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1. INFLATION INDICATORS

After the pandemic outbreak in the previous year and a decline in consumer prices, inflation in Montenegro was positive in March this year and amounted to 1.4%. The rise in prices was mainly a result of the global growth in oil prices that affected price growth in transport of 4.1%, as well as an increase in the prices of numerous food products under the food and non-alcoholic beverages category of 1.8% (Table 2). Monthly trends show that the consumer prices were on an increase in Q1, rising 0.3% in January, 0.5% in February, and 0.6% in March. The year-on-year comparison indicates that consumer prices were on the same level in the reporting quarter, on average, except in March this year when they rose 0.8% on average.

Table 1

Inflation, %					
	2020				2021
	III	VI	IX	XII	III
Change in relation to the previous year-end	-0.4	-0.9	-0.5	-0.9	1.4
Annual change	0.0	-0.2	0.1	-0.9	0.8

Source: MONSTAT

Compared to December last year, prices in seven out of twelve categories, which accounted for 77.5% of the consumer basket, rose in March this year. The main contributor to price growth with 0.6 pp was the category *food and non-alcoholic beverages* that rose 1.8%. This growth was mainly due to an increase in the prices of oil and fats (of 17.7%), then fruit (6.3%), prices in the group sugar, jam, honey, chocolate and sweets (1.9%), milk, cheese and eggs (1.4%), bread and cereals (1.1%), and non-alcoholic beverages (0.6%). Price increase in the category *transport* of 5% contributed with 0.5 pp to inflation growth, primarily as a result of increase in the prices of fuels and lubricants for personal transport equipment of 10.9%. After a substantial decline on the international market in the previous year, as a result of travel restrictions and reduced demand due to the Covid-19 pandemic, oil prices started with a gradual recovery. During this period, the prices under *alcoholic beverages and tobacco* rose 2.5% due to an increase in the prices of tobacco of 3.4% driven by a regular increase of excise duties in January. Growth was also recorded in the categories *housing, water, electricity gas and other fuels* (0.9%), *hotels and restaurants* (0.6%), and *health* and *miscellaneous goods and services* (each 0.4%). Decline was registered only in the categories *clothing and footwear* (-1.2%) and *recreation and culture* (-0.2%). Categories *furnishing, household equipment and routine household maintenance, communications,* and *education* saw no price changes in March this year compared to December 2020.

Table 2

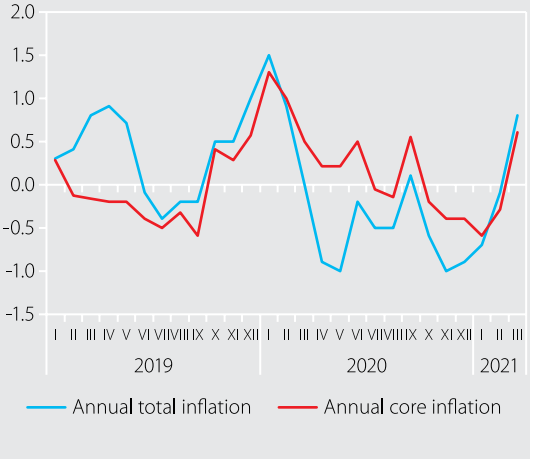
Share of selected categories in total inflation[1]

	Weights	III 21 / XII 20	Growth rate	Contribution
TOTAL	1000	101.4	1.4	1.4
Food and non-alcoholic beverages	341.1	101.8	1.8	0.6
Alcoholic beverages and tobacco	40.4	102.5	2.5	0.1
Clothing and footwear	86.1	98.8	-1.2	-0.1
Housing, water, electricity gas and other fuels	154.0	100.9	0.9	0.1
Furnishing, household equipment and routine household maintenance	39.4	100.0	0.0	0.0
Health	40.8	100.4	0.4	0.0
Transport	109.4	105.0	5.0	0.5
Communication	48.5	100.0	0.0	0.0
Recreation and culture	32.0	99.8	-0.2	0.0
Education	18.7	100.0	0.0	0.0
Restaurants and hotels	47.6	100.6	0.6	0.0
Miscellaneous goods and services	42.0	100.4	0.4	0.0

Source: MONSTAT and CBCG calculations

Graph 1

Total and core inflation trends (%)



Source: MONSTAT and CBCG calculations

During the reporting quarter, *monthly core inflation* in January and February was lower than the official monthly inflation, while in March it was at the official monthly inflation level. Core inflation had a positive rate during February and March, while it was negative in January.

The annual core inflation rate stood at 0.6% in March this year and it 0.2 pp lower than total inflation. The annual core inflation was negative in January and February, while in March it recorded a positive rate same as total annual inflation (Graph 1).

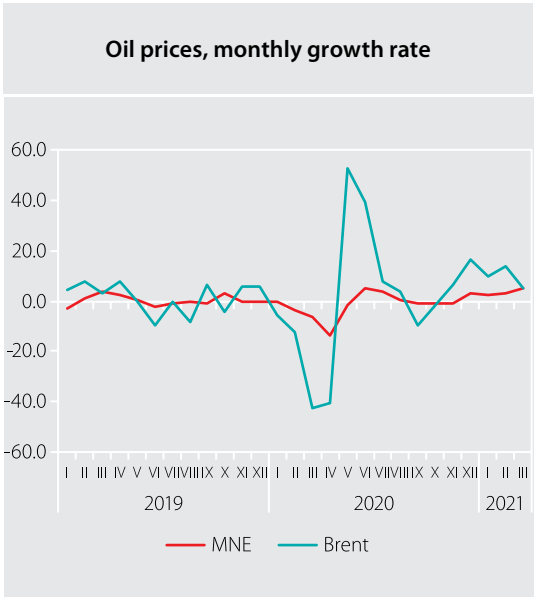
After the notable drop in the previous year, oil prices started growing rapidly. The average price of the OPEC reference basket in amounted to 64.7 USD/barrel in Q1 this year, which is an increase of 36.5% in relation to Q4 2020.

[1] It should be noted that, regardless of the index changes, due to the weight structure, the contribution of the share of certain categories is not recorded before the second, i.e. third decimal.

In this period, the average price of Brent stood at 60.8 USD/barrel or 38% more compared to the average price in Q4 last year. After the fall in September and October, there was a five-month upward trend in oil prices due to the improvement of global economic trends and the recovery of demand for this energy generating products. The highest price since January last year was recorded in March this year. The latest World Bank report[2] as of April this year forecasts oil prices to average 56 USD/barrel in 2021 and 60 USD/barrel in 2022, which is an improvement considering its October 2020 report.

