona virus pandemic, in the second quarter of 2020, positive trends were achieved by agriculture and construction activity (growth rates, compared to the same period last year, amounted to 2.2% and 0.1%, respectively)

**Table 2.2.** GDP – production side, real inter-annual growth rates, Q1 2018 – Q2 2020 (%)  
(changes to the same period of the previous year)

	2018				2019				2020	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
<b>GDP</b>	<b>5.0</b>	<b>5.0</b>	<b>4.2</b>	<b>3.5</b>	<b>2.6</b>	<b>2.9</b>	<b>4.8</b>	<b>6.2</b>	<b>5.1</b>	<b>-6.4</b>
Agriculture	12.3	15.6	16.8	15.2	0.2	-0.4	-0.1	0.4	1.7	2.2
Industry and water supply	5.4	2.4	-1.0	-2.4	-1.5	-2.1	2.1	3.1	4.3	-7.7
Construction	26.8	20.5	10.0	2.8	9.0	17.4	36.0	48.3	20.4	0.1
Trade	6.5	8.2	7.5	7.1	7.0	4.7	5.9	9.2	4.3	-8.9
Services, excl. trade	2.6	3.2	3.3	3.9	3.0	3.5	3.7	3.8	5.0	-6.8
Net taxes	3.5	3.8	3.5	3.4	3.4	3.4	3.3	3.4	4.6	-6.5

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

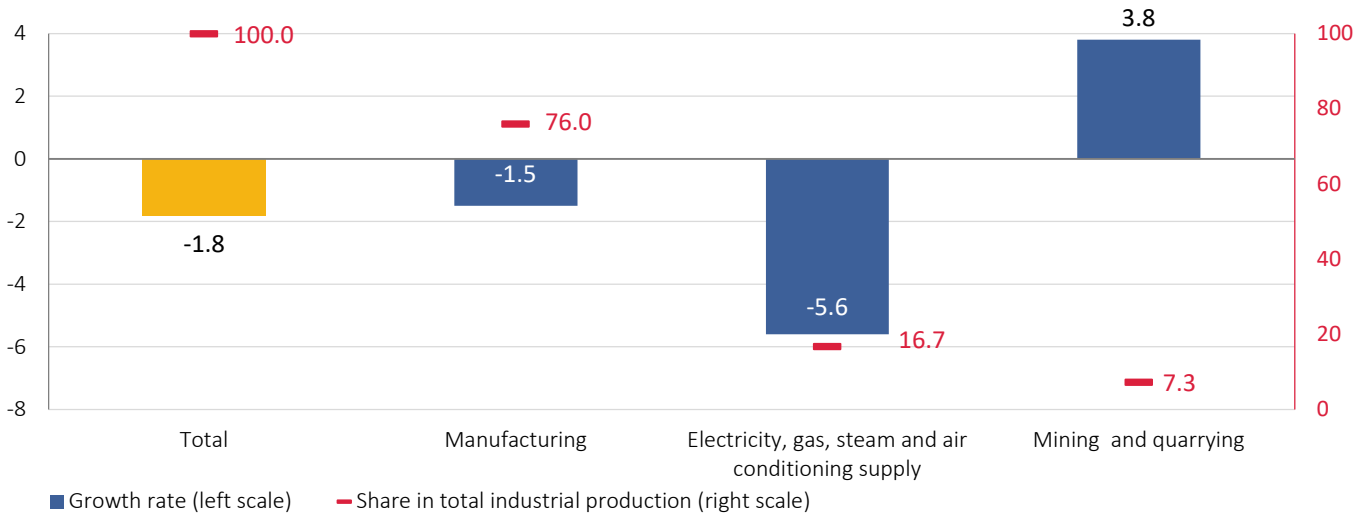


# 3. Industrial production

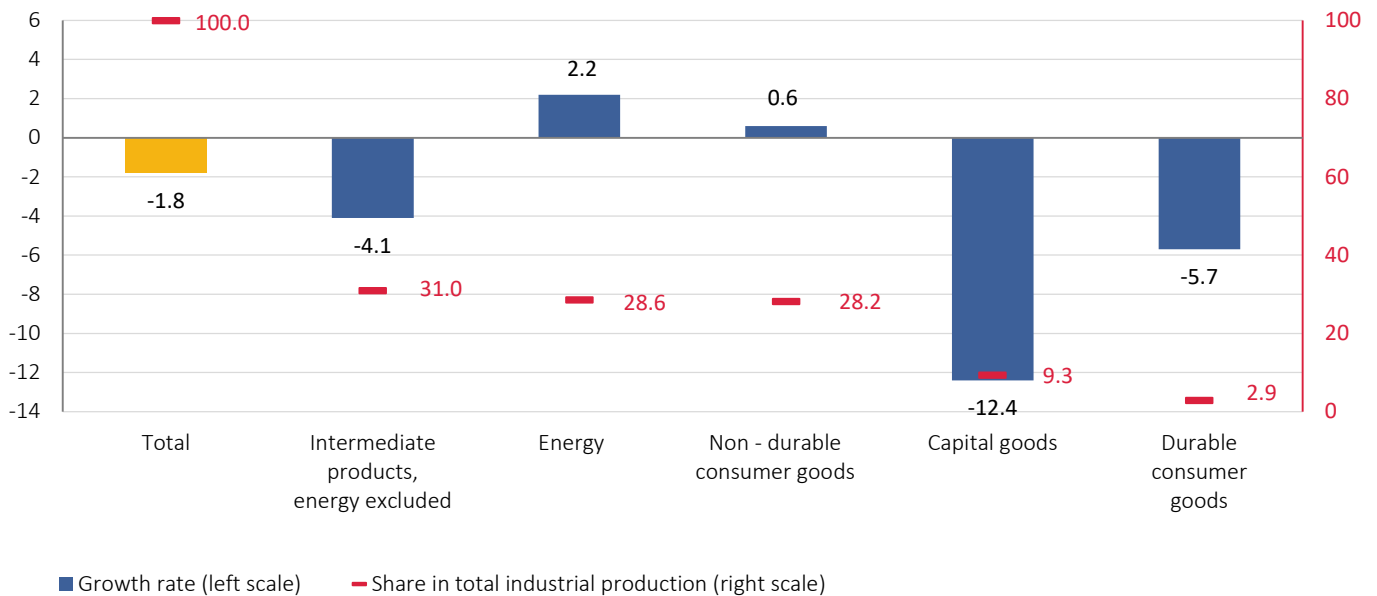
## 3.1. Total industrial production

Total industrial production in Serbia, in the period January - June 2020 decreased by 1.8% relative to the same period 2019. Observed by sections, in the first six months 2020, fall was noted in Manufacturing (1.5%), and in Electricity, gas, steam and air conditioning supply (5.6%), while in Mining and quarrying, growth of 3.8% was recorded.

**Graph 3.1. Cumulative trends of total industry and its sections (%)**  
(January – June 2020 relative to the same period 2019)



**Graph 3.2. Industrial production growth rates, by MIGS (%)**  
(January - June 2020 relative to the same period 2019)



## 3. Industrial production

Manufacturing, with the decrease of 1.5% mostly contributed to negative increase of industrial production: -1.1 p.p.

Contribution of the section Electricity, gas, steam and air conditioning supply was also negative - 1 p.p. and the only section that provided positive contribution to industry trend was Mining and quarrying (0.3 p.p).

**Table 3.1. Industrial production, quarterly indices (%)**  
(comparison relative to the same period of the previous year)

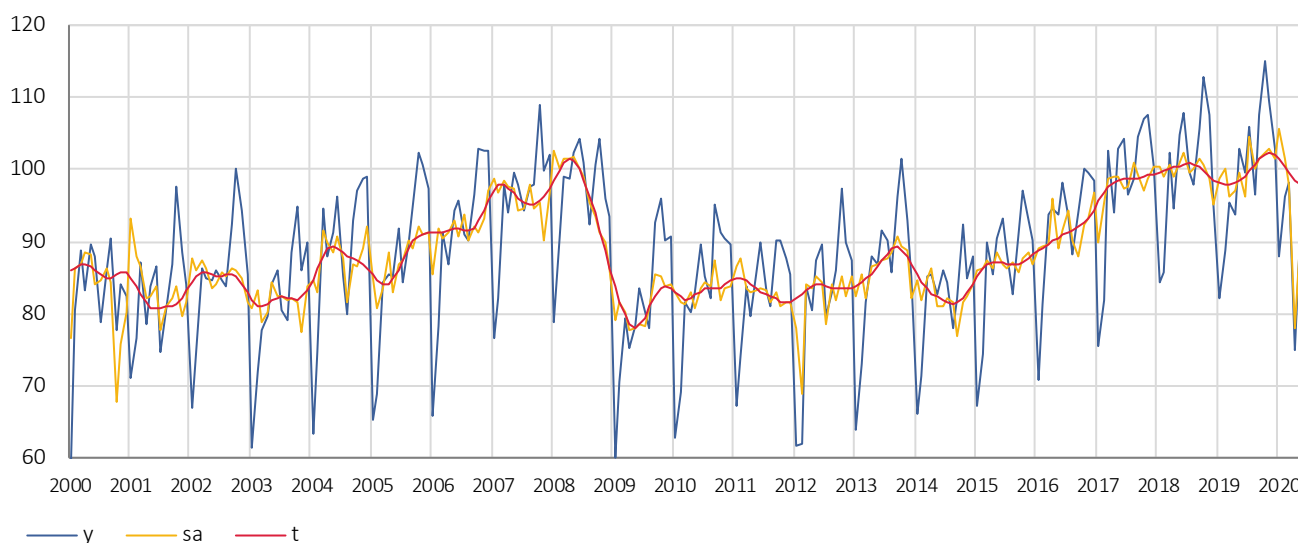
	2017				2018				2019				2020		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q1+ Q2+Q3 <sup>1</sup>
Industrial production – total	101.1	103.1	107.0	104.1	105.9	102.3	98.6	98.9	98.1	97.4	102.2	103.4	104.4	92.2	<b>98.5</b>
Manufacturing	105.9	105.0	108.7	105.7	104.7	102.0	101.2	100.1	97.7	96.5	102.3	103.9	106.1	91.8	<b>98.0</b>
Electricity, gas, steam and air conditioning supply	85.8	93.8	100.5	97.3	111.4	105.5	92.2	95.1	100.2	100.0	99.9	101.8	96.9	91.3	...
Mining and quarrying	94.2	105.4	105.1	104.3	103.0	97.8	86.9	94.6	96.8	101.3	105.2	101.5	108.9	98.6	...

<sup>1</sup>Prognoses.

### 3.2. Manufacturing (C)

(share of 76% in total Industrial production index)

**Graph 3.3. Components of Manufacturing time series, indices**  
(y – original series, sa – series with excluded seasonal component, t – trend cycle component, average 2019 = 100)



Manufacturing trend presented in trend-cycle component currently shows decreasing trend, present from the beginning of the year. In Q2 2020 values of trend-cycle components are on the level of about -2% below the average of 2019 (graph 3.3).

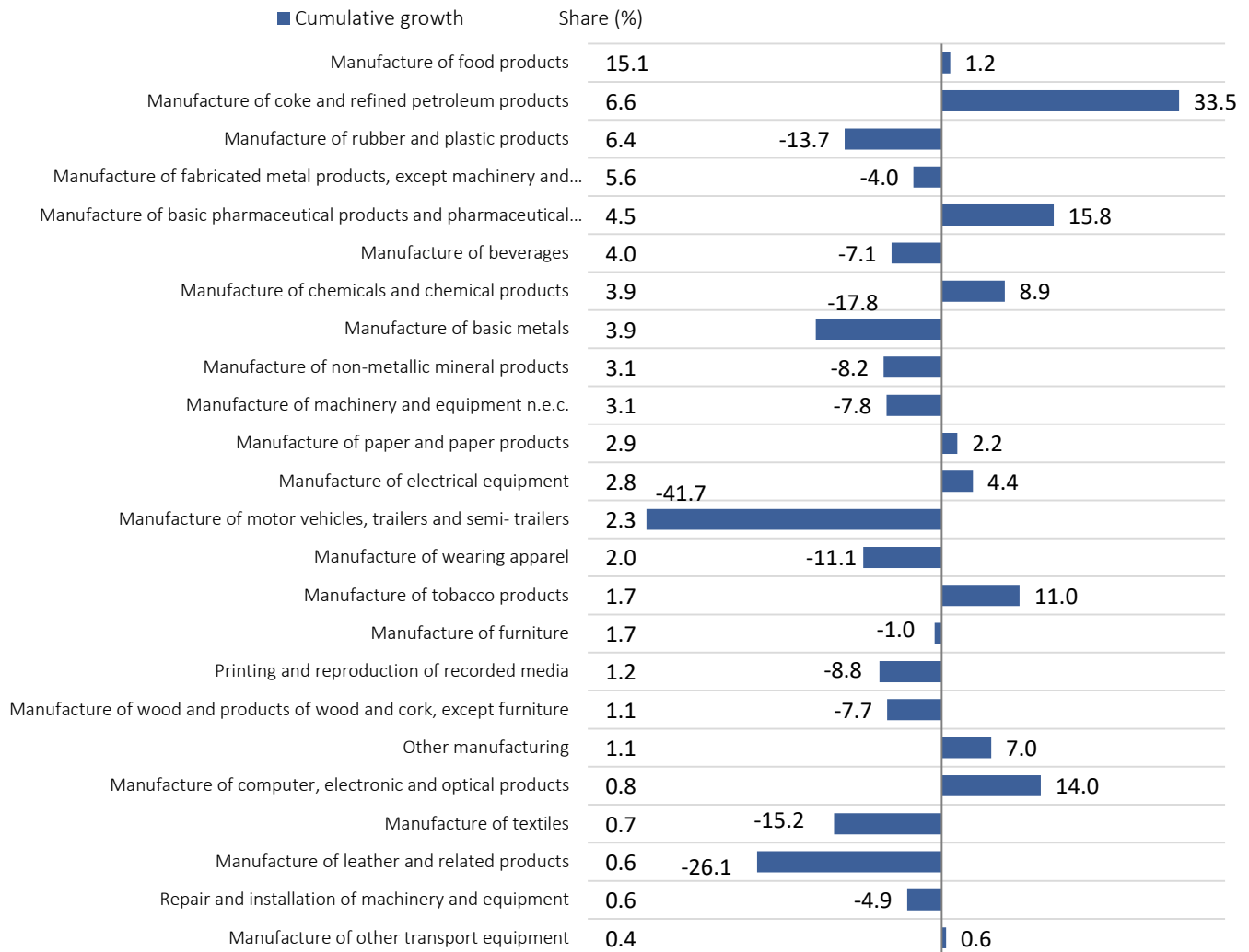
## 3. Industrial production

Observed by divisions, Manufacturing in the first two quarters of 2020 **increased** in 10 out of 24 divisions, if compared with the same period of the previous year. Decrease was recorded in 14 divisions, out of which six do not have significant share in total industrial production index (Manufacture of furniture, wood, textile, leather and leather products, printing and reproduction of recorded media and repair and installation of machinery and equipment– together participate with 5.9% in total industrial production).

Eight divisions with high weight (participating together with 30.3%) in total industry recorded cumulative **decrease in the first six months 2020** relative to the same period 2019 and they are the following: Manufacture of rubber and plastic products (fall of 13.7%), Manufacture of metal products except machinery (fall of 4.0%), Manufacture of beverages (fall of 7.1%), Manufacture of basic metals (fall of 17.8%), Manufacture of non-metallic mineral products (fall of 8.2%), Manufacture of machinery and equipment, n.e.c. (fall of 7.8%), Manufacture of motor vehicles, and trailers and semi-trailers (fall of 41.7%) and Manufacture of wearing apparel (fall of 11.1%).

**Graph 3.4. Manufacturing by divisions, cumulative growth rates (%)**

(January - June 2020 relative to the same period 2019; divisions presented in descending order according to shares in total industrial production)



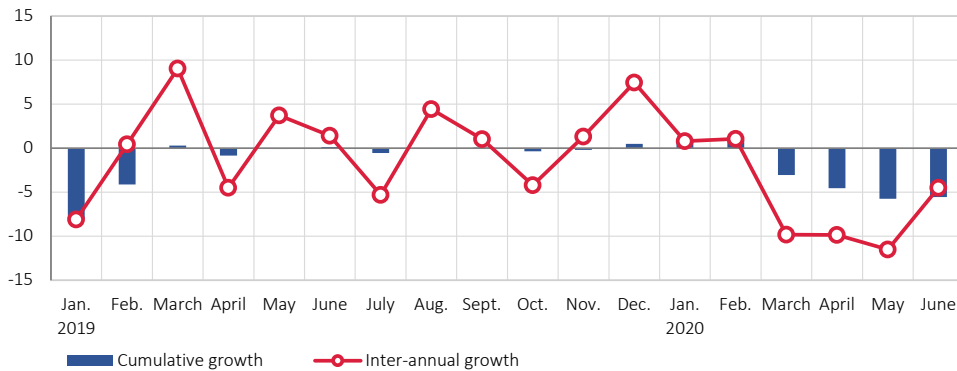
# 3. Industrial production

## 3.3. Electricity, gas, steam and air conditioning supply (D)

(share of 16,7% in total Industrial production index)

**Graph 3.5.** Cumulative and inter – annual growth rates in energy section (%)

(cumulative – January - June 2020 relative to the same period of the previous year; Inter - annual – month relative to the same month of the previous year)



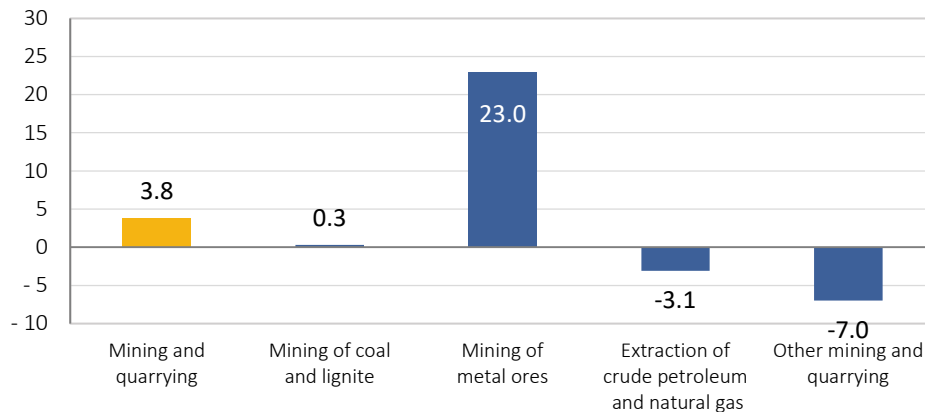
Section of electricity, gas, steam and air conditioning supply in the first six months 2020 recorded fall of 5.6% relative to the same period of the previous year. Observed by months, in the second quarter 2020, noted was the decrease in April (9.9%), in May (11.5%), and in June (4.5%).

## 3.4. Mining and quarrying (B)

(share of 7,3% in total Industrial production index)

**Graph 3.6.** Cumulative growth rates in the section of Mining and quarrying (%)

(January - June 2020 relative to the same period 2019)



Production in the section of Mining and quarrying in the first six months of 2020 noted growth of 3.8% relative to the same period 2019. Observed by months, in the second quarter 2020, noted was fall of 0.1% in April, 3.9% in May and 0.2% in June.

### **i** How to interpret the time series?

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

## 4.1. Construction activity

Value indices of the performed construction works on the territory of the Republic of Serbia from the second half of 2017 have been recording growth. Such positive trend has also been continued in the second quarter 2020, when a decline in construction activity is recorded due to delays in starting the planned projects, caused by the corona virus epidemic.

In the first six months of 2020, construction activity on the territory of the Republic of Serbia increased by 8% at current prices, compared to the same period last year, while at constant prices, the increase amounted to 9.3%.

In the first quarter, growth of 26.1% was achieved, while in the second quarter, the value of performed works on the territory of the Republic of Serbia decreased by 0.8% in constant prices compared to the second quarter of 2019.

