CENTRAL BANK OF MONTENEGRO

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CONTENTS

1. INFLATION INDICATORS 5

2. INFLATION EXPECTATIONS 10

2.1. Banks' expectations 10

2.2. Expectations of the corporate sector (banks excluded) 12

3. INFLATION DETERMINANTS 15

3.1. Demand 15

3.1.1. Earnings and other available demand determinants 16

3.1.2. Budget analysis 18

3.1.3. Non-financial sector 19

3.1.4. External demand and the current account 20

3.2. Supply and production 21

3.3. Stock exchange indices 22

4. MONETARY POLICY 23

5. INFLATION FORECAST FOR THREE QUARTERS OF 2023 AND THE FIRST QUARTER OF 2024 24

5.1. Model assessment 24

6. EXPECTED INFLATION IN 2023 28

1. INFLATION INDICATORS

After a significant increase in prices during 2022 and reaching a multi-decade inflation highs in some countries, inflationary pressures started abating towards the end of the year under the influence of restrictive monetary policy measures of leading central banks, the stabilisation of energy markets, and normalisation in global supply chains. Thus we witnessed inflation slowing down in a large number of countries around the world in the first months of 2023. According to the OPEC[1] data, oil prices on the international market decreased by 19.7% and 7.9% compared to the first and last quarter of the previous year, respectively. According to data from the UN Food and Agriculture Organization (FAO), the food price index decreased in March this year for the twelfth consecutive month and stood at 20.5% below its maximum level recorded in the same month of the previous year. This was due to higher inventory levels, reduced import demand and the extension of the *Black Sea Grain Initiative*, which allows Ukraine to continue exporting from its Black Sea ports.

After the previous year with the record inflation since regained independence (2006), there was a slowdown in inflation in Montenegro. According to MONSTAT data, consumer prices in March this year recorded an average growth of a mere 0.2% in relation to December 2022. The biggest contributor to this was an increase in the prices under the categories *transport* of 2.1% and *furnishing, household equipment and routine household maintenance* of 2.9% (table 2). In the first three months of 2023, compared to the same period of the previous year, consumer prices were 13.9% higher on average, while the year-on-year average price growth in March this year amounted to 10.5%. Observing the movement of prices by months, the highest growth of consumer prices was seen in January (0.4%) and February (0.5%), while a decline was seen un March (0.7%) (graph 1).

Table 1

Inflation in Montenegro in the period March 2022 – March 2023, in %

	2022				2023
	III	VI	IX	XII	III
Change in relation to to the previous year-end	6.3	11.1	14.5	17.2	0.2
Annual change	9.7	13.5	16.0	17.2	10.5

Source: MONSTAT

Compared to December 2022, prices in Montenegro recorded an increase in eight out of twelve categories that made up 49.35% of total consumer basket in March of the current year (table 2). Price growth in transport of 2.1% was the main contributor to the growth of total inflation (0.25 pp), mostly as a result of the increase in the prices of fuels and lubricants for motor vehicles of 3.0%. A higher level of oil prices compared to the end of the previous year was recorded on the international market in the first two months of the current year as a result of increased demand due to the opening of the Chinese economy (with the cancellation of the policy of "zero-COVID policy"). Then in March oil prices fell due to the fear of a new financial crisis, as a reaction to the collapse of some banks in the USA and Europe. Price growth in the furnishing, household equipment and routine household maintenance category

1 *OPEC Monthly Oil Market Reports* (North Sea Dated benchmark price), April 2023.

of 2.9% contributed to the overall inflation growth with 0.13 pp, mostly as a result of a 4.6% increase in the prices of goods and services for routine household maintenance. The adopted Law Amending the Law on Excise Duties[2] pushed the prices of tobacco upward, and it was a measure to harmonize the amount of excise duty on cigarettes with the Council Directive 2011/24/EU, thus being the main contributor to the increase in prices under the alcoholic beverages and tobacco category of 2.5%. In the observed period, price growth was also recorded in the categories of miscellaneous goods and services of 2.6%, health of 1.3%, housing, water, electricity, gas and other fuels of 0.8%, recreation and culture of 0.6% and communications of 0.1%.

A drop in prices was recorded in the categories of clothing and footwear of 2.6%, restaurants and hotels of 1.4% and food and non-alcoholic beverages by 0.7%. Category education recorded no change in prices in March this year compared to December 2022.