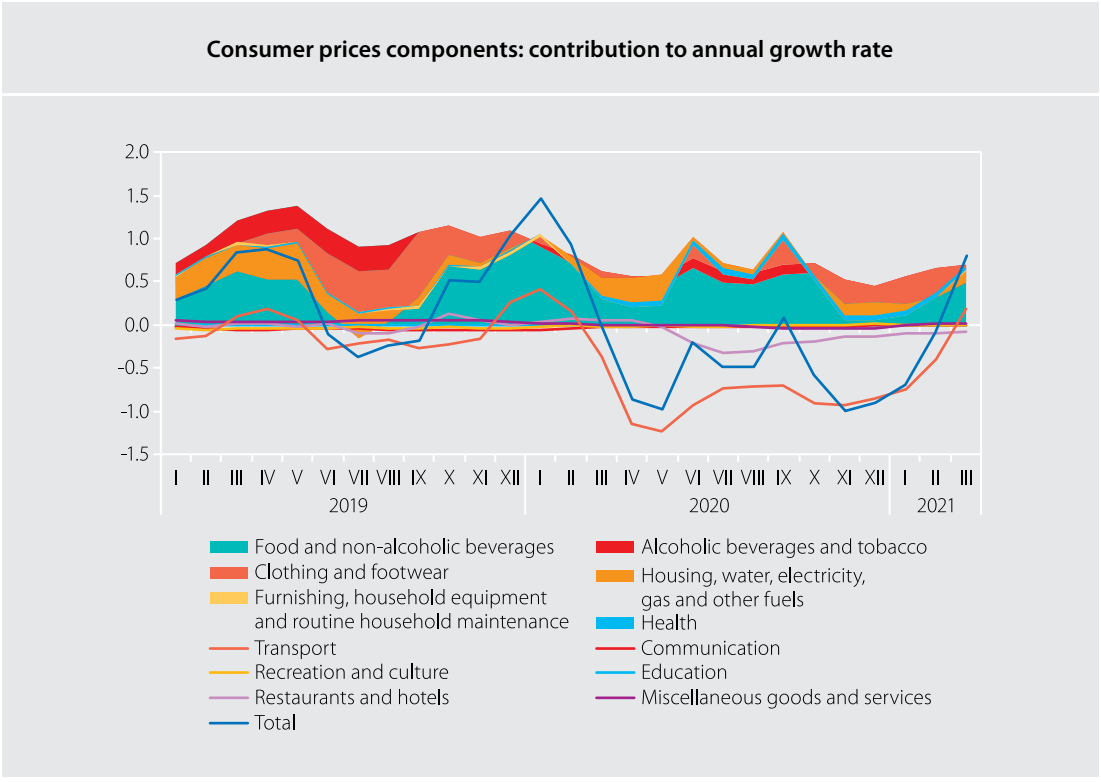
Annual prices growth of 1.7% in the *food and non-alcoholic beverages* category in March gave the largest contribution to the increase (0.6 percentage points) in the total annual inflation rate of 0.8% (Graph 3). Annual price growth

Graph 2



Source: MONSTAT and "Monthly Oil Market Reports", OPEC

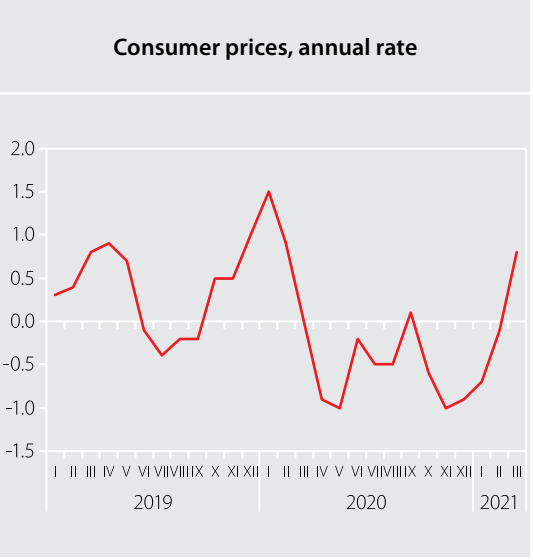
Graph 3



Source: MONSTAT and CBCG calculations

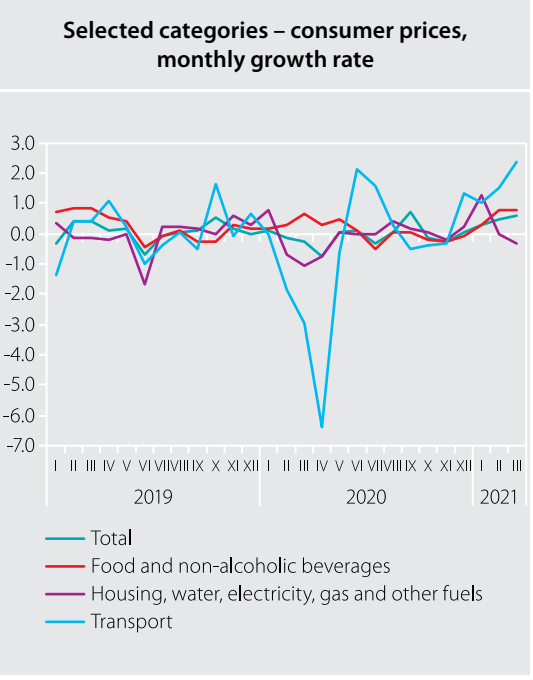
[2] Source: World Bank: "Commodity Markets Outlook", April 2021.

Graph 4



Source: MONSTAT

Graph 5



Source: MONSTAT

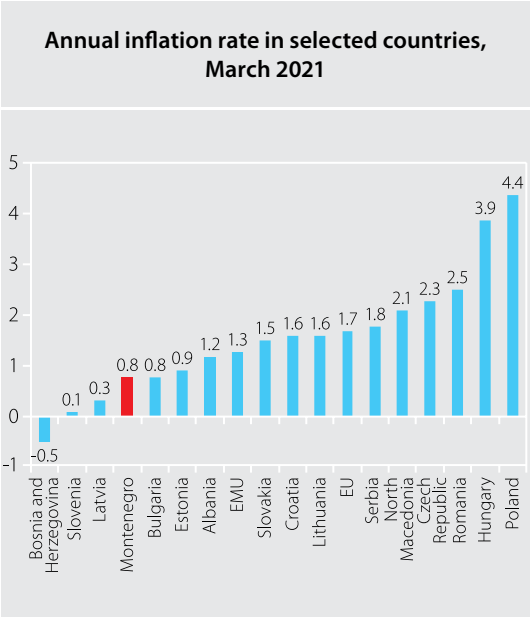
was also seen in the following categories: *alcoholic beverages and tobacco* (3.1%), *transport* (1.7%), *health* (1%), *housing, water, electricity gas and other fuels* (0.8%), *miscellaneous goods and services* (0.4%) and *furnishings, household equipment and routine household maintenance* (0.3%). Annual decline was recorded by the prices under the categories *clothing and footwear* (-2.3%), *hotels and restaurants* (-1.5%), *recreation and culture* (-0.3%), and *communication* (-0.2%), while the prices under *education* remained the same as in March last year.

**The producers` prices of manufactured products** recorded a 1.7% growth in March in relation to December 2020 due to price increase in the mining and quarrying sector (of 6.2%) and manufacturing industry (1%). Prices in electricity, gas and steam supply remained the same. An the annual level, producers` prices of manufactured products increased by 1.6%.

Comparison of the annual inflation recorded in Montenegro with that in selected countries shows that negative inflation was recorded only in Bosnia and Herzegovina (Graph 6).. Slovenia had the lowest positive annual inflation, followed by Latvia and Montenegro, while the highest inflation was registered in Poland (4.4%).

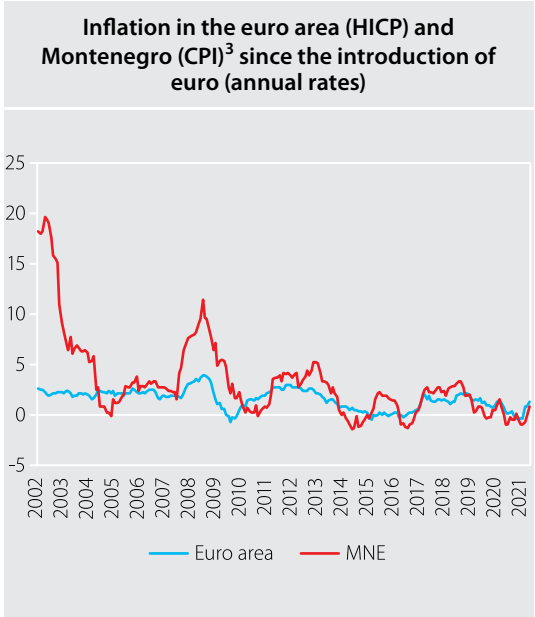
The euro area inflation was influenced by growing prices of food, alcohol and tobacco and energy generating products, as well as a strong recovery of demand. The annual HCPI inflation recorded in the euro area was 1.3%. The CPI inflation in Montenegro stood at 0.8%, while the annual HCPI amounted to 0.5% in March this year.

Graph 6



Source: National statistical offices and Eurostat

Graph 7



Source: MONSTAT and Eurostat

[3] Costs of living were used for measuring inflation in Montenegro until 2009, after which consumer prices were introduced.