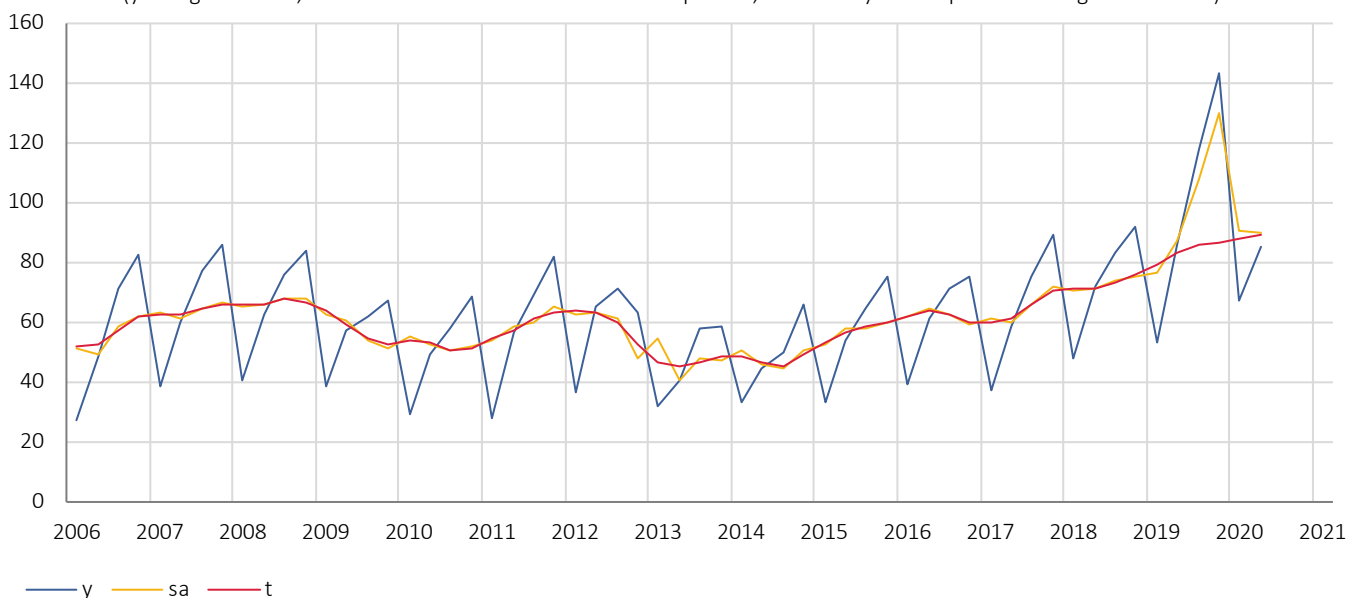
## 4.2. Trend in the first six months 2020

Construction activity on the territory of the Republic of Serbia in the period January – June 2020 increased by 9.3% at constant prices compared to the same period last year.

Observed by type of constructions, the value of performed works on buildings increased by 10.8%, and on civil engineering (transport infrastructure, pipelines, complex industrial structures, etc.), by 8.4%

**Graph 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 2019 = 100)



## 4. Construction

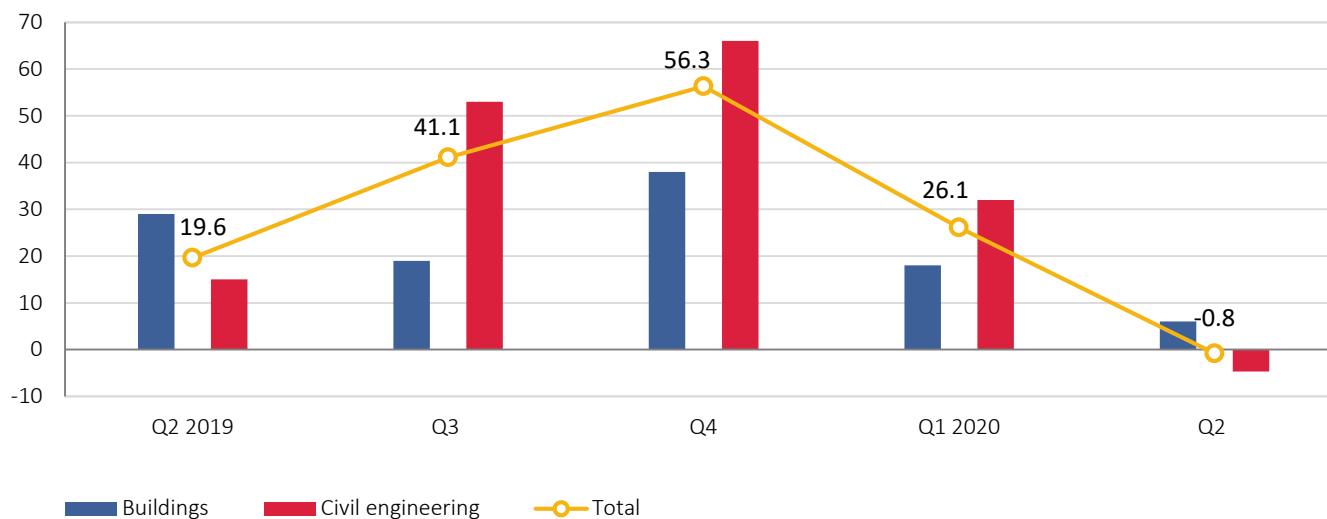
### 4.3. Trend in the second quarter 2020

In the second quarter of 2020, the value of performed works on the territory of the Republic of Serbia decreased by 2.6% at current prices, while at constant prices, the decrease was 0.8% compared to the same quarter of the previous year. Observed according to the structure of performed works, the value of works on buildings increased by 6%, while the value of works on civil engineering decreased by 4.7% at constant prices.

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

	2018				2019				2020	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Current prices	140.6	133.9	122.1	118.4	116.7	126.2	144.8	159.3	125.3	97.4
Constant prices	129.4	122.7	110.4	103.0	110.3	119.6	141.1	156.3	126.1	99.2

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



Observed by regions, the greatest increase of construction activity in Q2 2020 was noted in Region Juzne i Istocne Srbije (48.3% at constant prices). Increased values of performed works were most influenced by works performed on civil engineering (pipelines), i.e. construction of gas pipeline - border of Bulgaria – border of Hungary, with also noticeable increase of works performed on non-residential buildings.

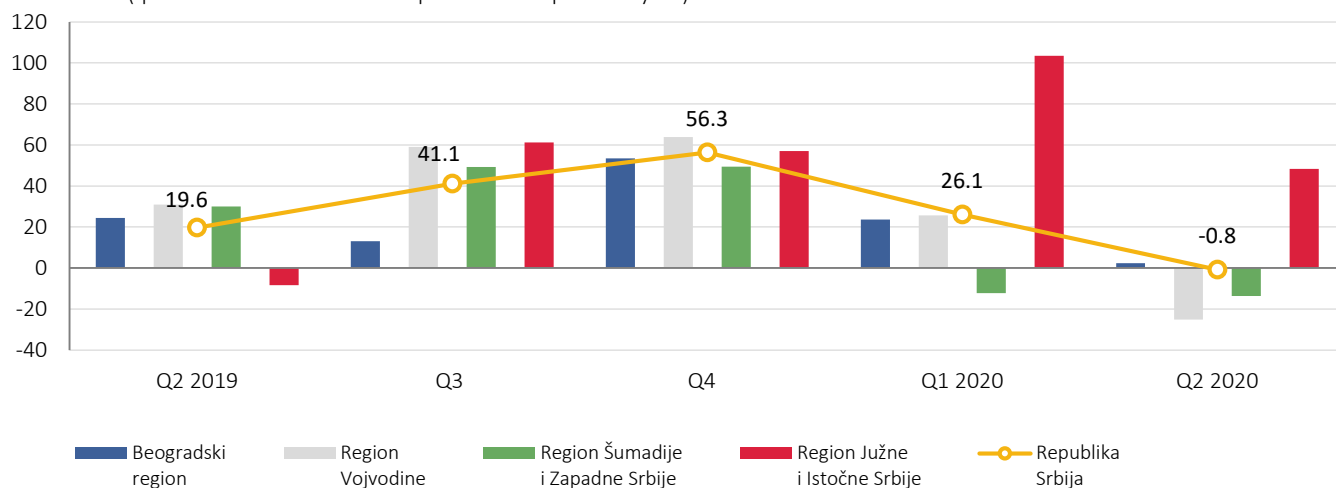
Construction activity rate in Beogradski region amounted to 2.3% at constant prices. The most significant works were performed on complex named Belgrade waterfront, works performed on railway section Beograd – Stara Pazova, Bypass around Belgrade and Vinca landfill.

In Region Vojvodine, activity was decreased by 25.1%. Regarding civil engineering, there was a decrease in value (works on the main gas pipeline from the second quarter of 2020 are of lower intensity, because the activity was moved to the Region of Southern and Eastern Serbia), while the value of works performed on residential buildings increased.

## 4. Construction

Construction activity also decreased in Region Sumadije I Zapadne Srbije, by 13.7% at constant prices. Decreased value was noted related to construction of transport infrastructure, due to completed works on Corridor 11, but increased was value of performed works related to residential and non-residential buildings, including works on pipelines.

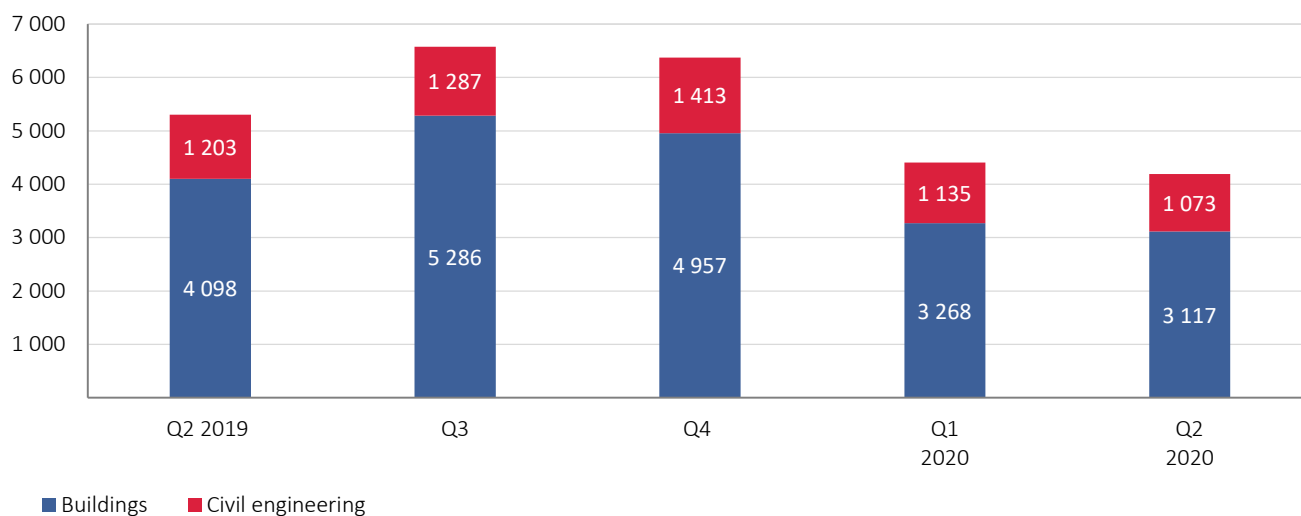
**Graph 4.3.** Value of performed construction works by regions, at constant prices, quarterly growth (%)  
(quarter relative to the same quarter of the previous year)



### 4.4. Building permits

In the second quarter 2020, 4 109 building permits were issued. The greatest part of permits (3 117) related to construction works on buildings, while the rest related to transport infrastructure works, pipelines, complex industrial structures, etc. Out of total number of issued permits in the second quarter 2020, 54% related to new construction, while other permits were issued for adaptation, recovery, reconstruction and maintenance works.

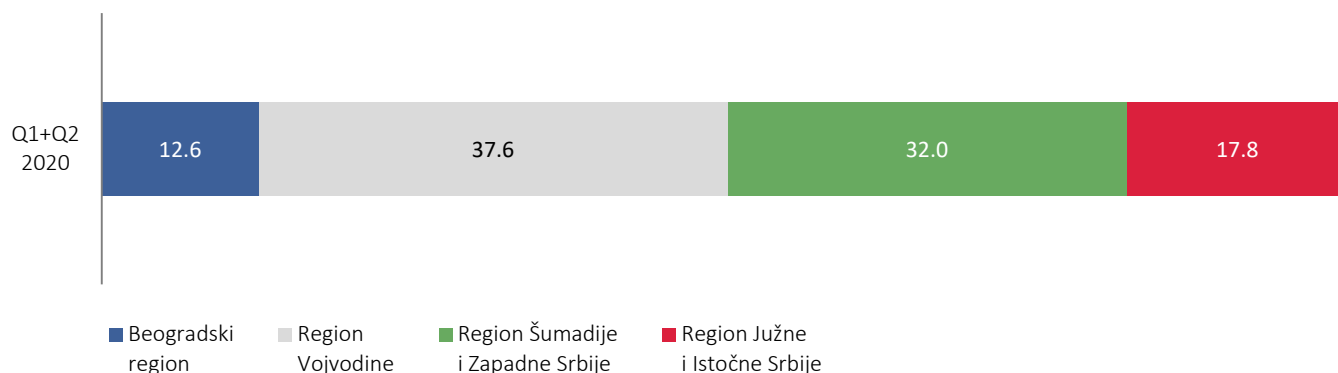
**Graph 4.4.** Number of issued building permits for buildings and civil engineering



## 4. Construction

**Observed by regions**, in the first two quarters 2020, the greatest number of permits was issued in Region Vojvodine (1 608), followed by Region Šumadije i Zapadne Srbije (1 405), Region Južne i Istočne Srbije (803), while the smallest number of issued permits was recorded in Beogradski Region (587).

Graph 4.5. Share of issued permits by regions, Q1+Q2 2020 (%)



### 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).

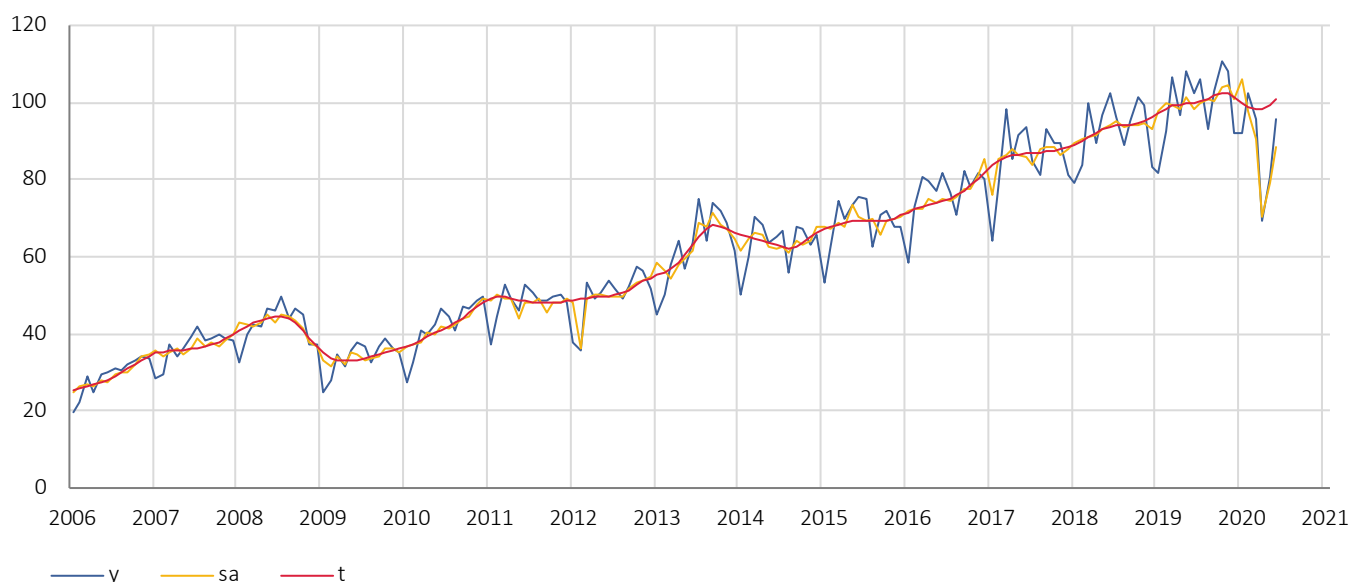
## 5.1. Total value of goods export<sup>8</sup>

Total value of goods export from Serbia in the period January - June 2020 decreased by 8.9%, relative to the same period 2019.

Total export results were mostly influenced by manufacturing<sup>9</sup> decrease of 10%, as it presents 90.4% of total export, and increase of 10.3% in the section of agriculture, forestry and fishing, which presented 7.7% of total export in the first half of 2020.

**Graph 5.1. Components of export's time series, indices**

(y – original series, sa – series with excluded seasonal component, t – trend cycle component, average 2019 = 100)



**Table 5.1. Export of goods by CA (2010) sections, quarterly indices (%)**

(comparison with the same period of the previous year)

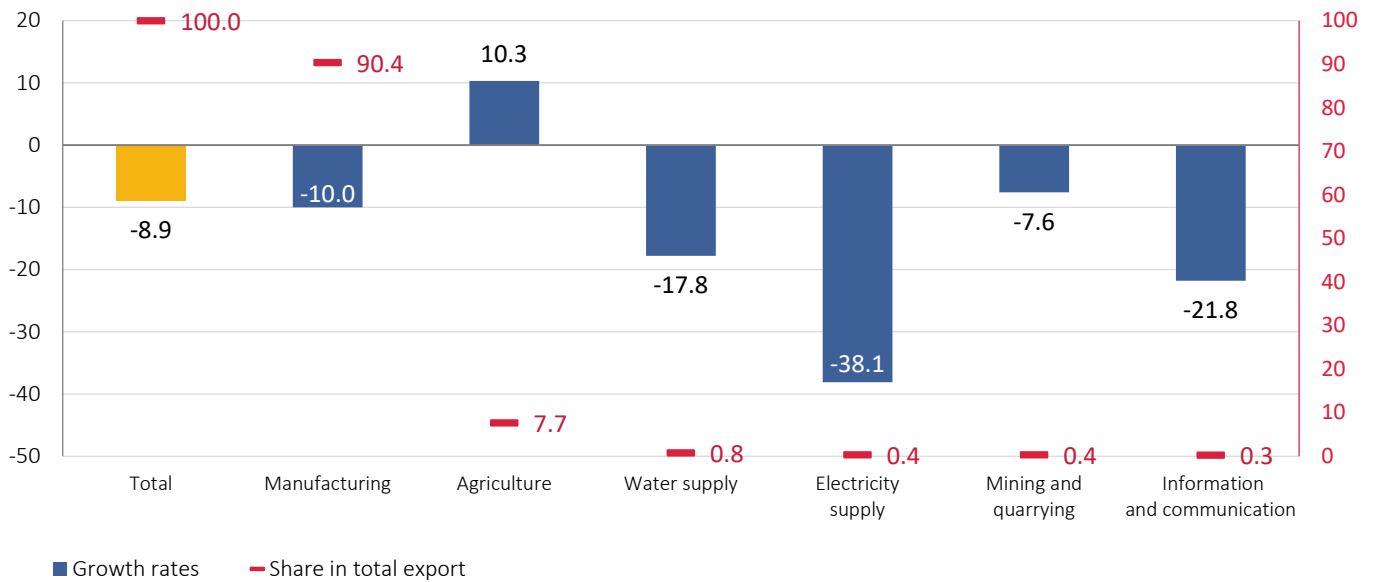
	2018				2019				2020		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q1+ Q2+Q3 <sup>1</sup>
Export – total	109.1	106.6	108.1	109.0	106.9	106.6	107.7	109.6	103.3	79.8	<b>92.5</b>
Manufacturing	112.5	109.2	107.8	107.1	104.5	106.1	108.7	109.4	103.2	78.1	...
Agriculture, forestry and fishing	70.0	78.6	118.8	180.6	151.2	117.2	103.4	119.6	109.1	111.6	...
Mining and quarrying	121.9	91.2	91.0	90.2	88.3	93.8	100.2	96.4	98.3	86.8	...

<sup>8</sup> By current exchange rate, EUR.

<sup>9</sup> According to CA 2010.