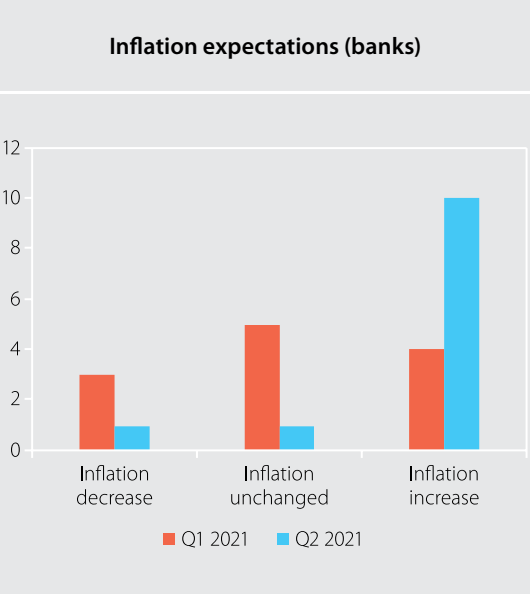
2. INFLATIONARY EXPECTATIONS

2.1. Banks' expectations

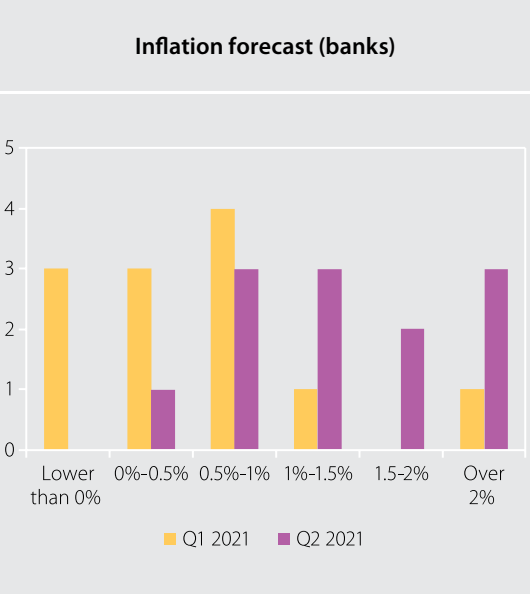
As for inflation expectations of banks, based on the survey conducted in April this year, ten banks expect inflation to grow, while one bank expects its decline and one bank believes that inflation will remain at the 2020 level (Graph 8).

Expectations regarding inflation levels among banks. Three banks expect the level of inflation in the range between 0.5% and 1%, three banks think that it will be between 1% and 1.5%, two banks expect inflation to range between 1.5% and 2%, and one bank expect it to range between 0% and 0.5%. No bank thinks inflation will be below 0% (Graph 9).

Graph 8



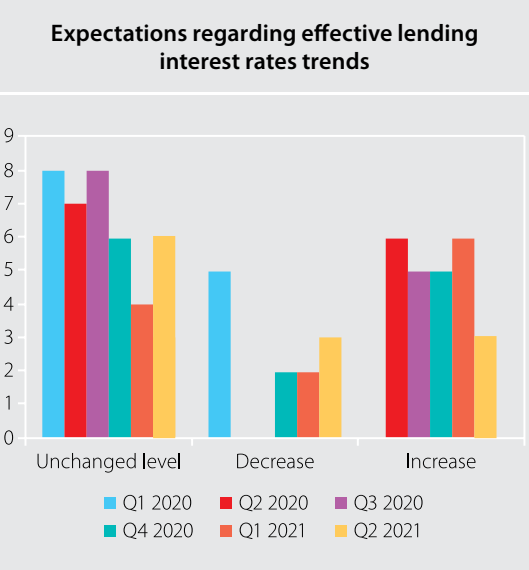
Graph 9



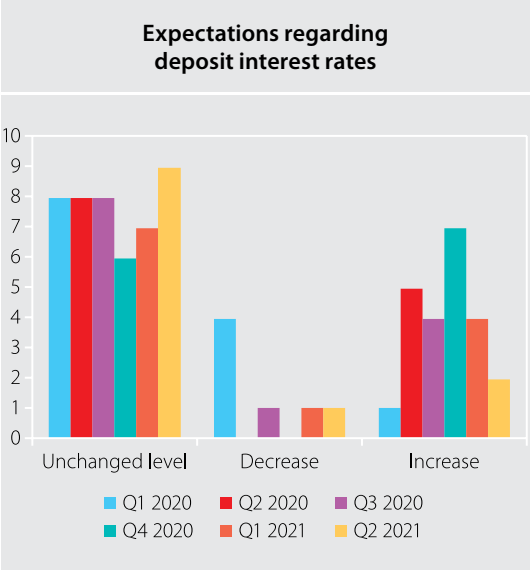
When it comes to expectations regarding the nominal lending interest rates trends, six banks expect this rate to remain at the same level, four banks believe they will decline, while two banks expect the nominal lending interest rate will rise. As for the effective lending interest rates, six banks expect them to remain at the same levels, while three believe they will decline, and three expect their year-on-year growth (Graph 10).

In reference to deposit interest rates` trends, nine banks expect no change, two banks expect their increase, while only one bank expects a decline in deposit interest rates (Graph 11).

Graph 10

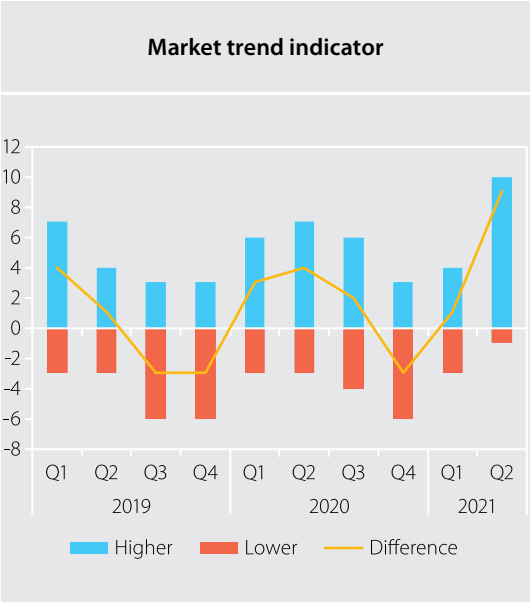


Graph 11



For the purpose of calculating inflation forecasts we use the market trend indicator (horizontal line in Graph 12). It is calculated as the difference between the number of banks expecting inflation growth and the number of banks expecting inflation decrease. If the market trend indicator has a negative value, a decrease in the inflation rate is expected in the upcoming period. If its value is positive, then an increase in the inflation rate can be expected. If it has a zero value, an unchanged inflation rate can be expected in the upcoming period. The more negative its value is, the lower the inflation expectations are and vice versa, higher positive value means higher inflation level expectations. Surveys conducted in Q1 and Q2 2021 indicate an increase in banks' inflation expectations in 2021.

Graph 12

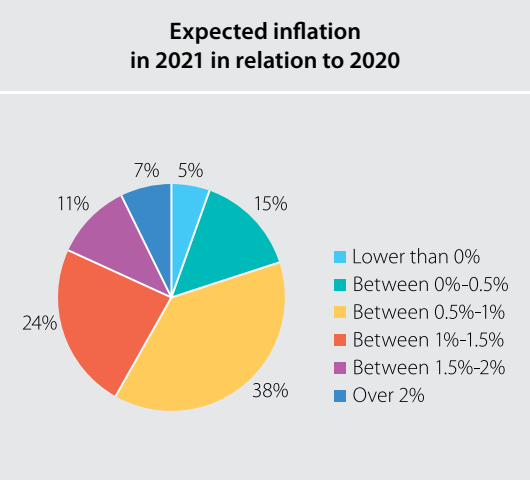


2.2. Expectations of the economy (except banks)

Inflation

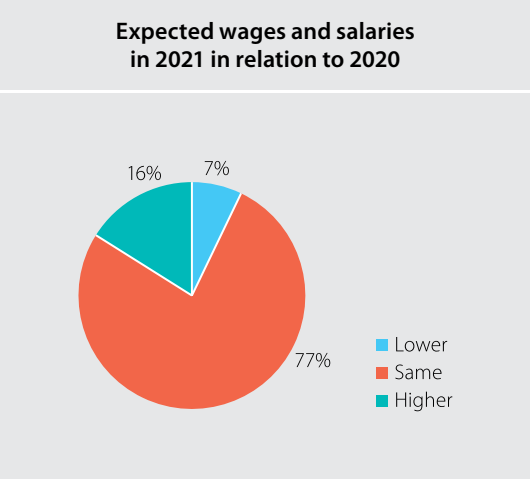
Of total surveyed economic entities, the largest number (38%) expect inflation to range between 0.5% and 1% in 2021. Inflation in the range 1% and 1.5% is expected by 24%, while 15% of the surveyed economic entities expect inflation to range between 0% and 0.5%. Some 11% of the respondents believe inflation will range between 1% and 1.5%, 7% expect it will rise above 2%, while 5% expect inflation lower than 0% (Graph 13).

Graph 13

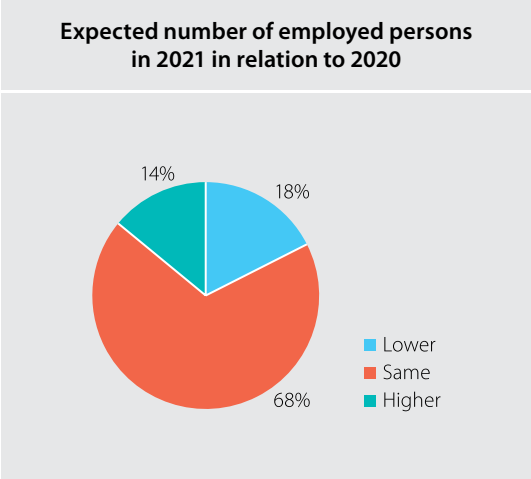


As much as 77% respondents expect earnings to remain the same in 2021, 16% of the surveyed companies expect them to increase, while 7% expect that earnings will decline in relation to the previous year (Graph 14). With regard to the number of employed persons, 68% of the respondents expect it to remain unchanged, 18% expect this number to decrease, and 14% expected it to increase in relation to the previous year (Graph 15).

Graph 14

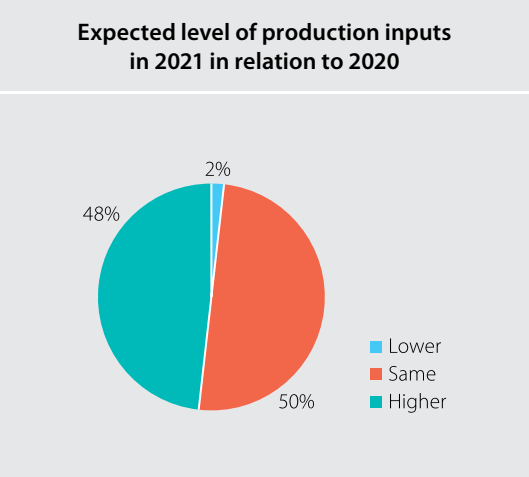


Graph 15

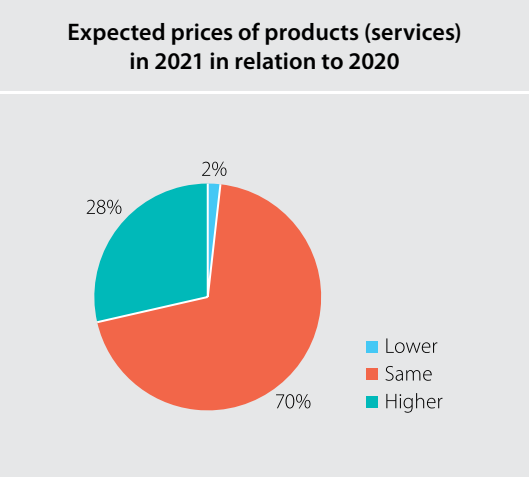


The majority of surveyed economic entities (50%) do not expect changes in the prices of production inputs (Graph 16), whereas 70% do not plan to change the prices of their products and/or services in 2021 (Graph 17).

Graph 16



Graph 17

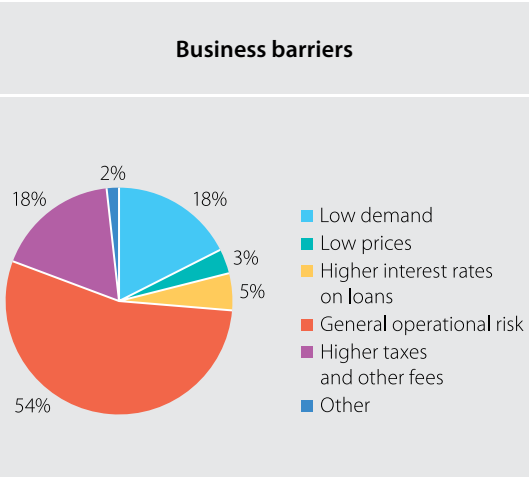


Business Environment

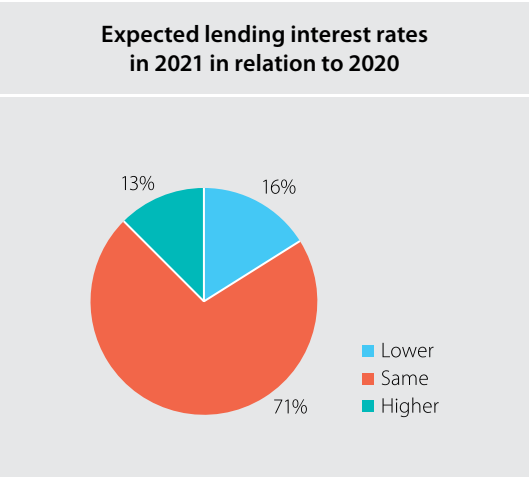
In the area of business barriers, the survey results show that most of the surveyed companies (54%) see general operational risks as the major obstacles, followed by poor demand, high taxes, and other forms of duties (18%).

With regard to lending interest rates, 71% of the respondents expect unchanged levels, while 13% expect them to increase in the current year relative to 2020 (Graph 19).

Graph 18



Graph 19

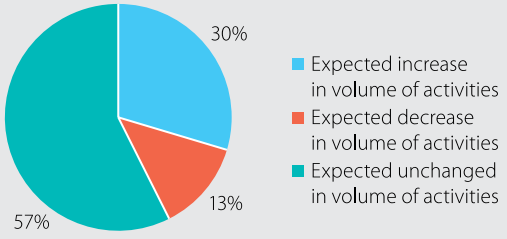


Investments

Of the total number of surveyed companies, 30% plan to increase the volume of their activities in 2021 (Graph 20), while 36% plan new investments (Graph 21). Most of the new investments (57%) will be to increase fixed assets (Graph 22), with insufficient exploitation of existing capacities, low demand, and other being indicated as the main barriers (Graph 23).