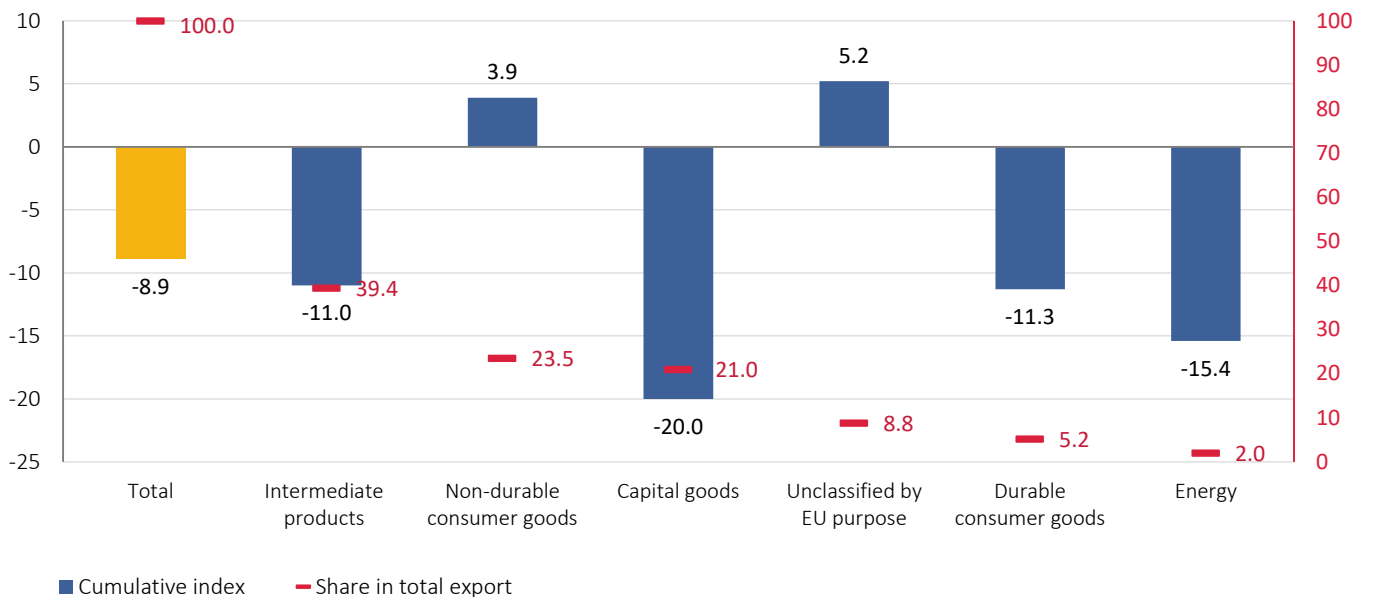
# 5. External trade

**Graph 5.2. Cumulative growth rates of export by CA (2010) sections and sections' share in export (%)**  
(January – June 2020 relative to the same period 2019)



Observed by economic purpose, total export results in the period January - June 2020 were mostly influenced by decreased exports of capital goods (decrease of 20%, and share of 21%) and intermediate products (share of 39.4% and decrease of 11%).

**Graph 5.3. Cumulative growth rates of exports according to the economic purpose of the European Union (%)**  
(January – June 2020 relative to the same period 2019)

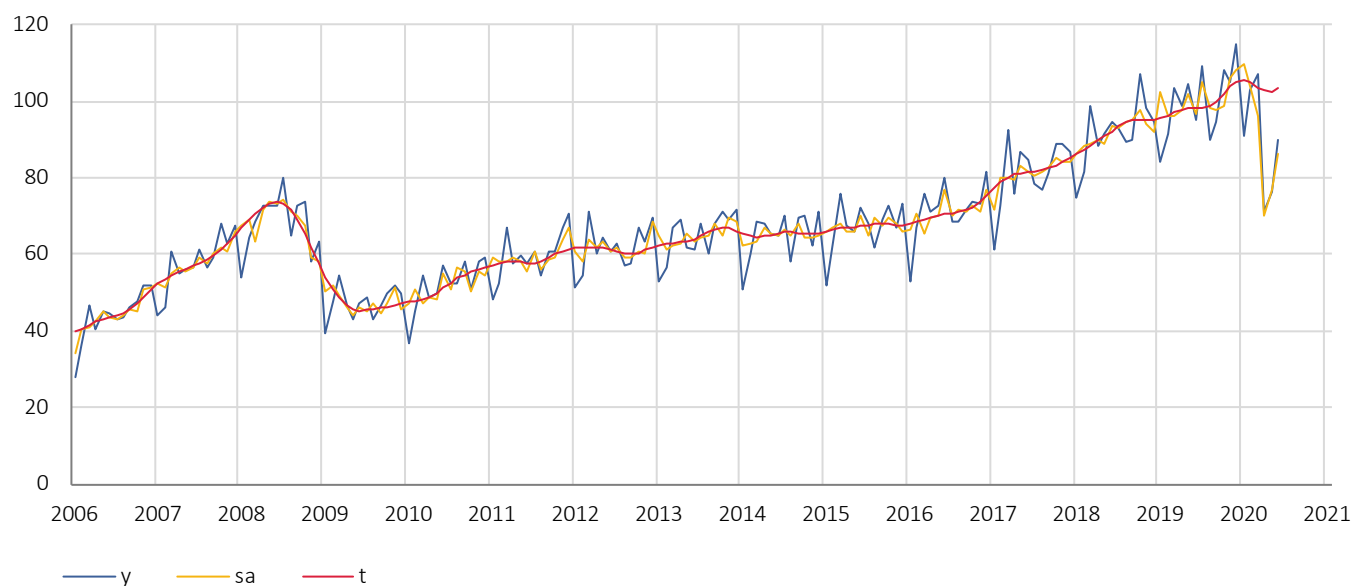


## 5.2. Total value of goods import<sup>10</sup>

Total value of goods import in Serbia in the period January - June 2020 decreased by 6.8% relative to the same period 2019. Import results were mostly influenced by the section of manufacturing (decrease of 5.8%), as it presents 76.5% of total imports, and 17.9% decrease in the section of mining and quarrying (7.9% of total imports in the first half of 2020).

**Graph 5.4. Components of import's time series, indices**

(y – original series, sa – series with excluded seasonal component, t – trend cycle component, average 2019 = 100)



**Table 5.2. Import of goods by CA (2010) sections, quarterly indices (%)**

(comparison with the same period of the previous year)

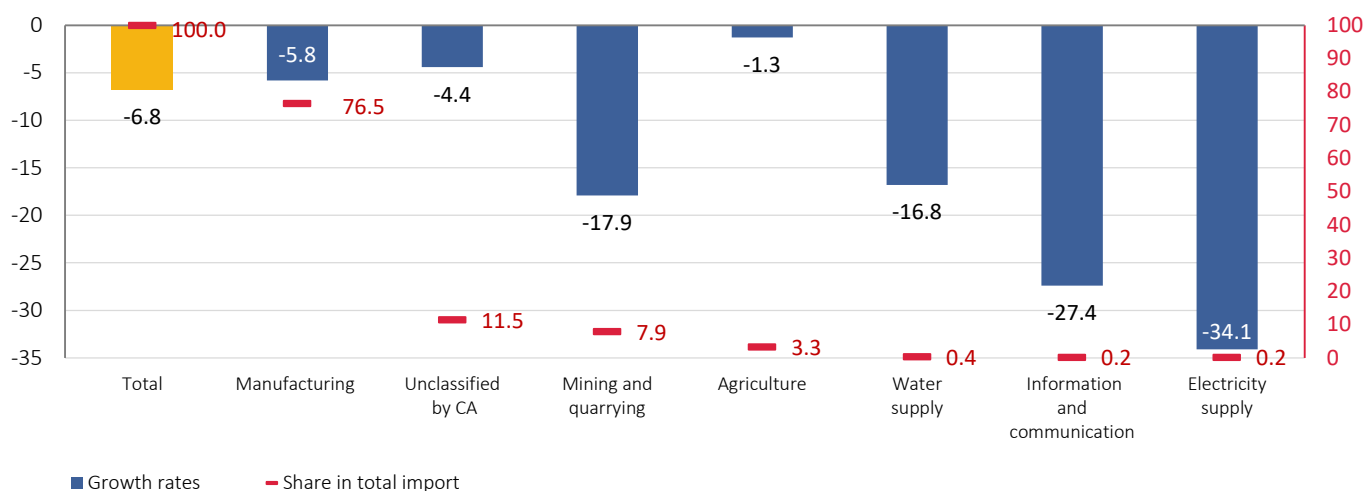
	2018				2019				2020		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q1+ Q2+Q3 <sup>1</sup>
Import – total	112.6	111.0	115.1	113.4	109.5	108.9	107.8	109.5	107.7	79.6	<b>93.0</b>
Manufacturing	118.6	109.9	110.6	109.3	107.4	110.1	112.3	113.3	108.9	80.6	...
Agriculture, forestry and fishing	99.7	90.9	85.1	78.2	110.5	121.2	95.8	101.3	103.0	94.5	...
Mining and quarrying	100.9	118.2	141.3	147.2	112.8	104.9	98.9	107.0	112.9	50.7	...

<sup>1</sup> Prognosis.

<sup>10</sup> Current exchange rate, EUR.

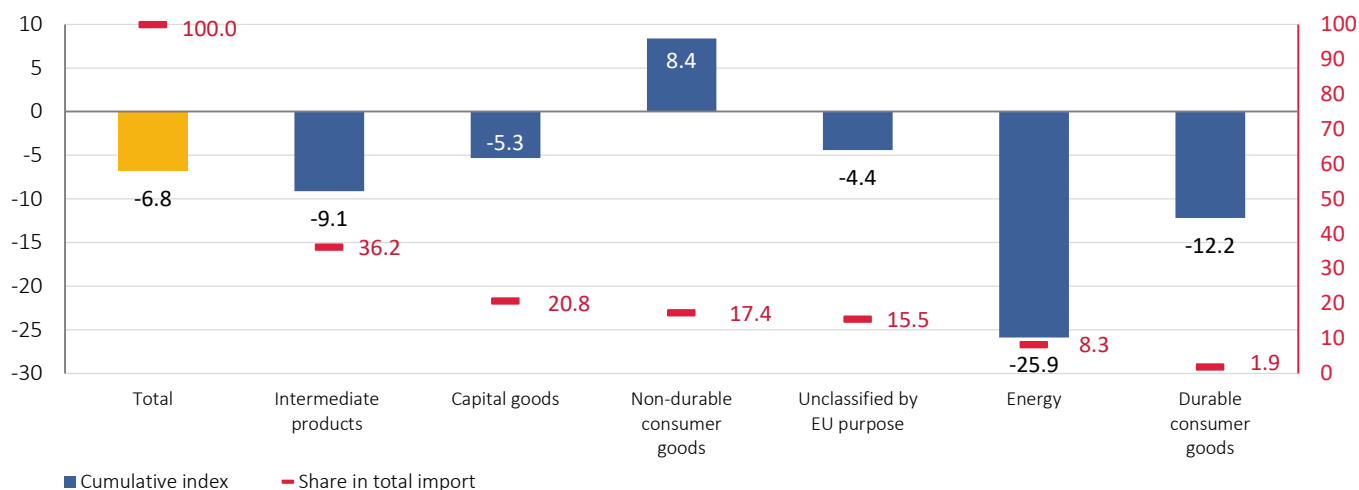
## 5. External trade

**Graph 5.5. Cumulative growth rates of import by CA (2010) sections and sections' share in import (%)**  
(January - June 2020 relative to the same period 2019)



Observed by MIGs, the greatest influence on total import in the period January - June 2020 related to intermediate products (share of 36.2%, decrease of 9.1%) and capital goods (share of 20.8%, decrease of 5.3%).

**Graph 5.6. Cumulative growth rates of imports according to the economic purpose of the European Union**  
(January - June 2020 relative to the same period 2019)



### 5.3. The most significant external trade partners

**Table 5.3. The major external trade partners**

Export	EUR mill.	Import	EUR mill.
Germany	997.8	Germany	1400.5
Italy	659.0	China	1269.1
Bosnia and Herzegovina	569.3	Russian Federation	891.6
Romania	483.2	Italy	873.3
Russian Federation	410.0	Hungary	524.3

The most significant external trade partners in the first half of 2020 were the countries with which Serbia has signed agreements on free trade. The EU member countries account for 60.4% of total external trade, followed by CEFTA countries. The major external trade partners are separately presented in Table 5.3.

## 5.4. Manufacturing (C)

(share of 90.4% in total export and 76.5% in total import)

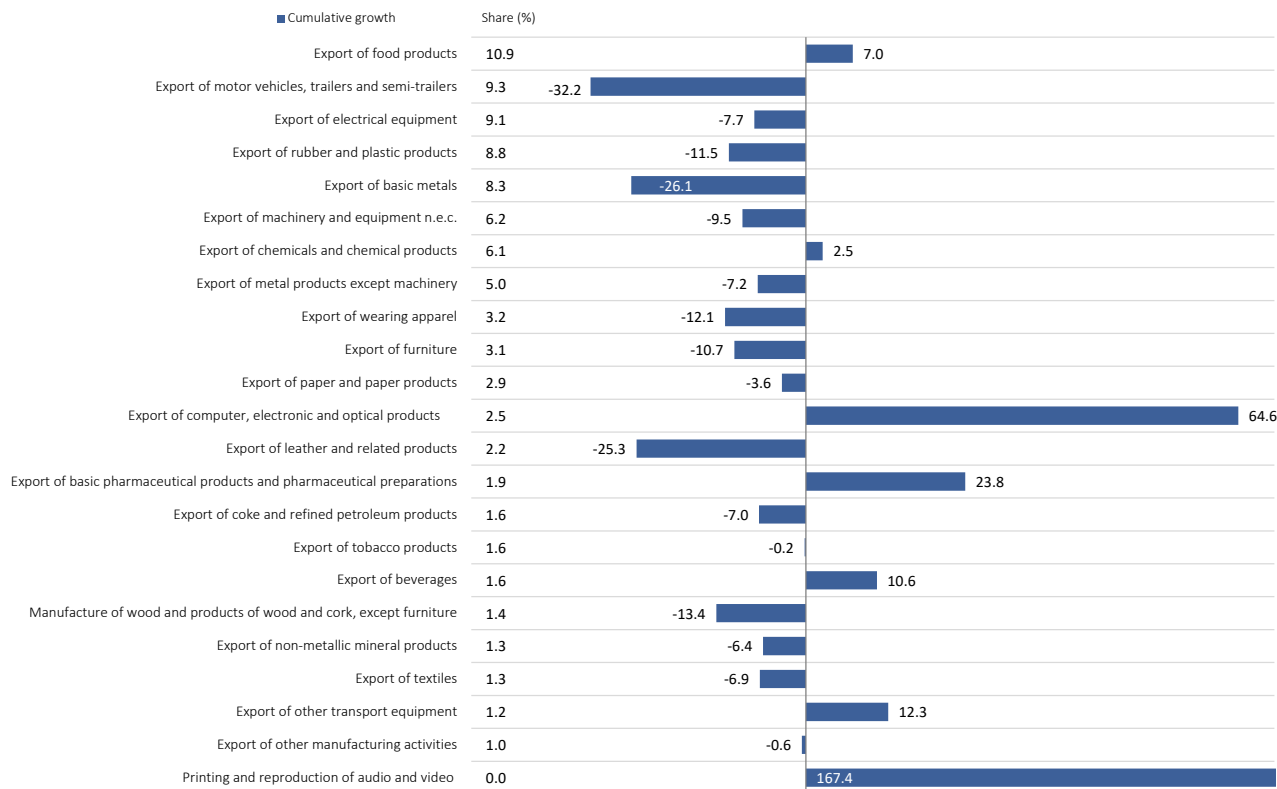
Export of manufacturing recorded fall of 10%, relative to the first half 2019. Out of 23 divisions, cumulative decrease was noted in 16 divisions, mutually participating in total export with 66.3%.

Export of food products, the division with the greatest separate export value of EUR 851.8 mill. recorded cumulative growth of 7% and increased share in total export- from 9.3% in the previous year to 10.9%.

Export of motor vehicles and trailers and semi-trailers, the division with the second highest export value (EUR 729.8 mill.), but with decreased share in total export, recorded cumulative fall of 32.2%, from 12.5% in the same period of the previous year, to 9.3%.

**Graph 5.7. Export of manufacturing by divisions, cumulative growth (%)**

(January - June 2020 relative to the same period 2019, by descending share in total export)



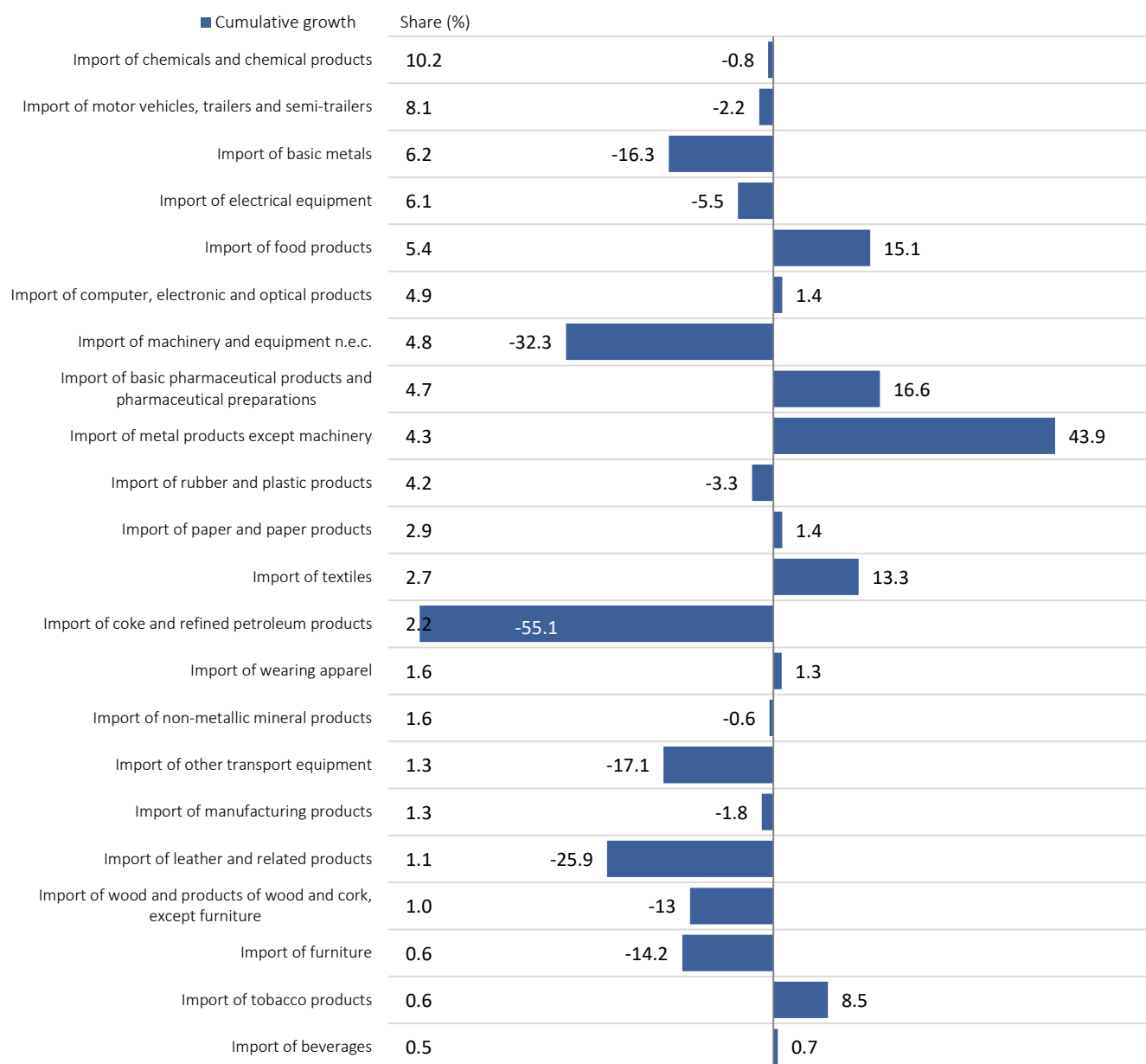
Import of manufacturing in the first half of 2020 relative to 2019 recorded decrease of 5.8%. Such result was mostly influenced by decreased import of chemicals and chemical products (0.8%, with share of 10.2% in total import), machinery and equipment n.e.c. (decrease of 2.2%, share of 8.1%), basic metals (decrease of 16.3%, share of 6.2%) and electrical equipment (decrease of 5.5% and share of 6.1%).

On the other hand, import of food products noted growth of 15.1% and increased share in total imports, from 4.3% in 2019 to 5.4%.