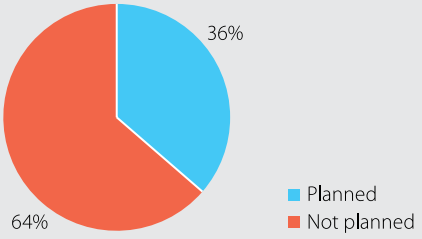
Graph 20

Expected volume of activities in 2021



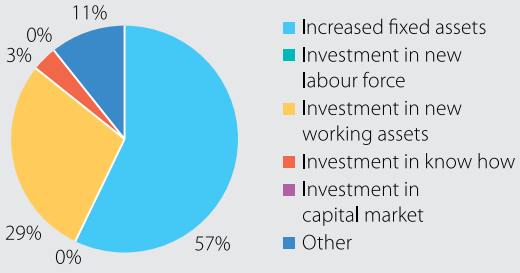
Graph 21

New investments in 2021



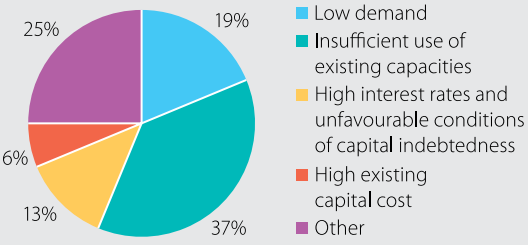
Graph 22

Types of new investments planned in 2021



Graph 23

Barriers to new investments in 2021



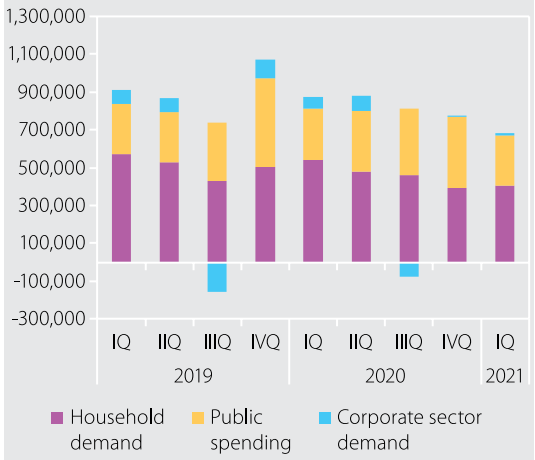
3. INFLATION DETERMINANTS

3.1. Demand

According to preliminary data, aggregate demand recorded quarterly decline as well as the year-on-year growth in Q1 2021. Observing the structure of total demand in Q1 2021 compared to the previous quarter, the share of retail and wholesale demand increased, while public spending component decreased (Graph 24).

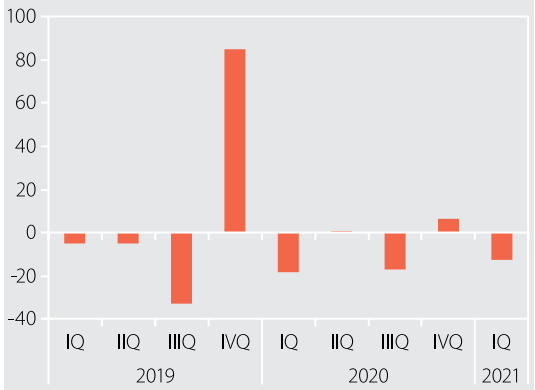
Graph 24

Aggregate demand, in thousand euros



Graph 25

Quarterly aggregate demand rates



Box 1 - Aggregate demand calculation methodology

For the purpose of a more complete monitoring of aggregate demand as a determinant of inflation, the CBCG developed the aggregate demand calculation methodology. The starting point of this methodology states that the aggregate demand represents the sum of the demand of three sectors: personal spending (households), investment spending (corporate sector), and public spending. However, taking into account the lack of numerous data necessary for calculating the aggregate demand, the existing data should not be treated as the indicator of the exact amount of aggregate demand, but as

an indicator showing the aggregate demand trend. A number of substantial data are not available in the existing methodology such as corporate investments, revenues from share sales, non-market income, non-observed economy revenues, and the like. Methodology of aggregate demand calculation is shown in the following equation:

$$AD = C + I + G$$

C = sum of paid salaries + sum of paid pensions + paid frozen foreign currency deposits + net compensations to households – net household savings (savings – loans granted)

I = -net savings of economy (deposits – loans)

G = public spending – paid pensions – salaries paid from the budget – net Government savings (deposits – loans – Treasury bills)

AD – aggregate demand, C – personal spending, I – investment spending, G – public spending

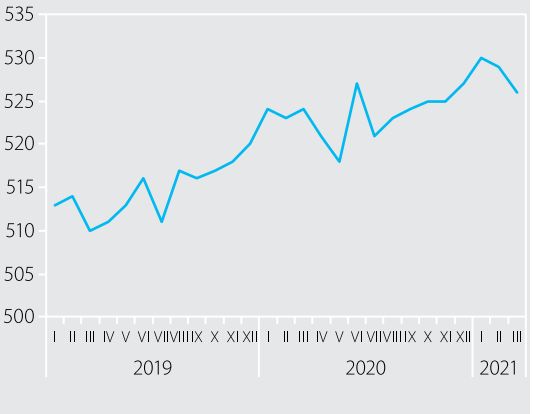
3.1.1. Salaries and other available demand determinants

In Q1 2021, an average gross salary in Montenegro amounted to 788 euros, while an average salary without taxes and contributions amounted to 528 euros. In relation to the previous quarter (Q4 2020), the average gross and net earnings each rose by 0.5%. Average earnings recorded the year-on-year increase of 0.3% while the average salary without taxes and contributions increased by 0.9%.

If we take into account consumer prices, i.e. the earnings` trend observed in real terms, then real earnings increased in the first month, while they declined in the second and third month of Q1 2021.

Graph 26

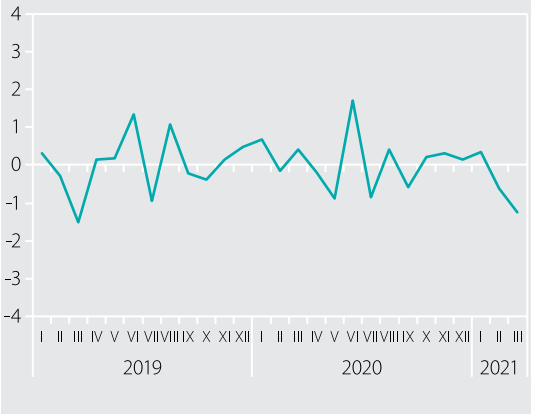
Average wages and salaries without taxes and contributions in Montenegro



Source: MONSTAT

Graph 27

Real wages and salaries (monthly rate)



Source: MONSTAT

Retail lending[4] was marked by a negative trend in the reporting quarter. Average monthly lending to the retail sector declined at the rate of 0.1% in Q1, while this average was 0.3% in the comparative quarter last year.

At end-Q1, household loans amounted to 1,391.2 million, which is 3 million euros or 0.2% more than at the end of the previous year, i.e. 20.9 million euros or 1.5% more than in same period of the previous year (Graph 28).

Debt per capita[5] amounted to 2,241.2 at the end of Q1 recorded a decline of 0.69 euros compared to end-2020, while it rose year-on-year by 37.68 euros.

At end-Q1, total MFI loans granted to the household sector amounted to 62.5 million euros, which is 999,000 euros or 1.6% more than at the end of the previous year and 4.5 million euros or 6.7% less than in same period of the previous year.

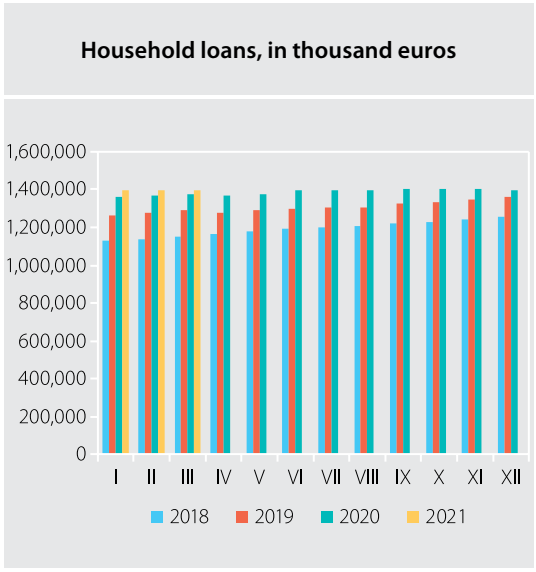
Retail deposits amounted to 1,263.4 million euros at end-March this year, being 9.4 million euros or 0.7% higher than at end-2020 and 13.5 million euros or 1.1% higher year-on-year.

The loan to deposit ratio for this sector was 1.10 at end-March this year, it deteriorated relative to the 2020 year-end when it amounted to 1.11, yet it remained the same relative to March last.