## 5. External trade

**Graph 5.8. Import of manufacturing by divisions, cumulative growth (%)**

(January - June 2020 relative to the same period 2019, by descending share in total import)



### 5.5. Agriculture, forestry and fishing (A)

(share of 7.7% in total export and 3.3% in total import)

Export in this section in the first six months of 2020 realized increase of 10.3%, as well as increased share from 6.4% to 7.7% relative to the period January - June 2019. The most significant division of this sector, Agriculture production, hunting and service related activities, participating with 98.6% in total export of the section, noted increase of 10.5%. Registered was cumulative increase of 9.8% in export of cereals (except rice), export of leguminous crops and oil seeds, the group that presents 66.9% of total exports of the section in the first half of 2020, as well as export of pome and stone fruit, with cumulative increase of 19.8% and share of 13.3%.

Import recorded decrease of 1.3%, while the share in total import remained on similarly the same level (3.2% i.e. 3.3%) relative to the same period of the previous year. This result was the most contributed by decreased import of tobacco by 28.6% and import of vegetables, root and carotid plants by 3.6%. On the other hand, realized was cumulative increase of 40.4% in import of tropical and subtropical fruits (9.6%), as well as import of cereals (except rice), leguminous crops and oil seeds of 7.1%. As these classes of CA (2010) make 68.0% of total import of the whole section, it can be said that structure of import in this section has been significantly changed relative to the previous year.

### 5.6. Mining and quarrying (B)

(share of 0,4% in total export and 7.9% in total import)

The section of Mining and quarrying, with the share of 0.4% in total export noticed cumulative export decrease of 7.6% relative to the period January - June 2019. Decreased export in this section was registered in metal ores' export (6.6%) as it presents 76.5% of export of the whole section of Mining and quarrying, as well as decreased export of other mining and quarrying of 7.1% (share of 18.1%).

Import of this section (share of 7.9% in total import) recorded fall of 17.9% relative to the first half of 2019. The greatest import decrease relative to the first half of 2019 was noted in import of metal ores (cumulative decrease of 54%, share of 17.7%) and import of crude petroleum and natural gas, which make 72.7% of total section's import (cumulative decrease of 1.5%).

#### 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 period January – June 2020, relative to the same period 2019, increased by 4.1% at current and by 4.7% at constant prices.

**Table 6.1. Retail trade turnover, quarterly indices (%)**

(comparison with the same period of the previous year)

	2018				2019				2020		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q1+ Q2+Q3 <sup>1</sup>
Current prices	104.7	105.8	108.6	107.9	112.4	110.7	109.5	112.9	111.4	97.9	<b>105.0</b>
Constant prices <sup>2</sup>	103.5	103.6	105.1	105.0	109.4	108.0	108.5	111.7	110.0	100.0	<b>105.0</b>

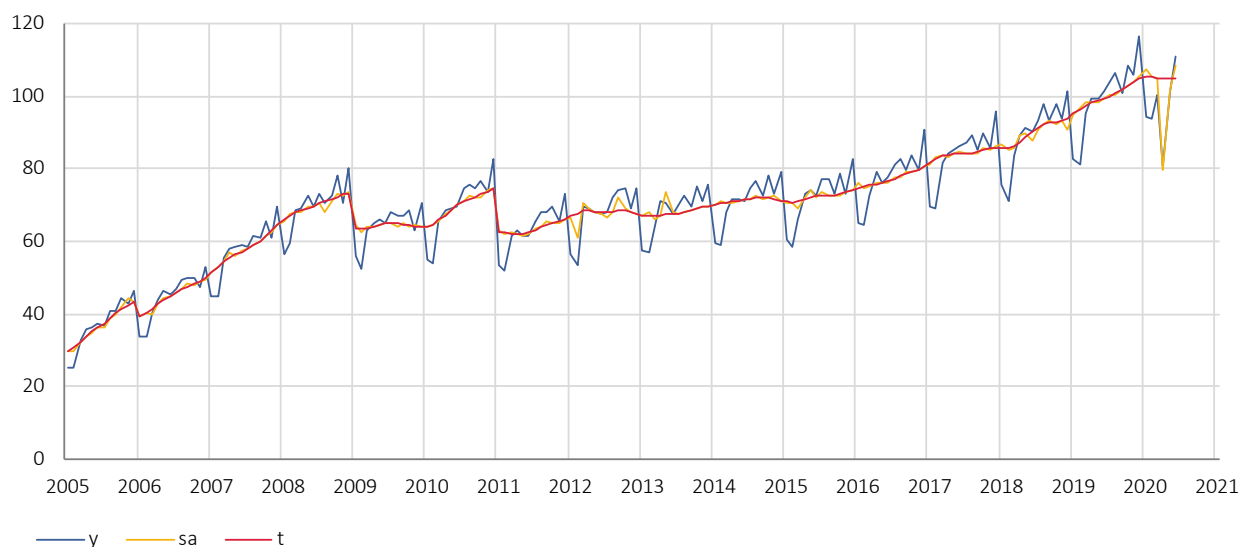
<sup>1</sup> Prognosis.

<sup>2</sup> Indices are recalculated through monthly indices at constant prices.

Observed relative to 2019 average, noted was significant decrease in retail trade in April, followed by better results in the following two months, both at current and at constant prices. The long-term trend in the first half of 2020 was slightly increasing and above the last year's average (on average, by 4.9% at current, i.e. by 5.6% at constant prices).

**Graph 6.1. Components of time series of retail trade turnover at current prices, indices**

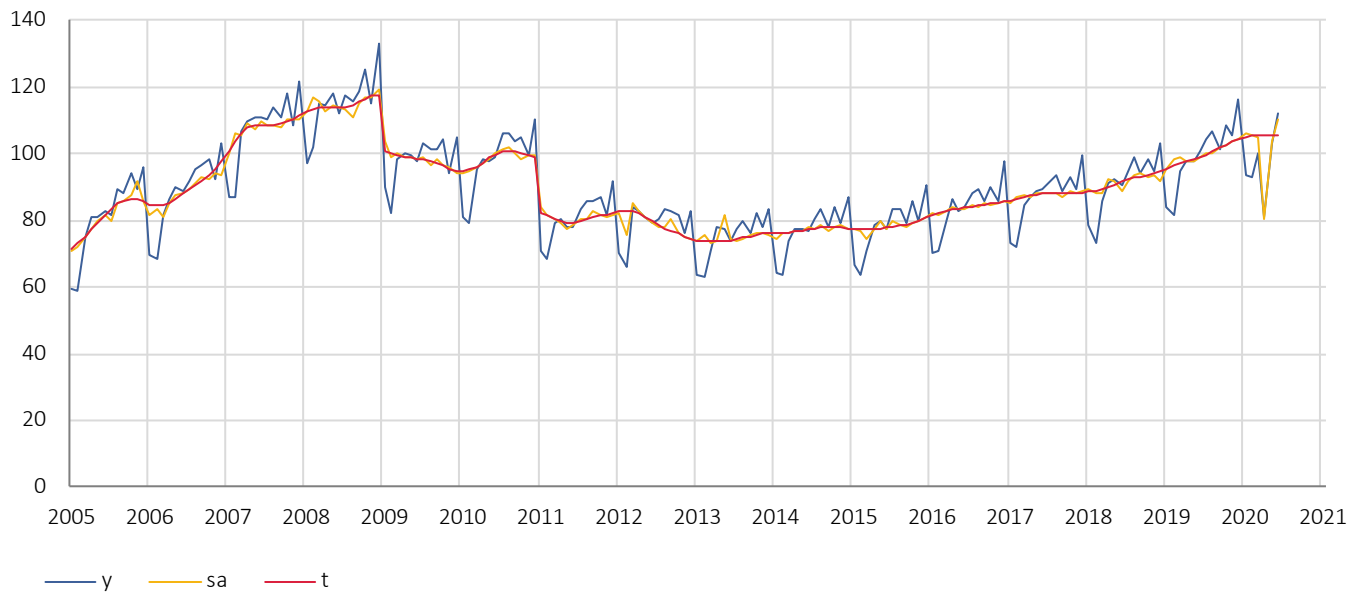
(y – original series, sa – series with excluded seasonal component, t – trend cycle component, average 2019 = 100)



## 6. Domestic trade

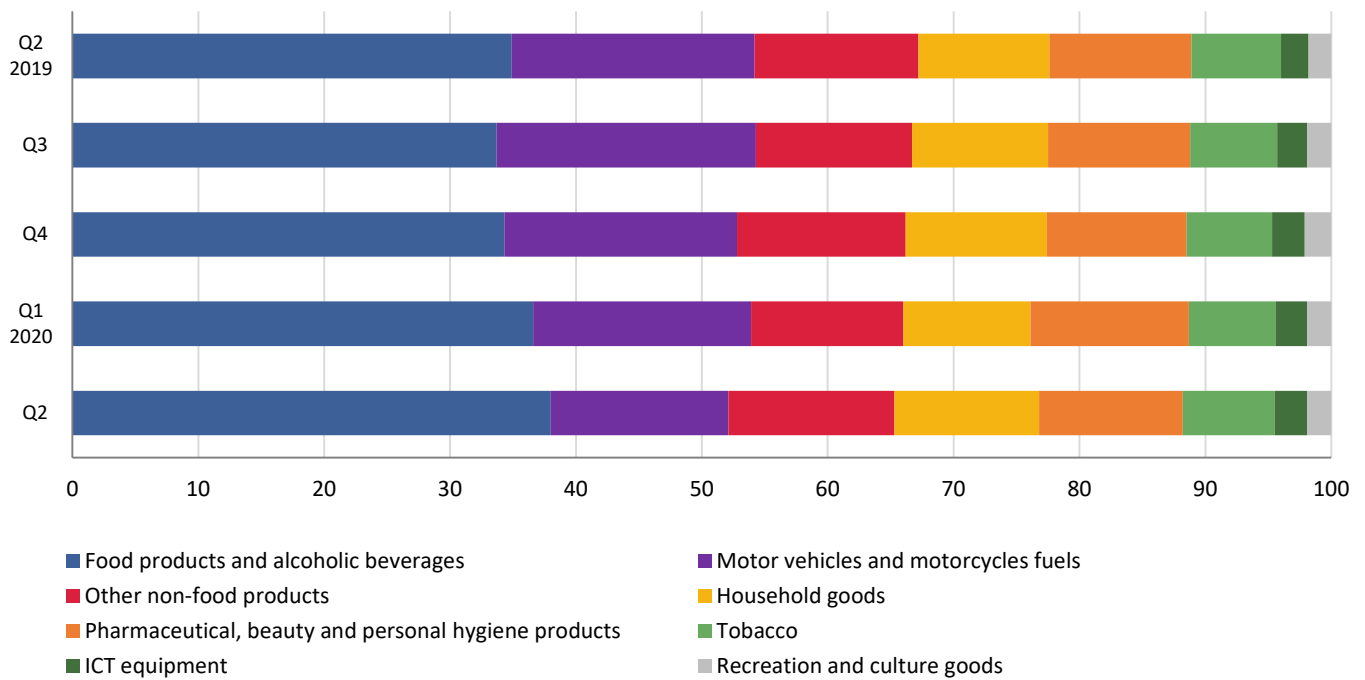
**Graph 6.2. Components of time series of retail trade turnover at constant prices, indices**

(y – original series, sa – series with excluded seasonal component, t – trend cycle component, average 2019 = 100)



Observed by **trade divisions and commodity groups**, in the second quarter 2020, similar as in the previous quarters, in turnover structure in retail trade, the most notable were food products and alcoholic beverages (38.0%), followed by motor vehicles and motorcycles fuels (14.1%) and other non-food products (13.2%).

**Graph 6.3. Structure of retail trade turnover by trade divisions and commodity groups (%)**



# 6.Domestic trade

## 6.2. Wholesale trade turnover

(Division 46 of the Classification of Activities)

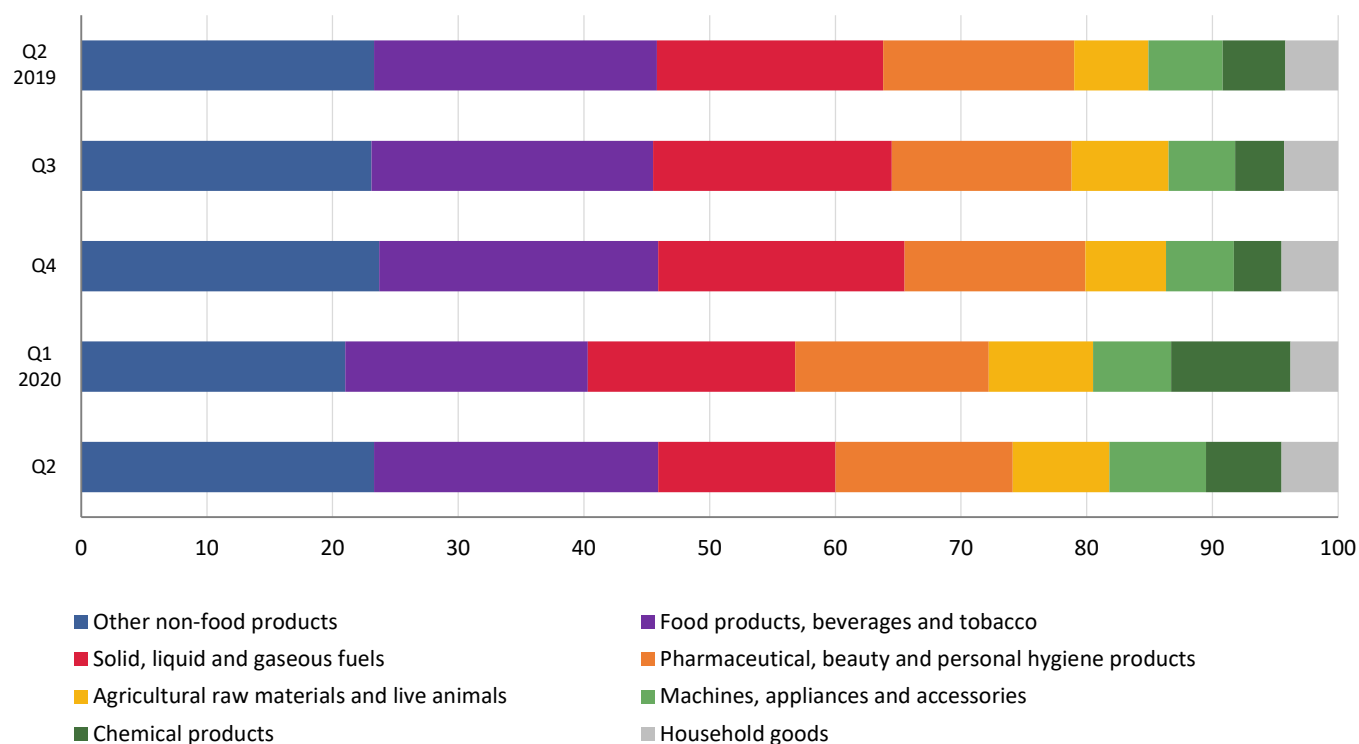
Wholesale trade turnover in the first half of 2020, compared with the same period 2019 noted decrease of 6.0% at current prices.

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

	2018				2019				2020	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Current prices	104.3	110.2	111.5	107.6	107.8	104.1	103.8	107.1	101.9	86.7

Observed by **trade divisions and commodity groups**, in wholesale trade turnover, in the second quarter of 2020, the most notable were other non - food products (23.3%), followed by food products, beverages and tobacco (22.6%), solid, liquid and gaseous fuels and pharmaceutical, beauty and personal hygiene products, with similar shares (14.1%).

**Graph 6.4. Structure of wholesale trade turnover by trade divisions and commodity groups (%)**



## 6.3. Turnover in wholesale and retail trade and motor vehicles repair

(Division 45 of the Classification of Activities)

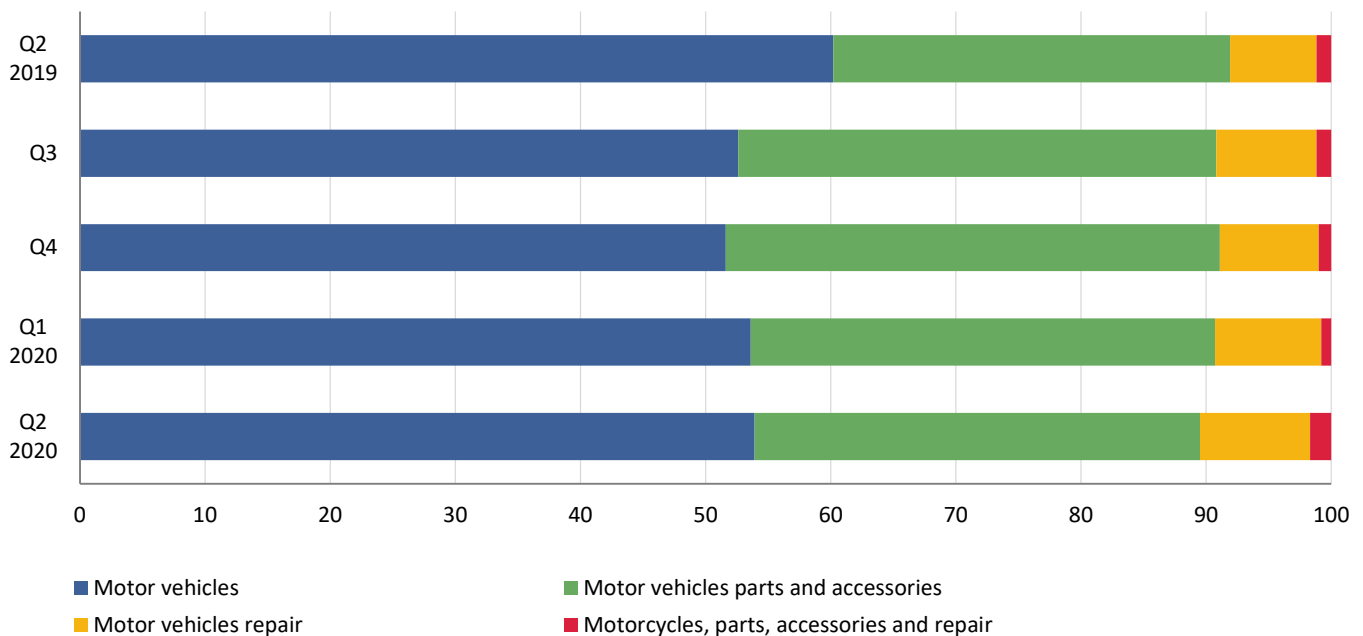
Turnover of goods in wholesale and retail trade and repair of motor vehicles in the first half of 2020, relative to the same period 2019, recorded decrease of 14.4% at current prices.

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

	2018				2019				2020	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Current prices	104.1	108.4	113.4	112.2	113.3	111.8	108.8	111.0	95.9	77.6

Observed by **trade divisions and commodity groups**, in the second quarter 2020, relative to the first quarter 2020, there were no significant changes regarding the structure of wholesale and retail trade turnover and motor vehicles repair. The most notable were motor vehicles (53.9%), followed by motor vehicles parts and accessories (35.6%).

**Graph 6.5.** Structure of wholesale and retail trade turnover and motor vehicles repair by trade divisions and commodity groups (%)



### **i** 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

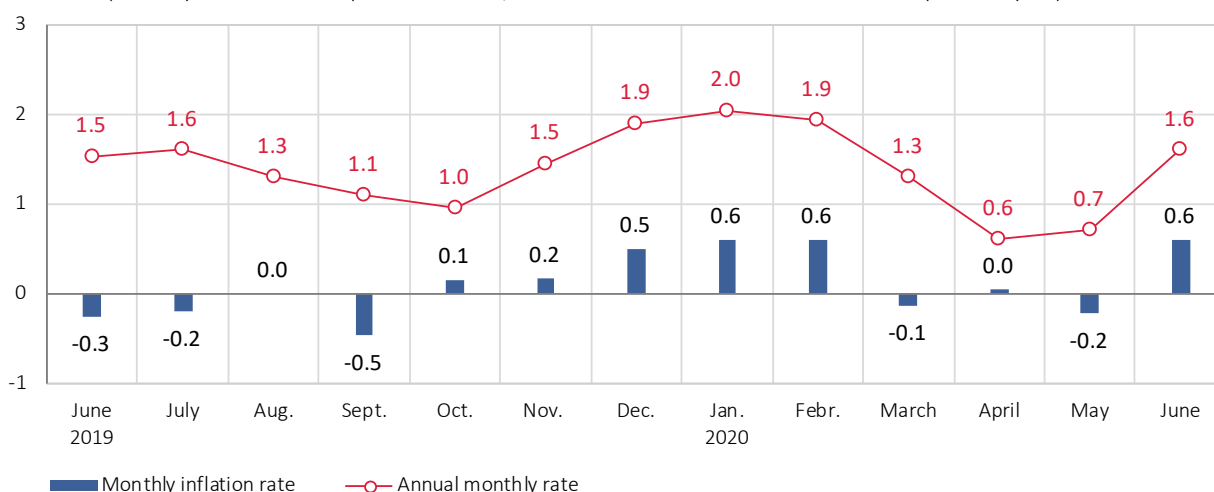
In Q2 2020 consumer prices saw a year-on-year increase of 1.4%, being in the scope of the interval targeted by the National Bank of Serbia for 2020, amounting to 3% ± 1.5 pp.

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

	2019				2020			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3 <sup>1</sup>	Q4 <sup>1</sup>
Consumer prices (CPI)	2.4	2.3	1.3	1.4	1.8	1.0	1.8	<b>2.8</b>

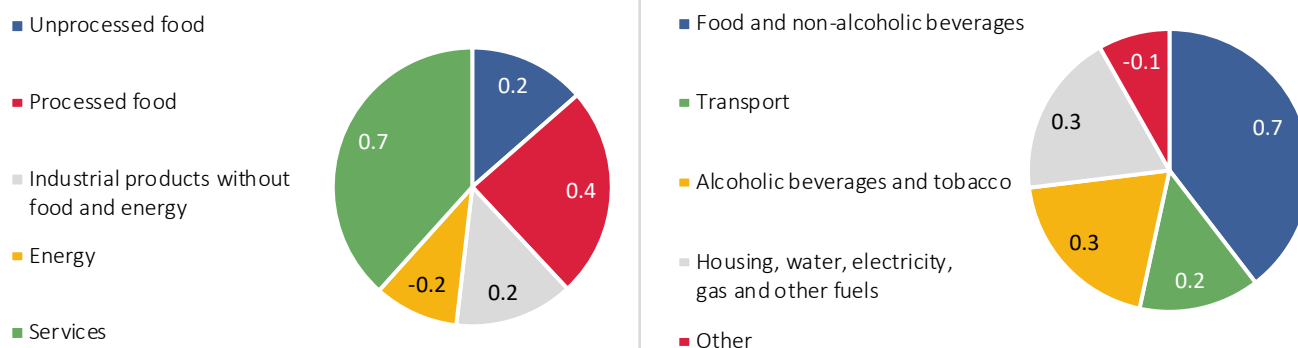
<sup>1</sup> Forecast based on the leading indicator IPC.

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



Observed **by purpose**, the largest influence on the total consumer price growth in Q2 2020 was that of prices of processed food and prices of services. Observed by main divisions of consumption, the largest contribution was that of prices of food and non-alcoholic beverages, alcoholic beverages and tobacco as well as of housing, water, electricity, gas and other fuels.

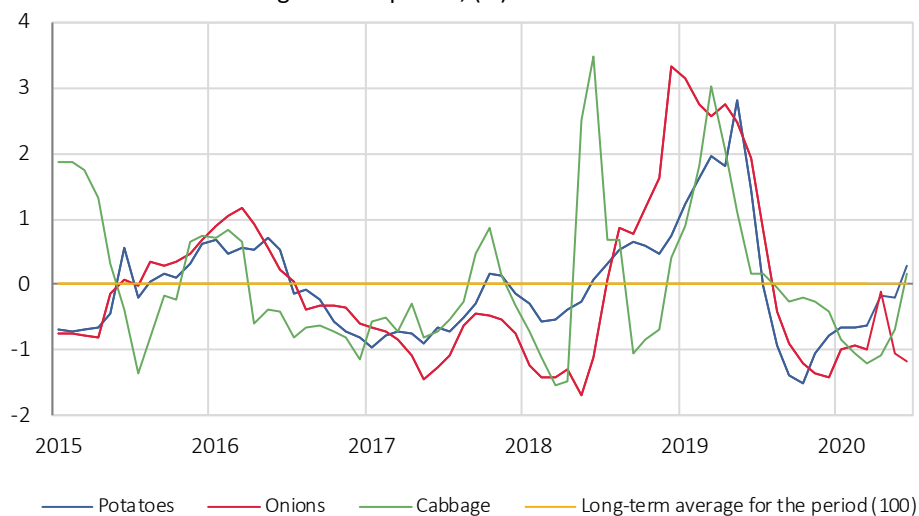
**Chart 7.2. Structure of the annual consumer price growth rate in Q2 2020 by purpose and main divisions of products (pp.)**



## 7.1. Food and non-alcoholic beverages (contribution to the year-on-year growth rate of 0.7 pp.)

### Vegetables

**Graph 7.3.** Retail price of potatoes, onion and cabbage, seasonally adjusted, detrended and standardised data, deviation from the average for the period, (%)

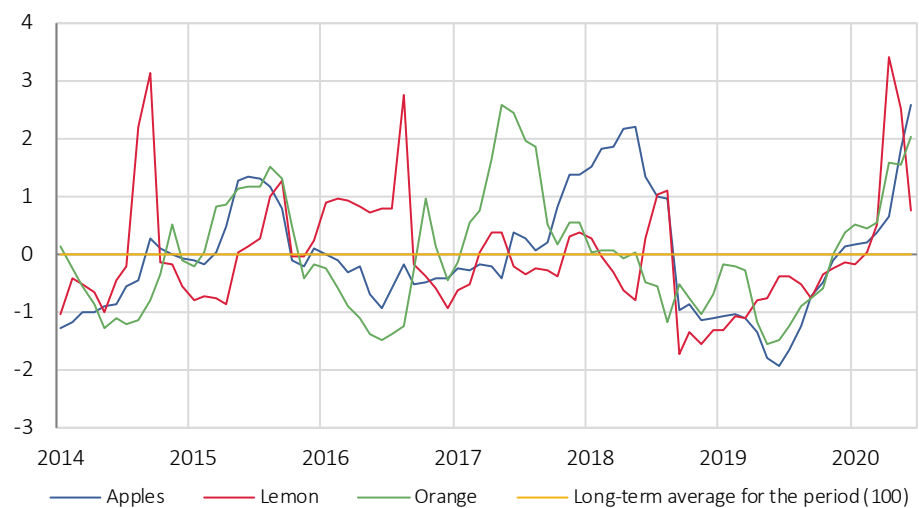


In Q2 2020, it was the only deflationary element in the total price of food, with a year-on-year fall of 10.4%.

In the structure of the year-on-year fall of prices of vegetables in Q2 the largest share was that of the prices of potatoes (36.5%), onions (22.1%) and cabbage (32.7%). The index of producers' prices of vegetables followed entirely the cyclical trend of average retail prices of vegetables and in Q2 it saw a year-on-year fall of 28.8%.

### Fruit

**Chart 7.4.** Movement of retail prices<sup>11</sup> of apples and oranges; seasonally adjusted, detrended and standardised data, deviations from the average for the period, (%)



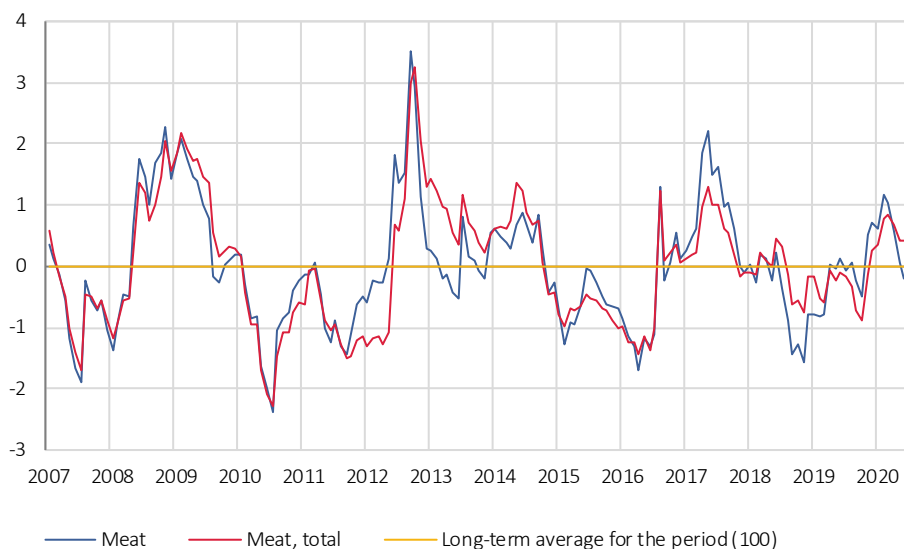
In Q2 2020, in the total structure of the annual growth rate of the price of food and non-alcoholic beverages, the increase in the price of fruit of 12.9%, with meat, remained the most deflationary element. The largest influence on the growth of the price of fruit was that of apples, lemons and oranges.

<sup>11</sup> Even though in the structure of the price of the total basket of fruit the largest is that of bananas, apples, nuts and oranges, the most representative indicators of the total price of fruits are apples and nuts, the most representative indicators of the price of fruit are apples and nuts, which cycles of retail prices are highly correlated with the average price of the total basket of fruits, during the whole period starting from 2007.

# 7. Prices

## Meat

**Chart 7.5.** Retail price of meat (total) and pig meat, seasonally adjusted, detrended and standardised data, deviations from the average for the period, (%)



In Q2 2020, the year-on-year increase in the price of meat (5.7%) had the largest positive contribution to the increase in the price of food. In the structure of the year-on-year price of meat in Q2, the increase in the price of pig meat had the largest share of even 63.2%, while the remnant referred to minor price growths of dried, smoked and salted meat, and other types of meat, except beef, where fall was recorded due to unrealised arrangements with China and Turkey. In Q2, the price of beef saw an annual fall of 6.2%.

## 7.2. Alcoholic beverages and tobacco (contribution to the year-on-year growth rate of 0.3 pp.)

The movement of the price of the division of products alcoholic beverages and tobacco is dominantly determined by the price of tobacco<sup>12</sup>.

Government levies since 1 January 2020 in the price of one pack of cigarettes increased by 1.5 dinars and amount to RSD 73.4. Consequently, the annual growth of tobacco price in Q2 amounted to 7.3% and accounted for 20.7% of the annual growth rate of total consumer prices.

**Table 7.2** Tax structure of the contribution of the year-on-year tobacco growth rate

	2018				2019				2020	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Tobacco price, growth rate, (%)	7.2	8.6	8.2	8.2	8.0	7.9	6.9	7.6	7.4	7.3
<b>Fiscal levies</b>	5.1	6.1	5.9	5.9	5.7	5.4	4.8	5.2	5.0	5.0
<i>Specific excise</i>	1.3	1.5	1.5	1.5	1.4	1.2	1.1	1.1	1.1	1.1
<i>Proportional excise (33%)</i>	2.4	2.9	2.7	2.7	2.7	2.6	2.3	2.5	2.5	2.4
<i>VAT (20%)</i>	1.4	1.7	1.6	1.6	1.6	1.6	1.4	1.5	1.5	1.5
<b>Other levies</b> (merchant margins and producers' costs)	2.1	2.5	2.3	2.3	2.3	2.5	2.1	2.4	2.3	2.3

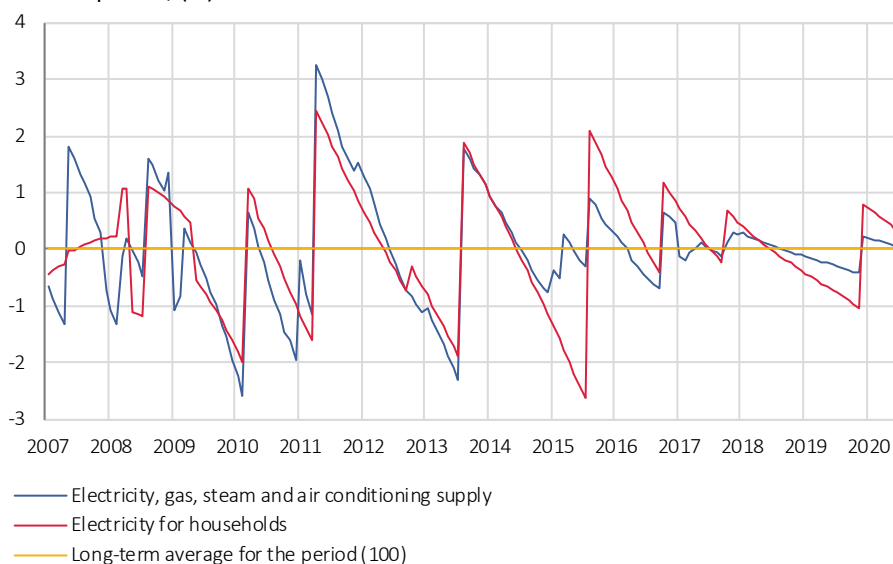
<sup>12</sup> Tobacco price is a result of a harmonized excise policy, according to which, by the excise calendar 2018-2020, every January and June the specific excise on tobacco increased by 1.5 dinar, with the included proportional excise (of 33%) on cigarettes and added VAT (f 20%).

Table 7.2. Tax structure of the contribution of the year-on-year tobacco growth rate (continued)

		2018				2019				2020	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Ratio of fiscal levies to Other levies		2.5	2.5	2.5	2.5	2.4	2.1	2.3	2.1	2.1	2.1
Share in the annual tobacco price growth price	Fiscal levies. %	71.5	71.2	71.4	71.4	70.9	68.2	69.6	68.2	68.2	68.2
	Other levies. %	28.5	28.8	28.6	28.6	29.1	31.8	30.4	31.8	31.8	31.8

### 7.3. Housing, water, electricity, gas and other fuels (contribution to the year-on-year growth rate of 0.3 pp.)

Chart 7.6. Movement of the price of electricity for households and producers prices of the section Supply of electricity, gas, steam and air conditioning supply, detrended and standardised data, deviations from the average for the period, (%)



The increase in the price of electricity for households (from December 2019) and the increase in the price of solid fuels made the increase in price of the sub-group Electricity, gas and other fuels to account for 21.6% in the year-on-year consumer price growth price in Q2. In Q2, the total annual growth of prices of Housing, water, electricity, gas and other fuels amounted to 2.5%..

## 8. Labour market

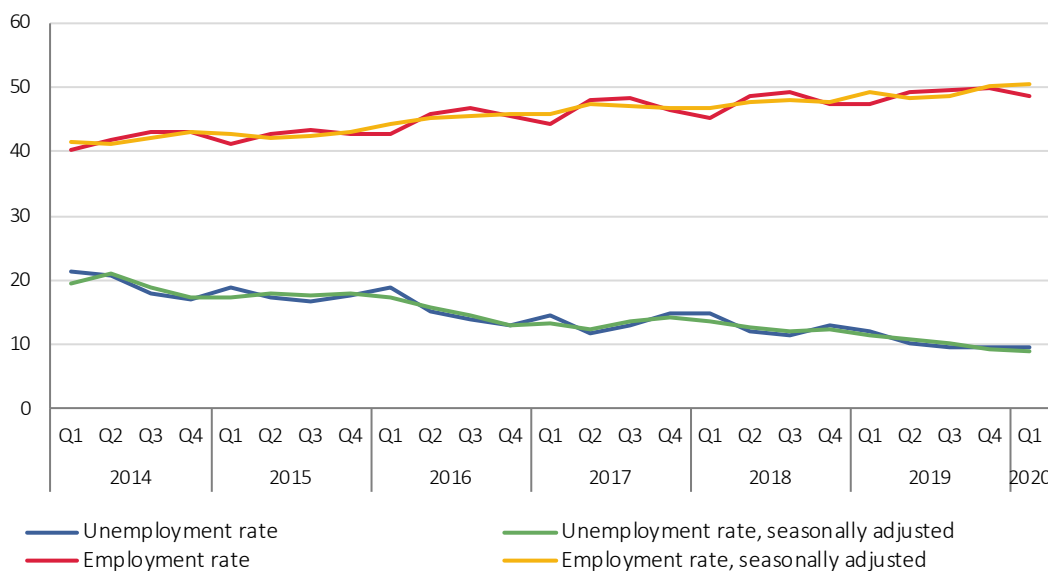
In Serbia in the second quarter of 2020 there were 2.8 million persons employed, 222.9 thousand persons unemployed and 2.8 million of inactive persons aged over 15<sup>13</sup>.

The unemployment rate amounted to 7.3% and, when compared with the first quarter of 2020, it was lower by 2.5 pp., and the number of unemployed persons was smaller by 87.4 thousand. At the same time the number of inactive persons grew by 113.1 thousand.

The unemployed rate is, when compared with the first quarter of 2020, diminished in all regions: in Region Vojvodine from 8.4% to 6%, in Beogradski region from 7.1% to 6.1%, in Region Šumadije i Zapadne Srbije from 11.5% to 7.8% and in Region Južne i Istočne Srbije from 12.3% to 9.6%.

The COVID-19 pandemics influence is obvious through the movement of the rates of employment, unemployment and inactivity. In this quarter, except for the inactivity rate, a fall of all the remaining indicators was recorded. The number of inactive persons was 2.8 million, while the inactivity rate was 48.0% and represented an increase of 2.0 pp. Relative to the same quarter of the previous year.

**Chart 8.1.** Movement of the employment and unemployment rates for persons aged 15 and over, (%)



The unemployment rate in the second quarter of 2020 amounted to 7.3%, and after elimination of the seasonal component it was 7.9%.

In the same period, the employment rate amounted to 48.2%, and after elimination of the seasonal component to 47.9%.

**Table 8.1.** Activity, employment and unemployment rates - non-seasonally adjusted and seasonally adjusted values

	2019				2020	
	Q1	Q2	Q3	Q4	Q1	Q2
<b>Activity rate, (%)</b>	<b>53.9</b>	<b>54.8</b>	<b>54.8</b>	<b>55.0</b>	<b>54.0</b>	<b>52.0</b>
Seasonally adjusted values	54.8	54.3	54.3	55.1	54.8	52.0
<b>Employment rates, (%)</b>	<b>47.4</b>	<b>49.2</b>	<b>49.6</b>	<b>49.7</b>	<b>48.7</b>	<b>48.2</b>
Seasonally adjusted values	49.2	48.2	48.4	50.1	50.4	47.9
<b>Unemployment rates, (%)</b>	<b>12.1</b>	<b>10.3</b>	<b>9.5</b>	<b>9.7</b>	<b>9.7</b>	<b>7.3</b>
Seasonally adjusted values	11.3	10.8	10.1	9.3	9.1	7.9

<sup>13</sup> According to the Labour Force Survey.

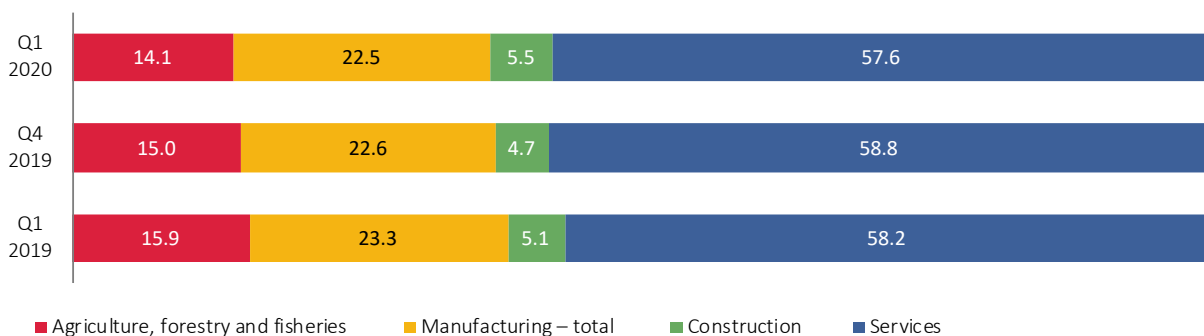
## 8. Labour market

**Table 8.2. Labour market - persons aged 15 and over**

	Current quarter	Previous quarter		The same quarter of the previous year	
	Q2 2020 (in thous.)	Q1 2020 (in thous.)	Change, (%)	Q2 2019 (in thous.)	Change, (%)
Unemployment	222,9	310,3	-28.2	334,0	-33.3
Employment	2 844,2	2 877,4	-1.1	2 916,5	-2.5
	%	%	Change, pp.	%	Change, pp.
Unemployment rate	7.3	9.7	-2.4	10.3	-3.0
Employment rate	48.2	48.7	-0.5	49.2	-1.0

Observed by sections, the largest number of employees in the second quarter of 2020 was recorded in Services (57.6%), in Manufacturing (22.5%) and Agriculture (14.4%), and the lowest in Construction (5.5%). When compared with the previous quarter, the largest fall of the share of employees was in Services (from 58.8% to 57.6%), while Construction was the only section that saw a growth of the share of employees (with 4.7% to 5.5%). The same tendencies of movements of the share of employees by sections were also present in the year-on-year comparison (Quarter I 2019 - Quarter II 2020), but in this period the largest fall of the share of employees was recorded in the section Agriculture, forestry and fisheries – from 1.5 pp. (from 15.9%, to 14.4%).