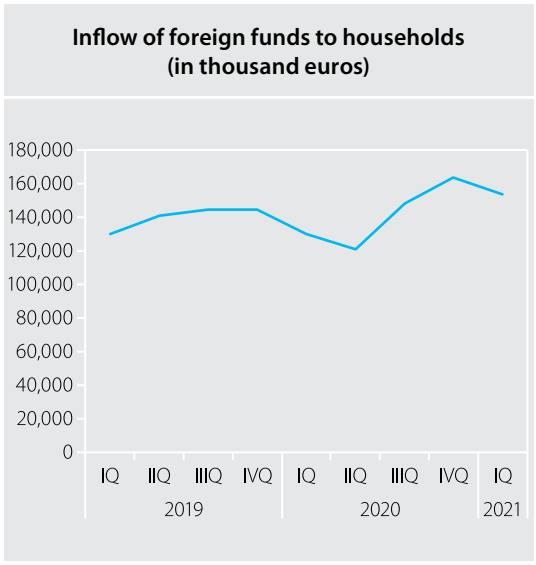
At the end Q1 2021, the household sector had a net debt of 127,8 million euros.

In the reporting period, the balance of payments statistics revealed the year-on-year increase in the inflow of monetary resources arising from compensations to employees and remittances (Graph 29).

Graph 28



Graph 29

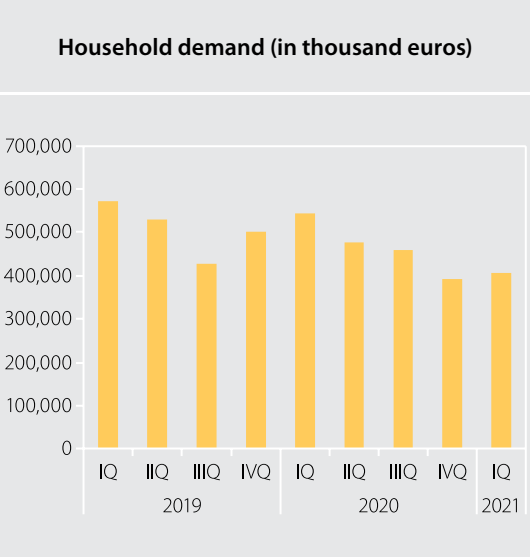


Source: CBCG

[4] The retail sector includes resident natural persons and entrepreneurs.

[5] Population estimate for 2021: Estimate as at 1 January 2021 amounts to 620,739, Source: MONSTAT.

Graph 30



Observation of the total retail sector demand by quarters shows that household demand in Q1 this year was higher compared to the previous quarter yet lower compared year-on-year (Graph 30).

3.1.2. Budget analysis

According to the Ministry of Finance`s preliminary data, total revenues[6] of the Budget of Montenegro amounted to 359.1 million euros in the period January - March this year.

Source revenues amounted to 348.4 million euros or 7.5% of the estimated GDP[7], and they increased by 4.8% in relation to the plan, and they showed the year-on-year decrease of 7.2% as a result of decline in economic activity induced by the COVID-19 pandemic. In the structure of source revenues, tax revenues accounted for the main share of 65.5%, followed by contributions with 28.9%, fees with 2.2%, other revenues with 1.4%, donations with 0.9%, duties with 0.6%, and receipts from loan repayment and funds transferred from previous year with 0.5%.

Tax revenues amounted to 228.3 million euros, recording an 8.2% decline year-on-year and a 7.9% increase relative to the plan. All taxes other than corporate income tax and other government taxes declined in the reporting quarter compared to the same period last year. The severest nominal decline of 18.3 million euros was recorded by VAT collection.

Revenues arising from contributions amounted to 100.6 million euros or 2.4% more than planned yet 2.5% less than in the comparative period last year.

Consolidated budget expenditure amounted to 451.8 million euros or 9.7% of GDP. Recorded expenditures were 14.7% lower than planned for the reporting quarter, and 0.2% or 0,7 million euros lower year-on-year.

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[6] The revenues include source revenues (direct and indirect taxes and non-tax revenues), borrowings and loans from domestic and foreign sources, and revenues from the sale of property.

[7] Source: Ministry of Finance; estimated GDP for 2021 amounts to 4.64 billion euros.

Reported current budget expenditures amounted to 189.1 million euros and they were lower both in relation to the plan and comparative quarter last year by 13.1% and 6% (or 12 million euros), respectively, primarily as a result of reduced interest expenses. However, growth was recorded in gross earnings and contributions paid by the employer (increased fund for gross earnings for health care and education) and subsidies (support measures for vulnerable population).

Capital expenditures[8] amounted to 27.1 million euros or 0.6% of GDP.

Cash deficit of the Budget of Montenegro is estimated at 103.4 million euros or 2.2% of GDP.

3.1.3. Non-financial sector[9]

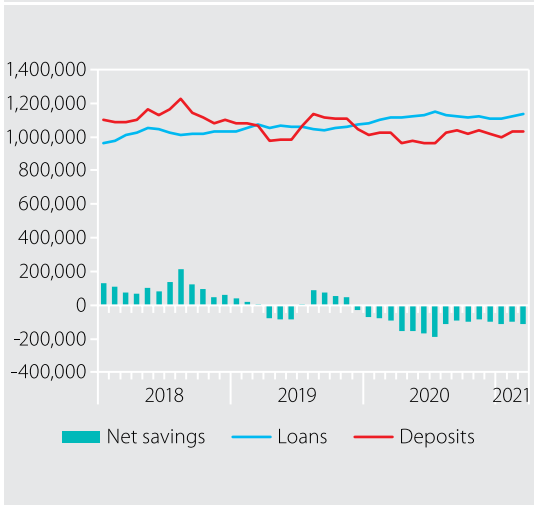
Due to the lack of data on the non-financial sector investments, we can use the sector's net savings/leverage as an approximation.

At end-March 2021, loans to the non-financial sector were higher than this sector's deposits. At the same time, net leverage of the non-financial sector amounted to 106.9 million euros (Graph 31).

Long-term loans accounted for the main share of 77.6% of corporate sector loans, which indicates that these loans were mainly used for increasing the volume of economic activity.

Graph 31

Net savings/indebtedness of the non-financial sector, in thousand euros



[8] Capital expenditures consist of capital expenditures in the current budget and the capital budget.

[9] The non-financial sector includes state companies and private companies.

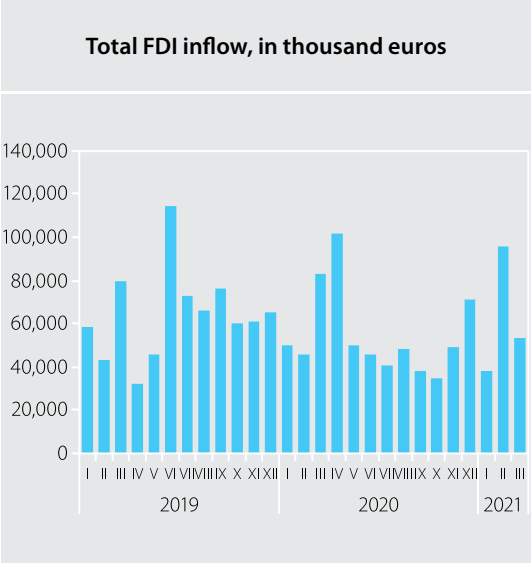
3.1.4. External demand and the current account

Preliminary data show that the current account deficit amounted to 160.4[10] million euros in the reporting quarter, which is the year-on-year decrease of 50.2%. This deficit decline is a result of a reduced foreign trade deficit as well as increases of surpluses on the services account and primary and secondary income accounts.

The goods account saw a deficit decline of 103.7 million euros or 24.4% y-o-y. Total visible exports amounted to 108.1 million euros, recording an increase of 13.1%, whereas total visible imports amounted to 429.7 million euros, being 17.5% lower than in the same period last year. The services account recorded a surplus increase of 42.1% (to 56.3 million euros) due to 26.1% lower service expenditures. The primary income account surplus amounted to 27.5 million euros, which is the year-on-year increase of 19.2 million euros. This trend is the result of smaller outflows based on international investment income and compensations to employees. The secondary income account ran a surplus of 77.3 million euros, which is 39.4% more than in the comparative period last year.