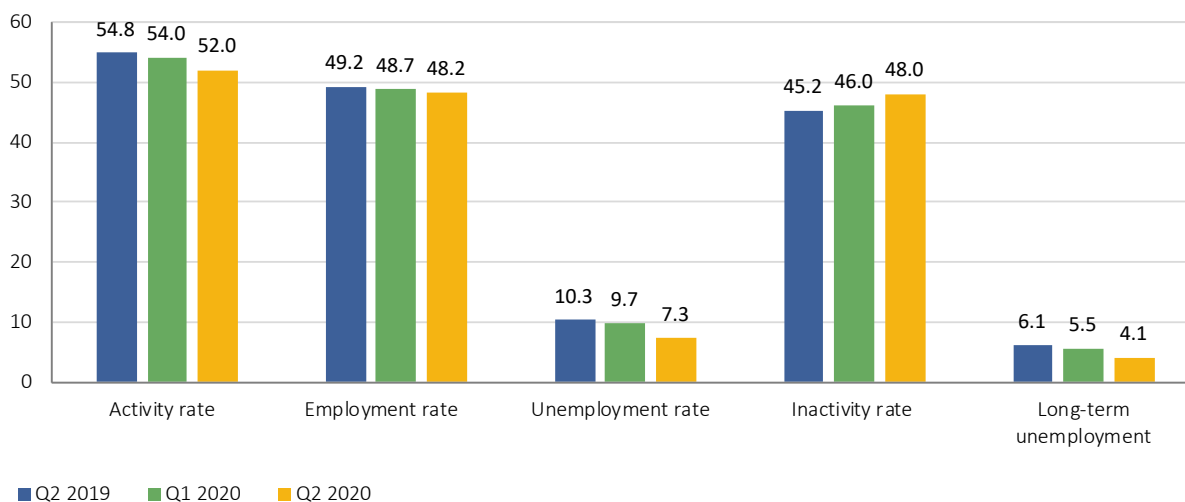
**Chart 8.2. Share of employees by sections, (%)**



Even though fluctuating and under the influence of seasonal movements, labour market indicators in this quarter indicate a decreasing tendency of unemployment, employment and activity in favour of inactivity. The COVID-19 pandemics contributed significantly to such atypical movements of the previously defined indicators.

## 8. Labour market

Char 8.3. Labour market - major indicator for the previous quarter, the same quarter of the previous year and current quarter, (%)



### 8.1. Influence of the COVID-19 pandemic on the labour market

In the second quarter of 2020 changes in the labour market were under a large influence of the COVID-19 pandemic. The recent economic crisis led to unemployment decrease because the individuals who could not seek employment or did not have the possibility to start working on account of prevention of virus dispersion are not considered unemployed (according to the ILO concept) but inactive persons.

According to the definition of the International Labour Organisation, unemployed persons are persons who did not perform any paid job in the reference week, actively sought employment during four weeks and who were able to start working within two weeks after the end of the reference week.

It is precisely such a passage of persons - from the remaining labour market categories into to the contingent of inactive persons - that is the characteristic of the second quarter of 2020. Graph 8.3 clearly shows that inactivity is the only one that saw an increase from 45.2% in Q2 2019, up to the maximum value of 48.0% in Q1 2020. In the same period, all the other categories recorded a decrease and, both when compared with the previous one and with the same quarter of the previous year.

In accordance with the Eurostat recommendations, a number of indicators are used to obtain a precise picture of the influence of the COVID-19 pandemic on the labour market. These indicators comprise:

- 1) Labour market slack, which represents the share of: 1) unemployed persons; 2) employed persons working part-time, and wanting to work more; 3) those who seek employment, but not able work and 4) those who are able to work, but do not seek employment, in the extended labour force, the latter including all the employed, unemployed and potential labour force (those who are able to work, but do not seek employment and those who seek employment, but are unable to start working).

The indicator shows a disproportion between the offer and demand on the labour market, and in circumstances of normal economic development is stable. Usually it grows when the labour market suffer socio-economic shocks. Concretely, in Q2

## 8. Labour market

2020 there was a labour market slack, knowing that the job offer increased relative to the previous quarters, and job demand decreased.

Labour market slack in the second quarter of 2020 reached a value of 19.9% and saw an increase of 0.4 pp. Relative to the same quarter of the previous year. The increase of this indicator in the year-on-year period indicates economic shocks recorded in this quarter due to the COVID-19 pandemic.

- 2) The absence of work is measured by the share of the employed who are absent from work in the total number of the employed. In the second quarter of 2020 11.4% of employees were absent from work, which is by 2.4 pp. more than in the first quarter of 2020, and by 6.0 pp. more than in the same period of the previous year.
- 3) Remote work, measured by the share of the number of remote employees in the total number of employees amounted to 12.1% in the second quarter, by 2.9 pp. more than in the first quarter of 2020, and by 4.0 pp. more than in the same period of the previous year.

### 8.2. Comparison with the same quarter of the previous year

When compared with the same quarter of the previous year, the number of the unemployed decreased by 33.3% (from 334 thousand to 222.9 thousand). At the same time, the number of employed persons fell by 2.5% (from 2 916.5 in the second quarter of 2019 to 2 844.2 in the second quarter of 2020).

The youth unemployment rate (aged from 15 to 24) in the second quarter of 2020 amounted to 20.7%, by 3.7 pp. lower than in the second quarter of 2019, when it amounted to 24.4%. The highest youth unemployment rate was recorded in Region Južne i Istočne Srbije (29.9%), and the lowest in Region Vojvodine (15.4%).

The long-term unemployment rate (share of persons unemployed more than one year in the active population aged 15 and over) amounted to 4.1%, by 2 pp. less than in the second quarter of 2019 (when it was 6.1%).

Observed by sex, in the second quarter of 2020, unemployment rates of 7.6% for women and 7% for men were registered. Compared with the same quarter of 2019, the unemployment rate was lower by 3.4 pp. for women, and by 2.7 pp. For men. Observed by region, the unemployment rate for men fell in all the regions: in Beogradski region, from 6.8% to 6.2%, Region Vojvodine, from 9.2% to 6.3%, Region Zapadne Srbije Šumadije, from 10.6% to 7.2%, and in Region Južne i Istočne Srbije, from 12.1% to 8.5%

Similar trends were recorded with the female population: the unemployment rate fell in all four regions: in Beogradski region, from 8.8% to 5.9%, Region Vojvodine, from 10.6% to 5.6%, Region Južne i Istočne Srbije, from 13.5% to 11%, and in Region Šumadije i Zapadne Srbije from 11.8% to 8.4%.

Observed by professional status, compared with the same quarter of 2019, the number of employed persons fell only in all the categories. The number of self-employed decreased by 4.0%, while contributing family members and the employed saw the number of the employed of 14.0% and 1.2%, respectively.

**Table 8.3.** Employment by professional status, comparison of Q2 2019 – Q2 2020

	Q2 2019 (in thous.)	Q2 2020 (in thous.)	Change, (%)
<b>Employed persons – total</b>	<b>2 916,5</b>	<b>2 844,2</b>	<b>-2.5</b>
Self-employed	670,8	643,9	-4.0
Employed	2 108,3	2 082,1	-1.2
Contributing family members	137,4	118,2	-14.0

## 8. Labour market

### 8.3. Comparison with the previous quarter

When compared with the first quarter of 2020, the number of unemployed persons fell by 87,4 thousand and the number of employed persons fell by 33,2 thousand persons.

The youth unemployment rate (aged from 15 to 24) in the second quarter of 2020 amounted to 20.7%, by 4.8 pp. less than in the first quarter of 2020. Long-term unemployment rate amounted to 4.1%, by 1.4 pp. smaller than in the first quarter of 2020, when it was 5.5%.

Observed by the unemployment rate for men fell by 2.3 pp. and for women by 2.6 pp. in the second quarter of 2020, when compared with the first quarter of 2020. The unemployment rate among men decreased in all regions in Beogradski Region, from 7.4% to 6.2%, in Region Vojvodine, from 10.3% to 6.3%. In Region Šumadije i Zapadne Srbije, the unemployment rate fell from 10% to 7.2%, and in Region Južne i Istočne Srbije, from 11.4% to 8.5%.

Among women the unemployment rate shows the same trends and decreased in all regions: in Beogradski region, from 6.8% to 5.9%, in Region Vojvodine, from 7.8% to 5.6% in Region Šumadije i Zapadne Srbije, from 13.4% to 8.4%, and in Region Južne Srbije i Istočne Srbije, from 13.5% to 11%.

Observed by professional status, when compared with the previous quarter, the number of employed persons grew only in the category of the self-employed (by 2.3%), while contributing family members and the employed saw a fall in the number of employed persons, of 18.7% and 1.0%.

**Table 8.4. Employment by professional status, comparison Q1 2020 – Q2 2020.**

	Q2 2019 (in thous.)	Q2 2020 (in thous.)	Change, (%)
<b>Employed persons – total</b>	<b>2 877,4</b>	<b>2 844,2</b>	<b>-1.2</b>
Self-employed	629,4	643,9	2.3
Employed	2 102,7	2 082,1	-1.0
Contributing family members	145,3	118,2	-18.7

#### Glossary

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

Employed persons are persons aged 15 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.

Unemployed persons are persons aged 15 and over 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.

Inactive 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 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.

Inactivity 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 second quarter of 2020 amounted to 59 190 dinars. Compared with the same period of the previous year, they were nominally up by 8.5%, and in real terms by 7.4%.

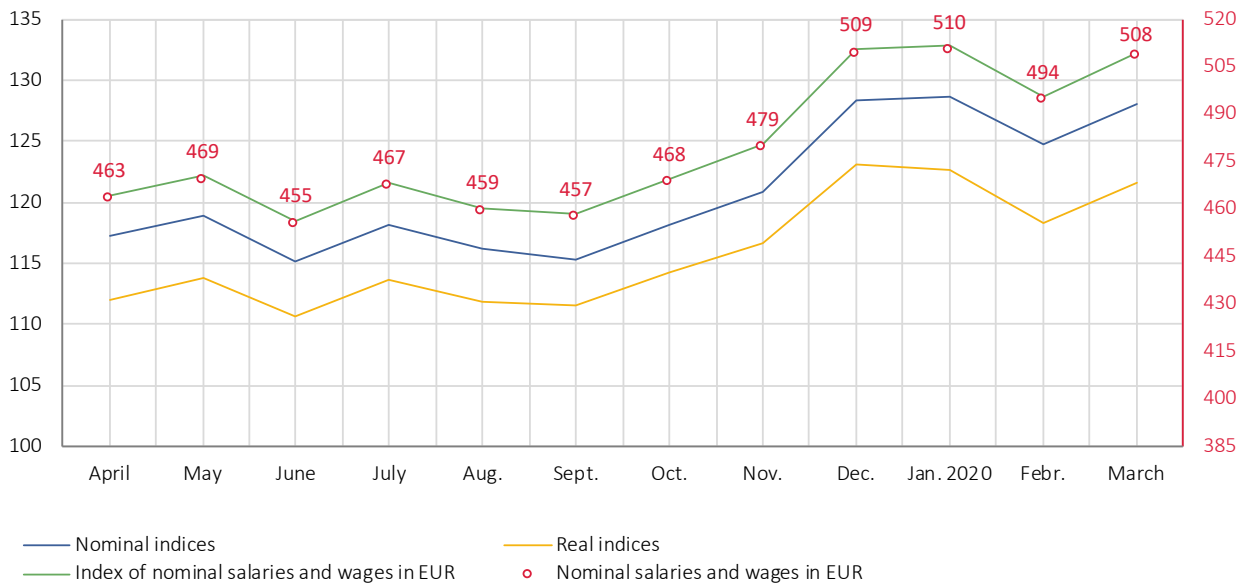
Compared with the previous quarter, i.e. first quarter of 2020, they saw fall of 0.1% in nominal terms and of 0,3% in real terms.

For the first six months of 2019, the average net salaries and wages amounted to 59 222 dinars, and compared with the same period of the previous year they were up by 9.4% in nominal terms, and by 7.9% in real terms.

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

	2017				2018				2019				2020	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Real indices	101.1	100.8	100.9	100.1	103.8	104.5	104.2	105.3	106.9	107.6	109.5	110.4	110.3	107.4
Nominal indices	104.2	104.6	103.9	103.0	105.5	106.4	106.7	107.5	109.5	110.0	110.9	112.0	108.3	108.5

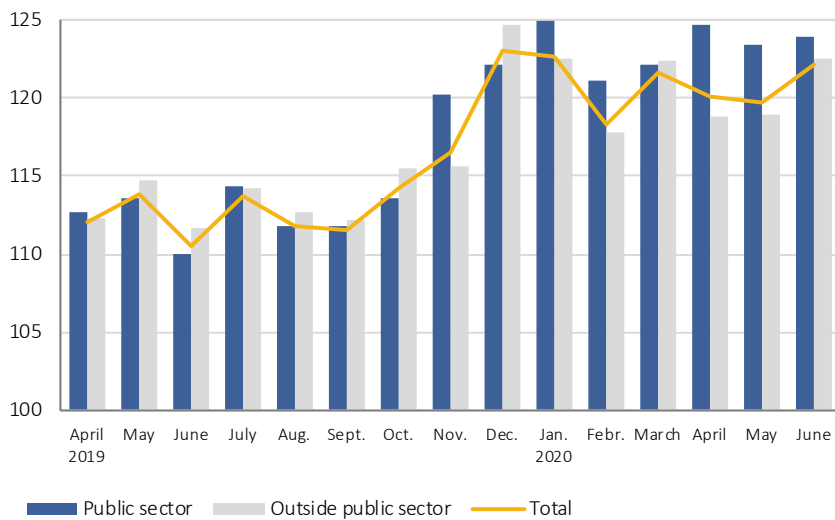
**Chart 9.1. Net salaries and wages, movement of nominal and real indices**  
(average 2017 = 100)



In the one-year period backwards, nominal salaries and wages followed the real economy and budget, adapting themselves at the same time to trade indicators, i.e. offer and demand for labour force. After having exceeded for the first time EUR 400 in December 2017, average net salaries and wages were during the whole 2019 above EUR 450. In January 2020, they reached EU 510, which was at the same time the highest value recorded in the observed period.

## 9. Salaries and wages

**Chart 9.2. Net salaries and wages in and outside the public sector and total**  
(real indices, average 2017 = 100)



The average net salaries and wages calculated for the second quarter of 2020 amounted to 67 667 dinars in the public sector and to 55 447 dinars outside it.

The ratio of movements of salaries and wages in the public sector and outside it was for a long time unchanged as successive increase in salaries and wages in the public sector led more than once to their increase outside the public sector, which resulted in the growth of total salaries. The policy of managing salaries and wages in the public sector proved this way to be a trigger of impulse of internal demand and a regulator of fluctuations on the labour market.

**Chart 9.3. Average net salaries and wages, by employee, in the public sector**  
(January - June 2020)

Public sector – total	RSD 67 302
Public government enterprises	RSD 80 387
Public local enterprises	RSD 59 281
Administration – all levels	RSD 70 848
Government level	RSD 73 728
Autonomous Province level RSD	77 509
Local authorities level	RSD 56 264
Health professional and social work RSD	64 097
Education and culture	RSD 62 429

## 9. Salaries and wages

When comparing net salaries and wages by CA (2010), one notices that the largest real growth in the first half of 2020, compared with the same period of 2019, was realised in the sections Information and communications (17.9%), Human health and social work activities (14.3%), Water supply; sewerage, waste management and remediation activities (12.4%) and Administrative and support service activities (9.9%).

The highest net salaries and wages in the first two quarters of 2020 was recorded in the following divisions: Air transport (159 002 dinars), Computer programming and consultancy and related activities (153 010), Manufacture of tobacco products (135 768), Extraction of crude petroleum and natural gas (129 072) and Mining support service activities (116 127).

In all other divisions salaries and wages ranged from 34 160 dinars (Food and beverages service activities) to 115 073 dinars (Scientific Research and Development).

Observed by regions, the highest average net salaries and wages in the first half of 2020 were paid in Beogradski region, RSD 73 277. In Region Vojvodine salaries and wages totaled RSD 56 285, in Region Južne i Istočne Srbije, RSD 52 125, and in Region Šumadije i Zapadne Srbije, RSD 50 307.

**Chart 9.4. Movement of real net salaries and wages by sections of CA (2010)**  
(January - June 2020 to the same period of 2019)



# 10. Tourism

From the middle of 2014 till 2019, tourist activity in Serbia recorded stable growth. However, this positive trend did not continue in the first half of 2010, when, due to the CORONA-19 pandemic, the tourist activity saw a fall.

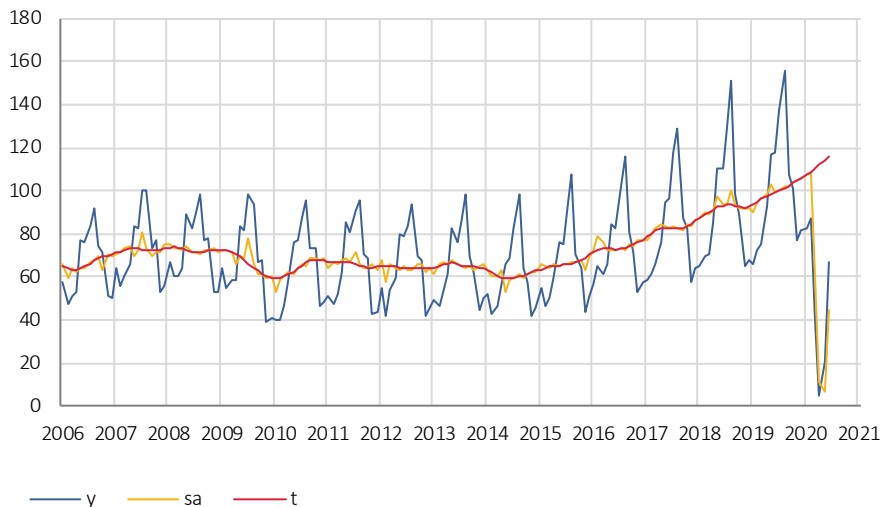
## 10.1. Tourist overnight stays

Measured by the number of overnight stays, tourism in Serbia first went through the phase of turnover growth over 2005–2008. The year 2009 brought a phase of contraction, which persisted also in the following year, and from 2011 to 2013 there was a period of stagnation, when the average number of tourist overnight stays was about 6.6 million per year. In 2014, due to natural disasters in May, as the number of overnight stays fell by 7.3%, compared with 2013, tourism turnover experienced another strong contraction. However, in spite of bad meteorological conditions at the very beginning of the season, 2014 was the year when an expansive growth of the tourism activity in Serbia started, which lasted till March 2020. At that time, due to the COVID-19 pandemic flights were forbidden, accommodation booking were canceled and the activity in the tourist sector recorded general fall.

The time series of tourist overnight stays contains very marked seasonal fluctuations, reaching the highest values in summer and the period of winter holidays.

**Chart 10.1. Component of the time series of total tourist overnight stays, indices**

(y – original series, sa – series with seasonal component excluded, t – trend-cycle component, average 2019 = 100)

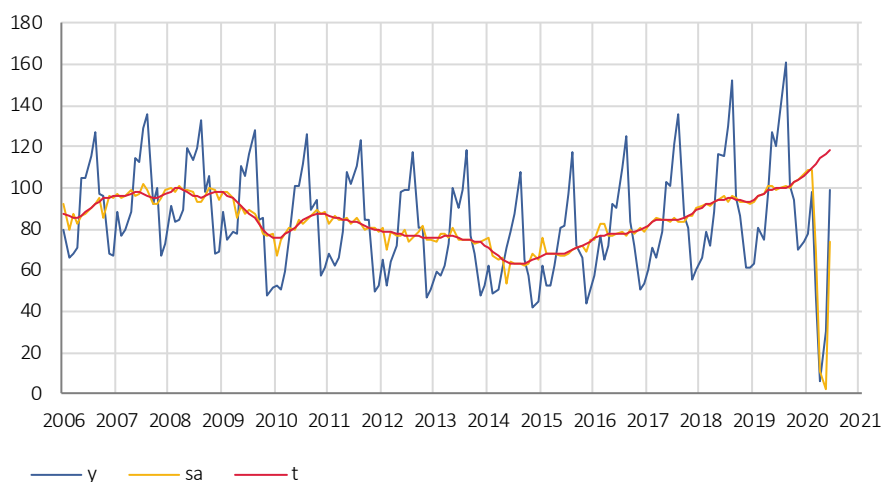


Over January-June 2020, there were 2.5 million overnight stays, by 44.1% less than in the same period of the previous year.

After a growth in January and February, tourist activity has recorded bad results since March. The most important year-on-year fall (94.6%) was recorded in April, while in May and June the number of overnight stays slightly increased, but still under the results achieved in the same period of the previous year (year-on-year fall of 82.6% and 44.3%, respectively).

**Chart 10.2. Components of the time series of domestic tourist overnight stays, indices**

(y – original series, sa – series with seasonal component excluded, t – trend-cycle component, average, average 2019 = 100)

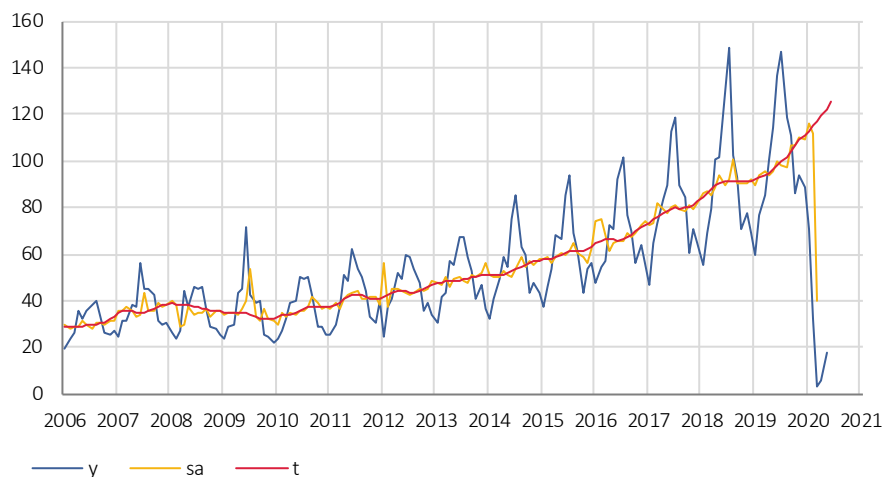


In the first half of 2020, domestic tourist spent 1,8 million nights, by 36.5% less than in the first half of the previous year.

This group of tourists represents the majority of visitors in Serbia, i.e. 71.3% of the total number of overnight stays. It can be expected that, due to difficulties regarding international trips, the largest portion of tourist activity in the next quarters is to be realised by domestic tourists.

**Chart 10.3. Components of the time series of foreign tourist overnight stays, indices**

(y – original series, sa – series with seasonal component excluded, t – trend-cycle of the component, average 2019 = 100)



The trend of growth of foreign tourist overnight stays recorded at the beginning of 2000, did not continue in the first half of 2020 due to the COVID-19 pandemic. A fall of 56.9% was recorded, compared with the same period of the previous year, i.e. about 729 thousand nights spent in this period.

Particularly low results were obtained in the second quarter of 2020, when the number of foreign overnight stays was down by 91.1%, when compared with the same period of 2019.

**Table 10.1. Tourist overnight stays, quarterly indices (%)**

(comparison with the same period of the previous year)

	2018				2019				2020	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Total	110.7	113.9	113.4	109.1	103.9	107.2	105.6	116.6	98.3	28.1
Domestic tourists	109.2	113.6	110.2	106.7	101.3	107.6	105.4	113.6	101.5	39.3
Foreign tourists	113.5	114.5	118.6	112.3	108.3	106.4	105.8	120.6	93.2	8.9

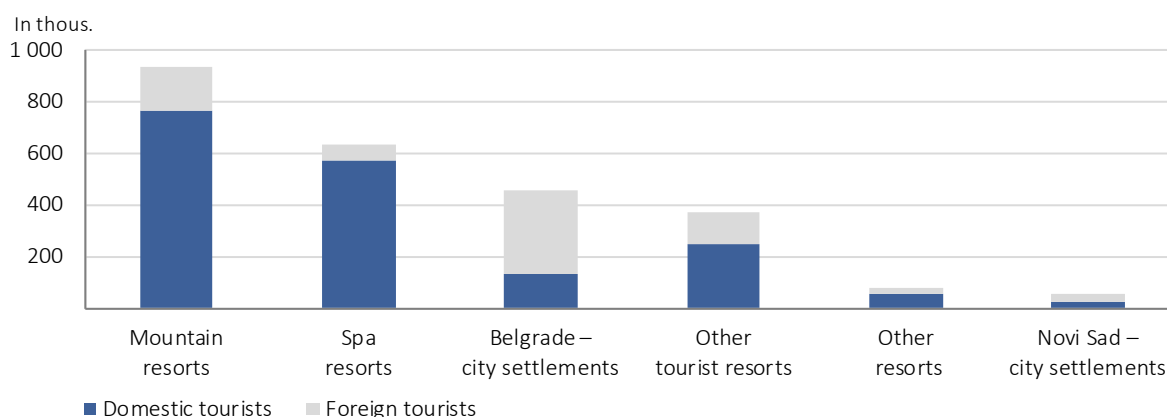
# 10. Tourism

## 10.2. Major tourist resorts

Expressed in number of tourist overnight stays, the most frequently visited tourist resorts over January - June 2020 were mountain resorts, with about 936 thousand nights spent, accounting for 36.9% of total overnight stays in the Republic of Serbia, of which 564 thousand nights were spent in the largest ski resorts - in Kopaonik and Zlatibor. Visitors of mountains were mostly domestic tourists (81.7% of the total number of overnight stays).

According to the frequency of visits to tourist resorts, spa resorts and the City of Belgrade are the next most visited destinations with about 637 i.e. 456 thousand overnights stays. Tourists in Belgrade were mostly foreign visitors (71.3% of the total number of overnight stays), while 90.2% of nights in spa resorts were spent by domestic tourists. The most visited spas were Vrnjačka banja (about 195 overnight stays) and Sokobanja (about 148 thousand overnight stays)

**Chart 10.4.** Tourist overnight stays by selected tourist resorts, Q1+ Q2 2020

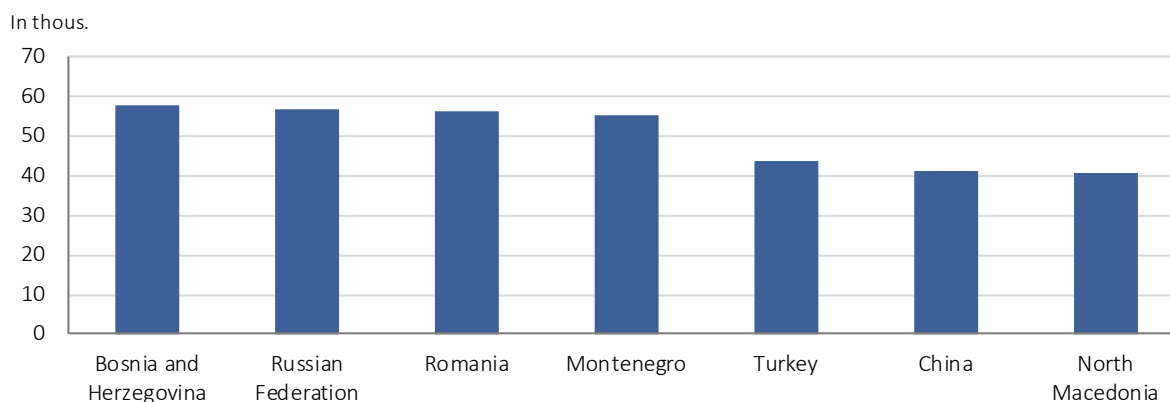


## 10.3. country of origin of foreign tourists

In the first half of 2020, foreign tourists from about fifty different countries visited Serbia.

Most nights were spent by visitors from Bosnia and Herzegovina, Russian Federation, Romania, Montenegro, Turkey, China and North Macedonia. The visitors from these countries spent 48.3% nights of the total number of foreign tourist overnight stays in the first six months of 2020.

**Chart 10.5.** Foreign tourist overnight stays by countries from which they came from, Q1+ Q2 2020



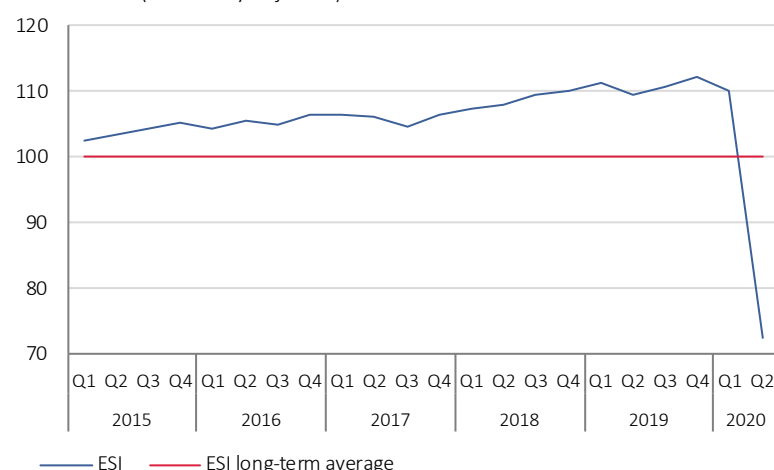
# 11. Economic Sentiment Indicator

## 11.1. Economic Sentiment Indicator – ESI

Economic Sentiment Indicator – ESI<sup>14</sup> is a composite indicator which purpose is to present producers' and consumers' perceptions about economic movements and economic stability. This indicator is used to assess economic situation, make flash estimates, for scientific and analytical use, as well as for international comparisons. Consequently, economic subjects' expectations are indicative of changes in economic movements, which contribute considerably to creating economic policies.

ESI has been developed by the General Directorate for Economic and Financial Affairs of the European Commission. 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 analyzed sections are weighted in order to reflect the best way 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<sup>15</sup>

**Chart 11.1. Economic Sentiment Indicator<sup>16</sup>, (%)**  
(seasonally adjusted)



In Serbia in the second quarter of 2020, influenced by the fall of activity in all sections and by COVID-19 precautionary measures, the Economic Sentiment Indicator in Serbia saw for the first time an under average value of 72.4 (average 100) as well as a fall of even 37.8% relative to the previous quarter. This is at the same time the largest recorded fall, but also the lowest value of this indicator since it has started to be calculated in Serbia. The value of the indicator reflects a considerable decrease in expectations in all sections, mostly in that of Services, where there was a fall of 48.2 pp. and Retail trade (25.1 pp.), then in the sections of Manufacturing, 13.2 pp., Construction (13.7 pp.) and Consumption, (1.8 pp.).

**Table 11.1. Confidence indicators by sections and Economic Sentiment Indicator - growth to the long-term average, (%)<sup>17</sup>**

Confidence indicators	Minimum		Average	Maximum		2019				2020	
	Quarterly	Value		Quarterly	Value	Q1	Q2	Q3	Q4	Q1	Q2
Manufacturing	Q2 2020	-7.5	4.7	Q1 2015	7.7	5.9	6.3	5.1	6.6	5.7	-7.5
Services	Q2 2020	-34.8	8.3	Q2 2016	16.5	15.2	12.8	14.9	13.0	13.4	-34.8
Retail trade	Q2 2020	-9.6	9.3	Q4 2019	16.8	13.0	11.0	14.3	16.8	15.5	-9.6
Construction	Q3 2013	-41.1	-13.0	Q4 2019	6.8	5.8	4.3	6.7	6.8	6.4	-7.3
Consumption	Q4 2014	-19.7	-6.3	Q1 2020	9.9	4.8	4.4	8.4	8.8	9.9	8.1
Economic Sentiment Indicator	Q2 2020	72.4	100.0	Q4 2019	112.4	111.3	109.6	11.8	112.4	110.2	72.4

<sup>14</sup> Source: European Commission, processing: Statistical Office of the Republic of Serbia.

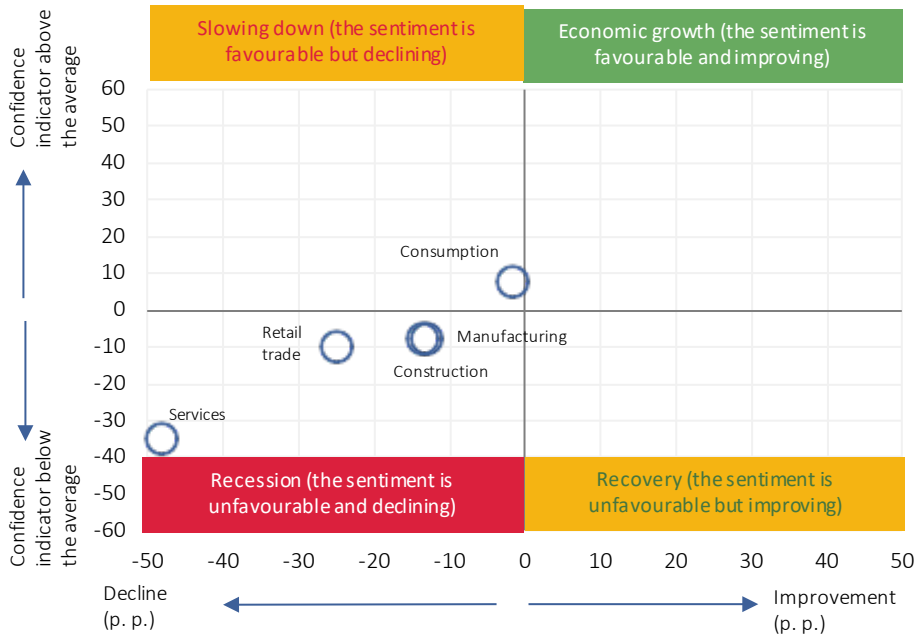
<sup>15</sup> More on the methodology at: [https://ec.europa.eu/info/sites/info/files/bcs\\_user\\_guide\\_2020\\_02\\_en.pdf](https://ec.europa.eu/info/sites/info/files/bcs_user_guide_2020_02_en.pdf)

<sup>16</sup> Data for the Economic Sentiment Indicator (ESI) have been revised in line with regular annual methodological adjustments.

<sup>17</sup> Quarterly data represent quarterly average.

# 11. Economic Sentiment Indicator

Chart 11.2. Economic climate tracer

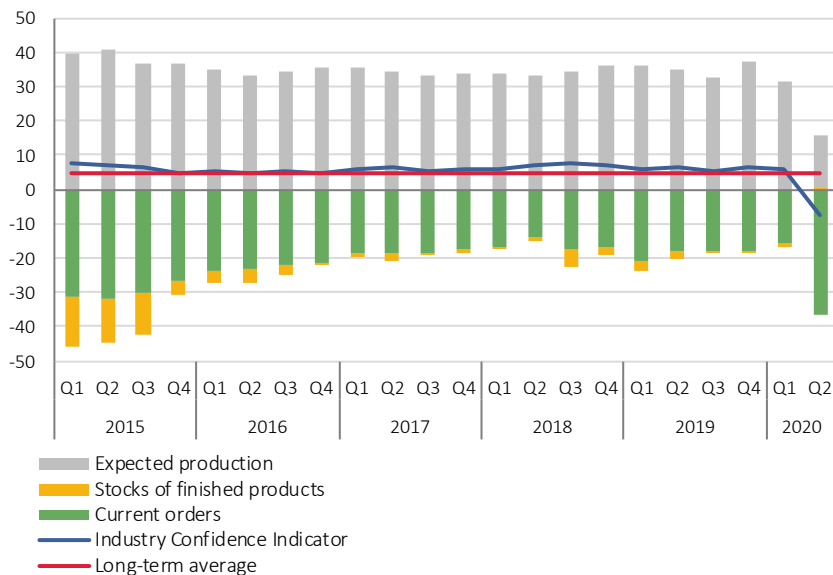


The economic climate tracer, created on the basis of seasonally adjusted confidence indicators, is also indicative of the decline of economic climate. The tracer shows that economic expectations in almost all sections under the threshold of the horizontal axis, i.e. in the phase of recession, which is characterized by an unfavourable declining tendencies. The only section that singles out is Consumption with a still favourable climate, but a declining tendency.

## 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)



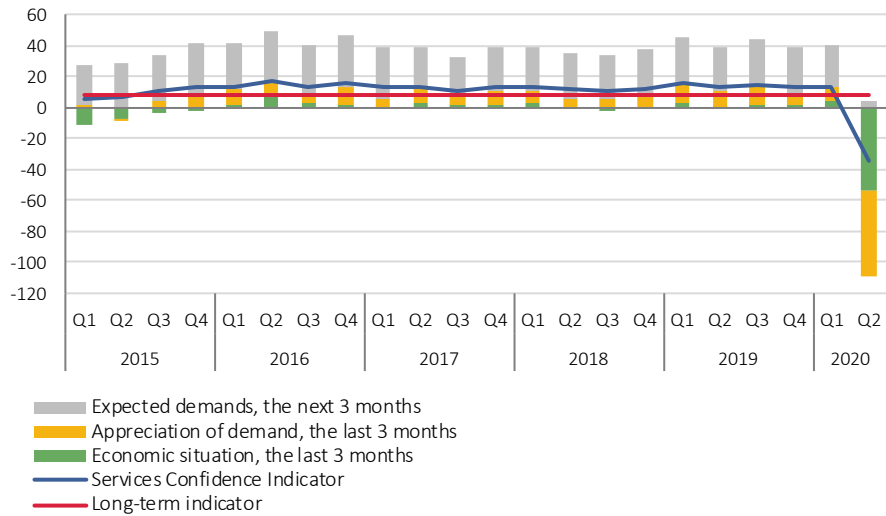
Industry Confidence Indicator -ICI, after having reached the maximum value of 7.7% in the first quarter of 2015, varied around lower values and recorded an abrupt fall of -7.5% in the second quarter of 2020, or 13.2 pp. less than in the previous quarter, by 12 pp. under the long-term average. The fall of this indicator reflects negative expectations of businesses, primarily regarding the appreciation of current orders (-36.5 or 20.7 pp. less than in the previous quarter). Also, a fall in the segment of movement of expectations for production was recorded (16.5 pp.), while appreciations related to current stocks of finished products with 0.9% recorded a slight increase of 2 pp. Optimism in the section of Manufacturing "alleviated" in a way the additional decline of expectations in the Services section.

# 11. Economic Sentiment Indicator

## 11.3. Services Confidence Indicator

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

**Chart 11.4. Services Confidence Indicator, (%)**  
(seasonally adjusted data)

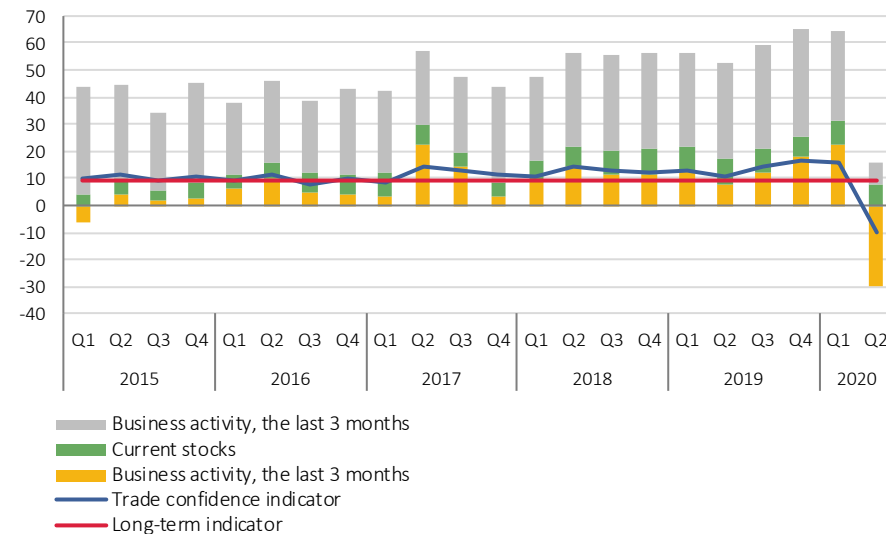


Services Confidence Indicator – *SCI*, with a value of -34.8% in the second quarter of 2020, fell by 48.2 pp. Relative to the previous quarter, being 43 pp. under the long-term average, which goes in favour of the fact that COVID-19 pandemic mostly affected the Services section. The drastic fall of this indicator is a result of an expressed pessimism in all three components, mostly regarding the appreciation of demands in the last quarter (-63 pp.), as well as the economic situation (-58 pp.), then regarding expected demand (-23 pp.).