Preliminary data suggests that net foreign direct investments (FDIs) inflow for the period *January-March 2021* amounted to 83.7 million euros, which is a year-on-year decline of 37.7%. This FDI trend is a result of much higher outflows and lower inflows arising from equity investments. Total FDI inflow stood at 189 million euros, with equity investments amounting to 72.5 million euros (19.3% decline), while the inflow in the form of intercompany debt added up to 114.4 million euros or 38.9% more y-o-y. In the structure of equity investments, investments in companies and banks amounted to 35.48 million euros, while real estate investments reached 37.1 million euros. The inflow arising from the withdrawal of funds invested abroad amounted to 2.1 million euros. In the structure of the total inflow of FDI, the share of inflows arising from intercompany debt amounted to 60.5%, investments in companies and banks accounted for 19.7%, while 18.7% were invested in real estate. Total FDI outflow in the reporting period reached 105.3 million euros, which is the year-on-year increase of 130.1%. The outflow from residents' investments abroad amounted to 5.4 million euros, while the withdrawal of non-residents' funds invested in Montenegro amounted to 99.9 million euros.

Graph 32



Source: CBCG

The portfolio investments account recorded a net outflow of 226 million euros, while the net inflow in the other investments account amounted to nearly 99.9 million euros.

[10] Montenegro's balance of payments' data published in accordance with the new IMF methodology (IMF Balance of Payment Manual, Sixth Edition - BMP 6).

3.2. Supply and production

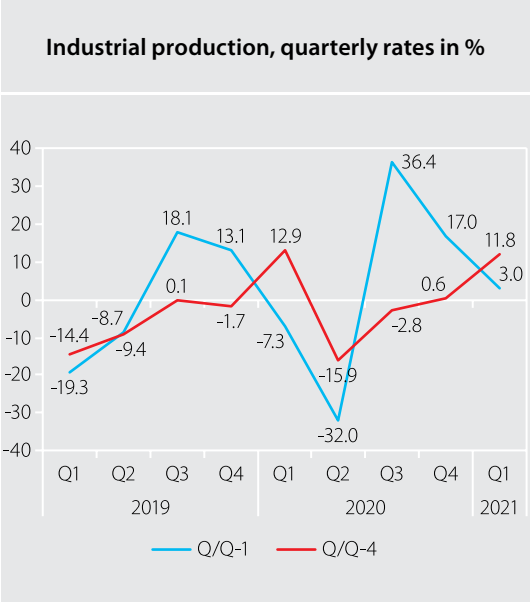
In the first three months of the current year, total industrial output rose by 11.8% y-o-y (Graph 33). Electricity, gas and steam supply recorded output growth of 42%, while the mining and quarrying sector and manufacturing industry recorded output declines of 3.8% and 13.1%, respectively.

In Q1 this year, a total of 38,568 tourists stayed in collective accommodation establishments, which is a decline of 57.1% year-on-year. The number of domestic and foreign tourist arrivals in collective accommodation establishments dropped by 29.3% and 62.7%, respectively. Tourist overnights amounted to 95,813, which is the year-on-year decrease of 49.7%.

Some 2,527 m³ of wood products were produced in the reporting period, which is 90.3%[11] less than in the same period last year.

According to preliminary Monstat data, construction recorded a 0.8% decline measured by the value of executed construction works and a 1.3% decline in effective working hours.

Graph 33



Source: MONSTAT

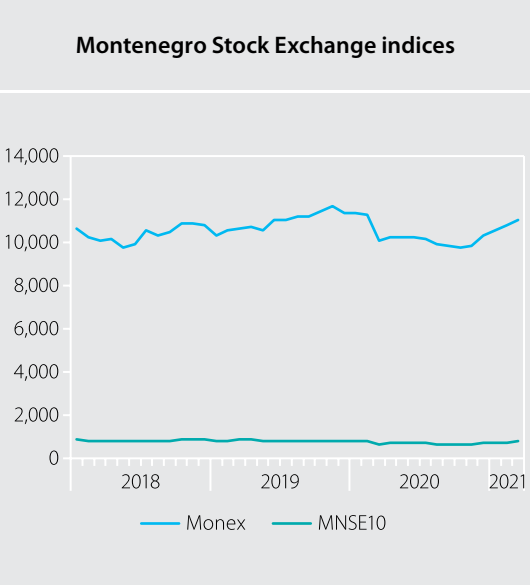
Consequently, all modes of passenger transport recorded significant year-on-year declines of 51.3% in railways, 59% in road transport, and 71.2% in transport via airports. At the same time, railway and road freight transport decreased by 40.8% and 11.8%, respectively, while cargo air dropped by 43.1%.

[11] Presented through the weighted index.

3.3. Stock exchange indices

At end-March this year, the MNSE10 and Monex indices rose both compared to end-2020 and year-on-year (Graph 34).

Graph 34



Source: Montenegro Stock Exchange

The SE index Monex[12] amounted to 11,015.18, recording an increase of 686.54 index points or 6.6% in relation to end-2020, and the year-on-year growth of 954.65 index points or 9.5%.

The SE index MNSE10[13] amounted to 760.76 at end-March this year, recording an increase of 47.93 index points or 6.7% in relation to end-2020, and the year-on-year growth of 103.49 index points or 15.7%.

[12] The MONEX is the Montenegro Stock Exchange benchmark index aimed at providing a more precise description of share prices trends in the official and free market of Montenegro Stock Exchange AD Podgorica. With the new Methodology, the successor of the MONEX20 index - the MONEX index - contains more companies in its index basket.

[13] The MNSE10 is the blue-chip index at the Montenegro Stock Exchange and it is aimed at providing a more precise description of prices trends of the most representative shares in the official and free markets of the Montenegro Stock Exchange AD Podgorica. It includes the top ten companies on the Montenegrin market.

4. MONETARY POLICY

During Q1 2021, there were no changes to the existing monetary policy instruments nor were any new decisions made regarding the Central Bank of Montenegro`s monetary policy instruments.

5. INFLATION FORECAST FOR THREE QUARTERS OF 2021 AND Q1 2022

5.1. Model assessment

Montenegro's inflation fan chart is a graphic representation of inflation rate forecast probability distribution presented by the consumer price index. In that respect, instead of determining specific points, the fan chart also takes into account potential risks and uncertainties through probability distribution that might influence the inflation trend in the following period. The very purpose of the fan chart is to indicate and consider uncertainties in the real economy flows, which are consequently reflected in the inflation rate trend (increase in energy prices, increase/decrease in the foreign trade deficit, and the like).

Montenegro's fan chart for the first three quarters of 2021 and Q1 2022 is based on three estimated constituent parts:

1. **Central projection values** – the values of the fan chart central projection are derived from the ARIMA model.
2. **Degree of uncertainty** – determines the fan chart width. The uncertainty degree ratios are obtained through analytical assessment and calculation of the relative impact of potential internal and external shocks that could hit the Montenegrin economy over a one-year period and which are reflected through the thickness of the band around the central projection.
3. **Fan chart skewedness** – based on the level of skewedness of the distribution of inflation projection, the fan chart is adjusted to the forecast to show whether the values of the central projections have overestimated or underestimated inflation rates. The position of the mean value of inflation distribution will depend on this.

Central projection of fan chart - ARIMA model for three quarters of 2021 and Q1 2022

With a view to developing a fan chart, an ARIMA (Autoregressive Integrated Moving Average) model of time series of inflation of Montenegro presented via the Consumer Price Index[14] was developed.