## 11.4. Trade Confidence Indicator

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

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



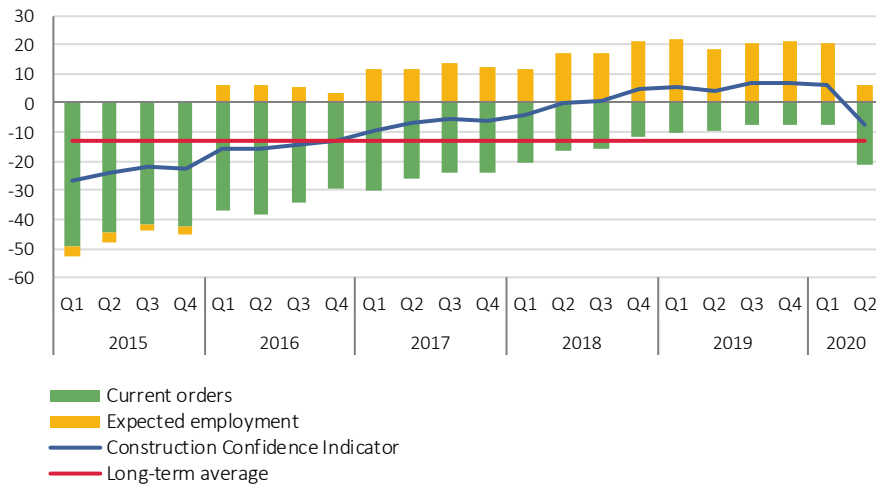
Trade Confidence Indicator – *TCI* in the second quarter of 2020 fell by 25.2 pp. Relative to the previous quarter, almost 19 pp. under the long-term average. The fall of this indicator is a consequence of a considerable lower optimism regarding movements of business activity both in the previous quarter (-52 pp.) and the next three months (-25 pp.), while the appraisal of current stocks is somewhat optimistic (-1.5 pp.).

# 11. Economic Sentiment Indicator

## 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)

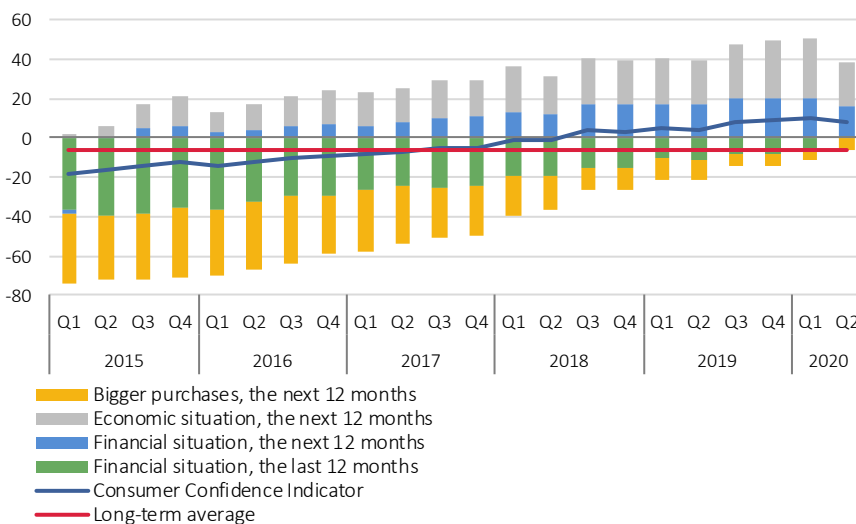


Construction Confidence Indicator – CCI, after a noticeable increasing trend in the previous trend, a considerable fall was recorded in the second quarter of 2020 (13.8 pp.), but exceeding the long-term average by 5.7 pp. The fall of the value of this indicator reflects primarily lower expectations in employment (13.8 pp.), then the additional worsening of negative expectations regarding current orders (13.7 pp.).

## 11.6. Consumer Confidence Indicator<sup>18</sup>

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)



Consumer Confidence Indicator – CCI, with a positive value in the second quarter of 2020 of 8.1 and fall of only 1.8 pp. relative to the previous quarter, had the lowest level of pessimistic expectations. The value of the indicator reflects primarily higher consumers' optimism regarding the financial situation in the previous year (+8.4 pp.). Nevertheless, the considerable fall of expectations regarding the economic situation (8.2 pp.) and financial situation in the next twelve months (5.7 pp.) backed the fact that the crisis caused by the COVID-19 pandemic disquieted the consumers, a considerable fall of expectations related to planned bigger purchases in the next year is the lowest (1.8 pp.).

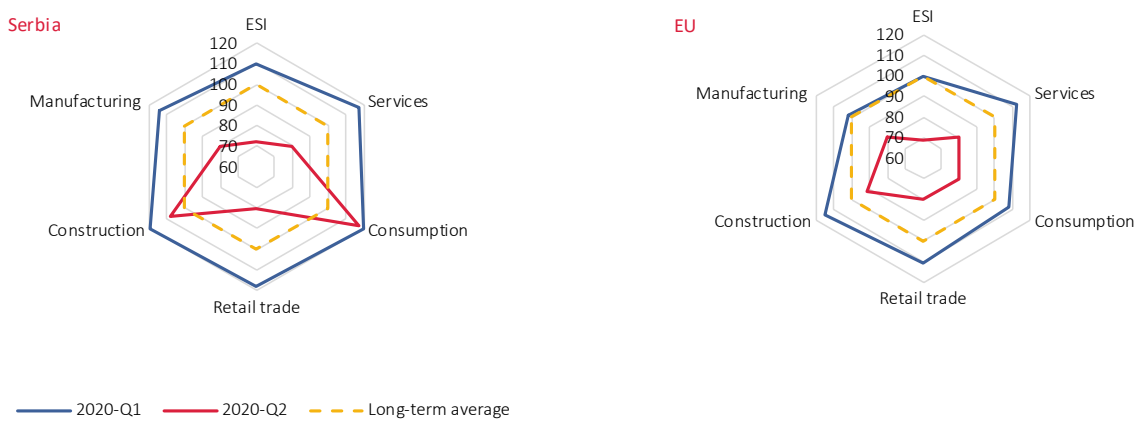
<sup>18</sup> The methodology of calculating the consumer confidence indicator has been modified by the European Commission, thus the data have been revised.

# 11. Economic Sentiment Indicator

## 11.7. Economic Sentiment Indicator in the European Union

Economic expectations in EU member states declined considerably in the second quarter of 2020 (relative to the previous quarter), which made ESI go down by 31.5 pp. (from 100 to 68.5). The largest fall in expectations in the EU was recorded in Services (45.5 pp.), Retail trade (24 pp.) and construction (20.4 pp.).

Chart 11.7. Economic Sentiment Indicators



### **i** How to interpret the tracer?

The tracer scale of the graph ranges from 60 to 120 (average = 100). The most recent quarterly outcomes (Q2 2019) are compared with the previous quarterly outcomes (Q1 2019) and long-term average (= 100) of the corresponding series of confidence indicators. Developments far from the centre reflect confidence indicator improvement, and close to the centre its decline.

## 12. Regional economic asymmetries

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

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

### • Gross domestic product

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

Out of total GDP in 2018, observed by level of NSTU 2 regions, the greatest realized GDP was in Beogradski region (41%), followed by Region Vojvodine (26%), Region Sumadije I Zapadne Srbije (19%) and Region Juzne I Istocne Srbije (14%).

Knowing that Beogradski region covers 3.7% of the area inhabited by 24% of the population of Serbia, it is clear that it is also the region with the highest GDP per capita (1 240 000 RSD / per capita, i.e. 70.8 % above the republic average or almost three times higher than in Region Juzne I Istocne Srbije). Other regions record GDP per capita under the average, i.e. Region Vojvodine -2.9%, Region Sumadije I Zapadne Srbije -32.7% and Region Juzne I Istocne Srbije -34.4%.

### • Average salaries and wages

Level of regions' development, measured by average net salaries and wages varies in ratio 1.5:1, i.e. the highest salaries and wages are recorded in Beogradski region, and lowest ones in Region Sumadije I Zapadne Srbije. Average net salaries and wages in the first six months of 2020 in Beogradski region amounted to RSD 73 277, or 124% of RS average (RSD 59 222), in Region Vojvodine, they were insignificantly below RS average (RSD 56 285, or 95% of RS average), while in Region Juzne I Istocne Srbije and Region Sumadije I Zapadne Srbije, they were about 87% of the Republic average (RSD 52 125 and RSD 50 307, respectively). In all regions, average salaries and wages recorded growth relative to the previous year, and the greatest absolute and relative increase was noted in Region Vojvodine (RSD 5 236, or 10.3%).

In 61 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 41 110). Moreover, at the bottom of the list are the municipalities of Vlasotince with an average salary of RSD 41 878, as well as Gadzin Han (41 715) and Vranjska Banja (41 655).

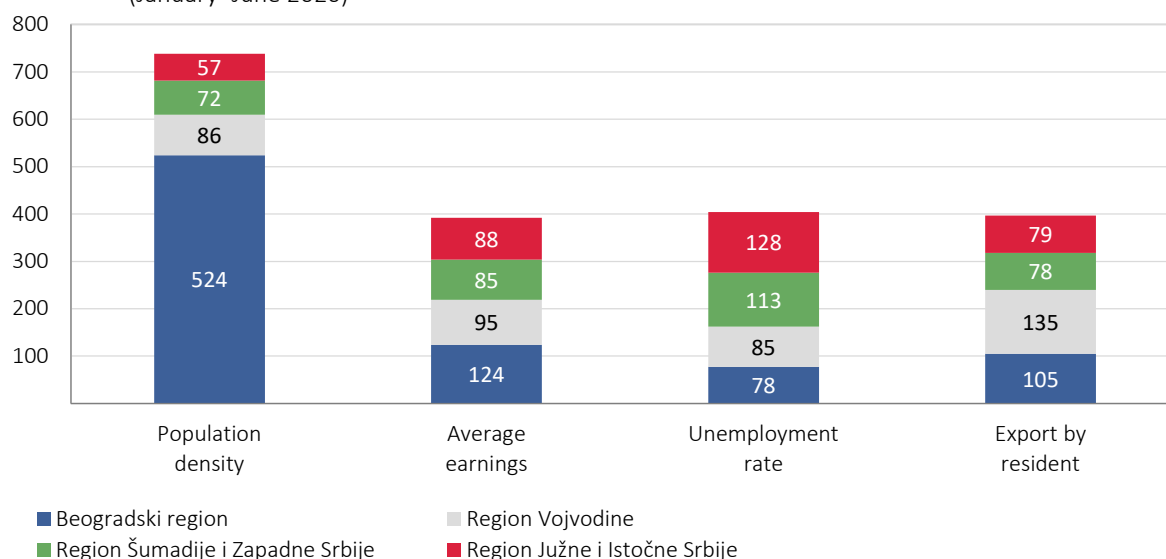
### • Labour market

The correlation of unemployment rate and development level of the region is very high, and in accordance with the mentioned, Region Juzne I Istocne Srbije, with unemployment rate of 11% in the period January – June 2020, by 29% exceeds the average of Serbia (8.5%). On the other hand, in Beogradski Region, unemployment rate was the lowest, 6.6%, i.e. 22% below the national average. Additionally, referring to employment rate, it is the highest in Beogradski region (51.7% or 7% above the average of Serbia), while in Region Juzne I Istocne Srbije, noted was the lowest employment rate of 45.2%, or 6.9% below the Republic average.

## 12. Regional economic asymmetries

In the period January – June 2020, Region Vojvodine and Beogradski Region participated with 26%, each, in total employment and regarding total unemployment, Region Sumadije I Zapadne Srbije is on the first place with 32%, relative to 20% of total unemployment in Beogradski Region (according to Labour Force Survey). In Region Sumadije I Zapadne Srbije, there was about 28% of employed in total number of the employed in Serbia, also almost a third part of total unemployed population. Region Juzne I Istocne Srbije participated with 20% in total employment of Serbia and with 26% in total unemployment.

**Graph 12.1. Disproportions at the level of regions in Serbia, (%), (level of RS = 100%)**  
(January–June 2020)



### • Export activity

In contrast to other indicators, in the period January - June 2020, Beogradski region was not on the first place regarding total export of Serbia (share of 26%), primarily due to dominant services in Belgrade economy (most of services is provided for domestic and not for foreign markets). Region Vojvodine is on the first place with the share of 35.9% in export, followed by Region Sumadije I Zapadne Srbije (21.4%) and region Juzne I Istocne Srbije (17%). Export per capita reflects regional asymmetries – Region Vojvodine records the export of EUR 1 519 per capita and it is by 35% above the Republic average and it is almost double value if compared with the export value per capita in region Sumadije I Zapadne Srbije (EUR 879), which is by 22% below the average of the Republic.

### • Demographic structure

According to the last available data for 2019, population density in Beogradski region is by 6.7 times greater than average population density in Serbia, while in Region Juzne I Istocne Srbije, population density was the lowest – 28% below the Republic average. Although all regions participate relatively equally in total population of Serbia, interregional differences are particularly apparent. For example, in eight towns in Region Vojvodine, lives even over a half of total population of Vojvodina (53.4%). However, the most obvious population inequality is in other two regions: Region Sumadije I Zapadne Srbije comprises 10 towns in that 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 Juzne I Istocne Srbije, as 56% of population lives in 9 cities, and only 31% of population lives in even 30 undeveloped municipalities. Additionally, due to economic migrations, number of population in Beogradski region is constantly increasing (by 2.2% between 2011 and 2019), while the number of population in other three regions is constantly decreasing. Simultaneously, it means that differences in population density will be even greater as population in Region Juzne I Istocne Srbije is becoming more and more fragmented, while population density in Beogradski region becomes increasingly denser.

## 12. Regional economic asymmetries

### • Transport infrastructure

In the Republic of Serbia, there are huge regional and interregional differences regarding infrastructure equipment (transport, telecommunication and water management, i.e., accompanying supra structures). In roads' quality, telecommunication and modern living conditions, differences are, first of all, manifested in underdeveloped south area and more developed north area of Serbia. The unsatisfactory condition of the road network is particularly evident in the municipal (local) roads, necessary for the daily functioning, development and activation of municipalities and settlements. This is clearly indicated by the fact that 38 municipalities<sup>19</sup> have an out-of-band participation of local roads with a modern roadway, while 7 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 2019 from 7.4 in Region Juzne i Istocne Srbije to 10.3 in Beogradski region, where a third part of the vehicles was registered. The number of first-time registered cars compared to the number of inhabitants in the period January-June 2020 reflects a similar ratio, with Beogradski region leading up to 35% above the average of the Republic of Serbia versus Region Juzne i Istocne Srbije, with only 75% of 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 Juzne i Istocne Srbije, where it is the lowest (Table 12.1).

**Table 12.1. Extreme values of regional asymmetry indicators (January – June 2020)**

Indicators	Population density km <sup>2</sup> , 2018	GDP/per capita 2018	Average net salaries and wages	Unemployment rate	Export per capita	Demographic emptying 2011–2019
Extreme values (the highest : the lowest)	9:1	2.6 : 1	1.5 :1	1.7:1	1.8 :1	(-7.6):( +2.2)
	Beogradski region: Region Južne i Istočne Srbije	Beogradski region: Region Južne i Istočne Srbije	Beogradski region : Region Šumadije i Zapadne Srbije	Region Južne i Istočne Srbije : Beogradski region	Region Vojvodine: Region Šumadije i Zapadne Srbije	Region Južne i Istočne Srbije : Beogradski region

**Table 12.2. Indicators of regional development of Serbia (NSTU-2), level of RS=100%**

	2018				2019				2020	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
<b>Beogradski region</b>										
Average salaries and wages, RSD	122.0	121.6	122.3	123.1	124.5	124.0	123.9	123.9	124.0	123.5
Employment rate	106.0	106.0	103.3	106.1	106.1	106.7	102.8	105.2	109.0	104.1
Unemployment rate	89.9	84.9	90.3	77.5	82.6	74.8	80.0	78.4	73.2	83.6
Exports per capita, EUR	109.7	111.0	110.8	110.1	109.1	109.9	105.5	101.1	100.1	111.1
Number of first time registered passengers cars per 1000 inhabitants	133.5	146.5	132.3	132.2	134.5	147.6	134.9	132.1	131.6	138.3
<b>Region Vojvodine</b>										
Average salaries and wages, RSD	94.7	94.8	94.9	94.9	94.1	94.5	94.7	95.2	95.2	94.9
Employment rate	99.1	99.0	99.6	99.8	100.0	96.7	99.6	99.2	97.7	97.5
Unemployment rate	87.2	84.0	69.9	86.8	85.1	95.1	86.3	81.4	86.6	82.2
Exports per capita, EUR	125.3	127.0	131.9	136.3	131.3	125.6	131.7	137.0	134.4	135.1
Number of first time registered passengers cars per 1000 inhabitants	96.8	91.9	94.1	98.3	97.6	88.9	89.9	94.4	95.1	91.8

## 12. Regional economic asymmetries

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

	2018				2019				2020	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
<b>Region Šumadije i Zapadne Srbije</b>										
Average salaries and wages, RSD	86.6	86.9	86.6	86.0	85.0	85.2	85.5	85.3	84.8	85.1
Employment rate	101.3	101.0	103.7	100.4	99.4	101.6	102.2	101.0	101.4	102.3
Unemployment rate	105.4	105.9	110.6	114.7	114.0	107.8	111.6	111.3	118.6	106.8
Exports per capita, EUR	85.0	87.0	79.3	76.7	78.0	81.5	77.4	78.5	81.0	74.3
Number of first time registered passengers cars per 1000 inhabitants	94.3	88.7	94.0	92.6	91.99	88.6	95.0	93.6	94.9	93.9
<b>Region Južne i Istočne Srbije</b>										
Average salaries and wages, RSD	89.0	89.5	88.8	88.2	87.9	88.2	88.0	87.3	87.6	88.4
Employment rate	92.0	93.2	92.3	92.8	93.5	94.3	94.8	93.8	90.8	95.6
Unemployment rate	123.6	131.1	134.5	123.3	122.3	123.3	126.3	132.0	126.8	131.5
Exports per capita, EUR	76.9	70.5	74.7	73.2	78.7	80.2	83.2	80.0	81.2	76.3
Number of first time registered passengers cars per 1000 inhabitants	72.3	71.0	77.9	72.8	72.6	73.1	77.8	77.5	75.5	73.8

### Glossary

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

Devastated areas are municipalities from the fourth group with the development level below 50% of the Republic average (according to the data of the authority competent for statistics and finances tasks). Classification of the regions is performed on the basis of GDP value per capita in the observed region compared to Republic average, for the referent period. Developed regions are the regions that realize gross domestic product value above the Republic average, (Beogradski Region and Region Vojvodine). Insufficiently developed regions are the ones in which GDP value is below the Republic average, (Region Sumadije I Zapadne Srbije and Region Juzne I Istocne Srbije). 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.

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# Q2

TRENDS 2020 - 2<sup>nd</sup> QUARTER

MACROECONOMIC FORECASTS  
GROSS DOMESTIC PRODUCT  
INDUSTRIAL PRODUCTION  
CONSTRUCTION  
EXTERNAL TRADE  
DOMESTIC TRADE  
PRICES  
LABOUR MARKET  
SALARIES AND WAGES  
TOURISM  
ECONOMIC SENTIMENT INDICATOR  
REGIONAL ECONOMIC ASYMMETRIES