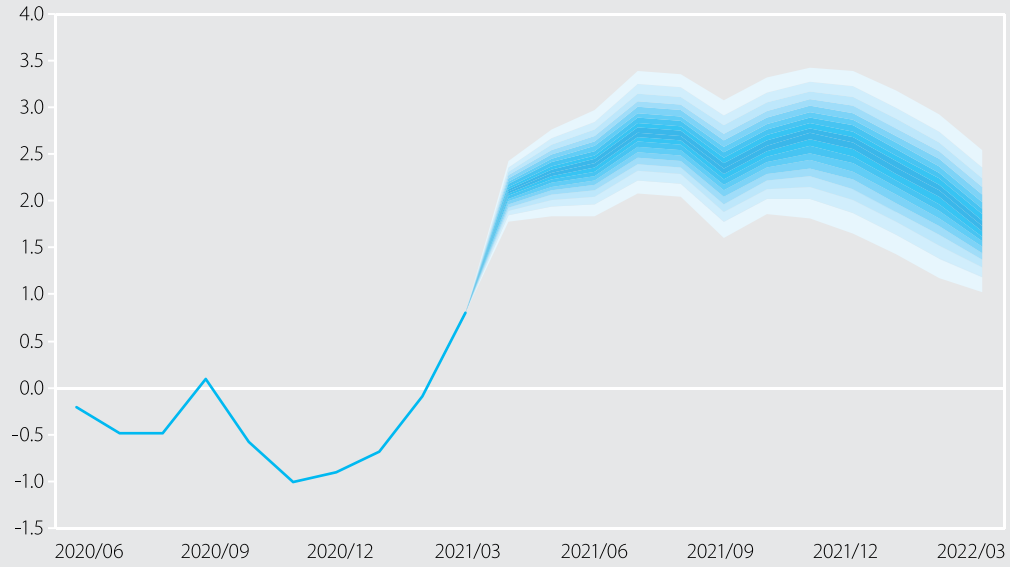
[14] A detailed explanation of the ARIMA model of Montenegro was presented in the working study of the Central Bank No. 11 *"Inflation Forecasting: Empirical research on the retail price index trend of Montenegro in 2007 - applying the ARIMA model."*

The ARIMA model was used for short term forecasts (12 months), whereby iteration of several ARIMA models was made, which were ranked based on their efficiency and diagnostics quality. The selected ARIMA model, ARIMA (3,1,3)[15] has sufficient confidence level for forecasts.

Monthly forecast values were used as the value of central projection of the CPI graph for three quarters of 2021 and Q1 2022. Obtained values represent the distribution mode, i.e. values with the highest frequency in the distribution of this time series.

Graph 35

Montenegro's CPI projections for three quarters of 2021 and Q1 2022



Source: CBCG, 2021

Mean value of the obtained model is 1.9. The value of the coefficient of asymmetry varies in the range of 0.5 to 1, and the relative standard deviation is 0.25. Model projection of inflation is located in the central span of the distribution. This indicates that the corresponding range of uncertainty of future inflation is symmetrical. The fan chart explains 90% of inflation distribution probability. The central projection is usually in the deepest shade of the Fan Chart, i.e. in the central 10% of probability.[16] The fan chart has an equal number of bands (eight) on either side of the central band whereby every

[15] The ARIMA Model is generally referred to as ARIMA (p,d,q) where p represents the number of autoregressive variables, d refers to the level of dependent variable that needs to be made stationary, and q is the number of variables, moving averages, in the certain model.

[16] The mode values (central projection) are usually in the deepest band shade, but in case of a significant risk level, it can happen that the central projection does not cover either of these values. *(Britton, E, Fisher, P.G. and Whitley, J.D. (1998), 'The Inflation Report projections: Understanding the Fan Chart', Bank of England, Quarterly Bulletin, 38, pp. 30–37).*

band of the same colour, both above and below the central band, cumulatively describes the next 10% of inflation trend probability. As uncertainty grows over time, the fan chart spreads.

The fan chart of inflation in Montenegro, based on the ARIMA model assessment for three quarters of 2021 and Q1 2022, indicates that there is a *90% probability that the CPI inflation will range between 1% and 3.4%, depending on the month, with the central projection of 2.4%. At the same time, inflation for December 2021 is forecasted to range between 1.6% and 3.4%, with the central trend of 2.6%.* The fan chart central projection (the darkest part) represents a 10% probability span (Graph 35).

The projected growth of the inflation rate mainly reflects the base effect, i.e. the weakening effect of a significant drop in oil prices in 2020 caused by the reduction of global oil demand during the pandemic. The risks related to the projected inflation rate shown on the fan chart are set symmetrically. Risks in terms of achieving the projected inflation rate relate to the oil and food prices trend. Also, the prices trend in the following period will be affected by the pace of recovery of domestic demand.

The projection was based on the following assumptions:

1. After a plunge on the international market in 2020, international institutions expect the oil prices to return to the pre-crisis level. The expected rise in oil prices will largely affect the increase in inflation this year. However, this growth will be only temporary as a reduction of crude oil futures prices is expected in 2022.
2. The projection assumes mild inflationary pressures coming from our major trading partners. In the projected period, we primarily expect inflationary pressures from the euro area. According to the ECB`s[17] March forecasts, the euro area inflation will reach 1.9%, which is 0.4% more than indicated in the previous March forecast. Inflation growth in 2021 is largely attributed to statistical factors that do not have a lasting effect, thus the inflation is expected to gradually decline in the next two years. Inflation increase in the euro area in 2021 is a consequence of the reduced VAT rate in Germany, increase in energy prices, and growing input expenses connected to the supply side disturbances. Considering expected stabilisation and decline of oil prices as weaker pressures on the demand side, the ECB projections of the 2022 inflation is set at 1.5%, while the 2023 inflation projection is 1.4%. A mild increase in inflation rates is expected in most countries in the region.
3. In this projection period we expect an increase in food prices due to the expected growth in the prices of primary agricultural products on the international market. The projection assumes an increase in the domestic food prices and agricultural products by up to 15%.
4. Pursuant to the Law on Excise Taxes, the excise duties on tobacco and tobacco products, alcohol and alcoholic beverages, carbonated beverages with added sugar, as well as excise duties on sugar, cocoa and ice cream products will be increased.

Deviation of any of the abovementioned parameters would require the forecast adjustment.

[17] Source: ECB (2021.): ECB staff macroeconomic projections for the euro area, June 2021.

6. EXPECTED INFLATION IN 2021

This year`s inflation is already higher than that recorded last year. This is mainly due to external factors but inflation is not any significantly different than in other economies in transition.

In the last few months we saw an extremely fast increase in the prices of consumer goods such as agricultural products, food products, oil, raw material, and the like. The Food and Agriculture Organisation (FAO) highlighted that monthly price increase in agricultural products in May was the highest one in the past decade. Consumer price increase in the euro area that had struggled with inflation to remain below the target level for a long time reached the level of 2%, which was above the target.

High level of uncertainty means a lot of dilemma. The first question is whether this is only a temporary price increase or what we see here is a preview of inflation acceleration in the upcoming period. The dilemma here is whether this is a real price increase or the prices are only returning to the pre-crisis levels. Also, whether this inflation is encouraged by recovery of demand or if it is a result of longstanding expansionary monetary stimuli. Another dilemma is why consumer goods prices (which in key economies account for some 20% of the inflation calculation basket), are on the rise while other prices such as services prices remain stagnant. At this moment, answers to these questions are not quite clear so it is hard to draw any conclusion on whether this is only a transitionary disturbance or a permanent inflation growth, which points to a high degree of uncertainty.

When it comes to inflationary expectations of banks and surveyed companies, we can see quite a lot differences. This is normal when there is a high degree of uncertainty and lack of relevant prior experiences.

Also, all expectations and projections point to a significant economic growth that can have a dual effect on inflation growth. On one hand, it could affect demand growth that could encourage inflation growth, while a growing supply of goods could have disinflationary impact on the other hand.

The model estimate projects inflation within the 1.6% and 3.4% range, with the central projection at 2.6%. Our expert assessment is similar and it projects annual inflation between 1.75% and 4.00%, with the central projection at 2.75%.

Table 3

Estimated inflation rate at end-2021		
Lower threshold	Central projection	Upper threshold
1.75%	2.75%	4.00%

This assessment is based on the same assumptions as the econometric assessment and the deviation of any of the assumptions would require the forecast revision.