Table 2

Growth rate and contribution of individual categories in total inflation[3] in Montenegro

	Weights	III 2023 / XII 2022	Rate	Contribution
TOTAL	1,000.0	100.2	0.2	0.2
Food and non-alcoholic beverages	360.3	99.3	-0.7	-0.2
Alcoholic beverages and tobacco	37.3	102.5	2.5	0.1
Clothing and footwear	80.8	97.4	-2.6	-0.2
Housing, water, electricity gas and other fuels	136.6	100.8	0.8	0.1
Furnishing, household equipment and routine household maintenance	44.2	102.9	2.9	0.1
Health	39.1	101.3	1.3	0.1
Transport	118.3	102.1	2.1	0.3
Communications	45.1	100.1	0.1	0.0
Recreation and culture	31.4	100.6	0.6	0.0
Education	18.4	100.0	0.0	0.0
Hotels and restaurants	47.1	98.6	-1.4	-0.1
Miscellaneous goods and services	41.5	102.6	2.6	0.1

Source: MONSTAT and CBCG calculations

After the anti-inflationary measures adopted by the Government in the previous year, which related to the reduction of key tax rates on basic food products, production inputs (excise duties on fuel), and the price caps of certain products in supermarkets, the action called „Stop inflation"[4] was launched in March this year. On 21 March, in cooperation with the representatives of the largest retail chains in the country, the Ministry of Economic Development and Tourism launched a multi-month action that entails the formation of the so-called "anti-inflationary basket". This basket contains at least one item from each of the 25 types of agreed products, most of which are from the food and non-alcoholic beverages category. The selection of a specific item from a defined type of product is made by the retailer himself and forms the price, respecting the rule that the markup in retail and wholesale is limited to 5%. All retailers have the option to expand the list of products included in the anti-inflation basket,

[2] Parliament of Montenegro session, 28 February 2023.

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

[4] Source: Government of Montenegro *https://www.gov.me/clanak/sjutra-pocinje-akcija-stop-inflaciji*

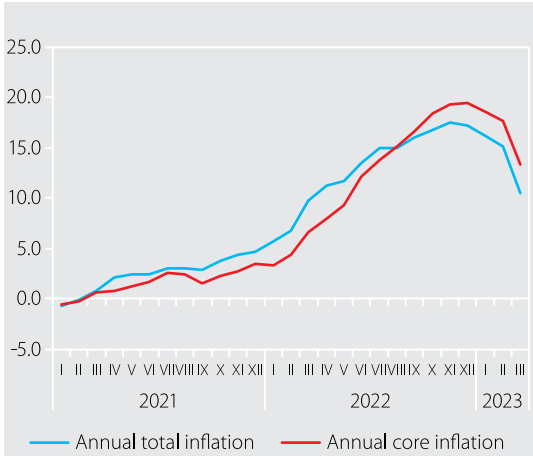
but they cannot shorten it. It is expected that this action will make a positive contribution to the reduction of inflation in the covered categories.

The annual core inflation rate stood at 13.3% in March 2023 and it was 2.7 pp higher than total annual inflation[5]. This was due to the rise in the prices of almost all groups of food products that are not excluded, as well as the prices of other product groups that determine core inflation on annual level. Annual core inflation was lower than the total inflation in all three months in Q1 2022 (graph 1). The largest spread between total annual and core inflation was recorded in March due to price changes of certain products that are included in the annual inflation calculation, but not included in the core inflation calculation (e.g. prices of a large number of agricultural products, tobacco, fuel and lubricants, and the like).

The average price of oil recorded the quarter-on-quarter growth in the first quarter of 2023. The average price of the OPEC reference basket amounted to 80.65 USD/barrel in Q1 this year, which is a decrease of 8.01% in relation to Q4 2022. In this period, the average price of Brent stood at 81.22 USD/barrel or 7.91% less compared to the average price in the last quarter of 2022. Also, the lowest price (78.29 USD/barrel) since December 2021 was recorded in March this year. Further increases in interest rates by the key central banks that have been fighting inflation could slow down economic growth and reduce energy demand. According to the World Bank report from April 2023[6], the average price of crude oil in the current year is expected to decrease by about 16% compared to 2022 (average price of USD 84/barrel). The price forecast was revised downward compared to the previous October report due to the expectation of weaker economic growth in developed countries in particular.

Graph 1

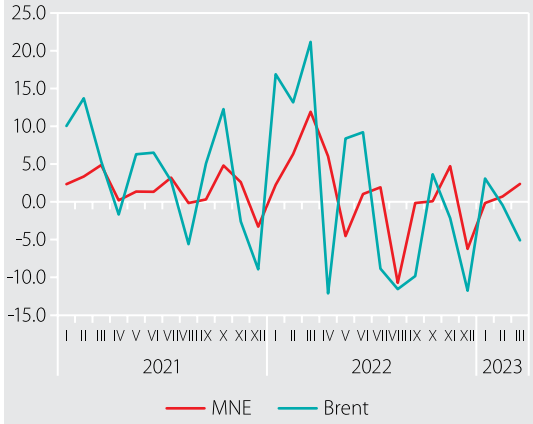
Annual rate of total and core inflation in Montenegro, in %



Source: MONSTAT and CBCG calculations

Graph 2

Fuel and lubricant prices in Montenegro and OPEC oil prices, monthly rate, in %



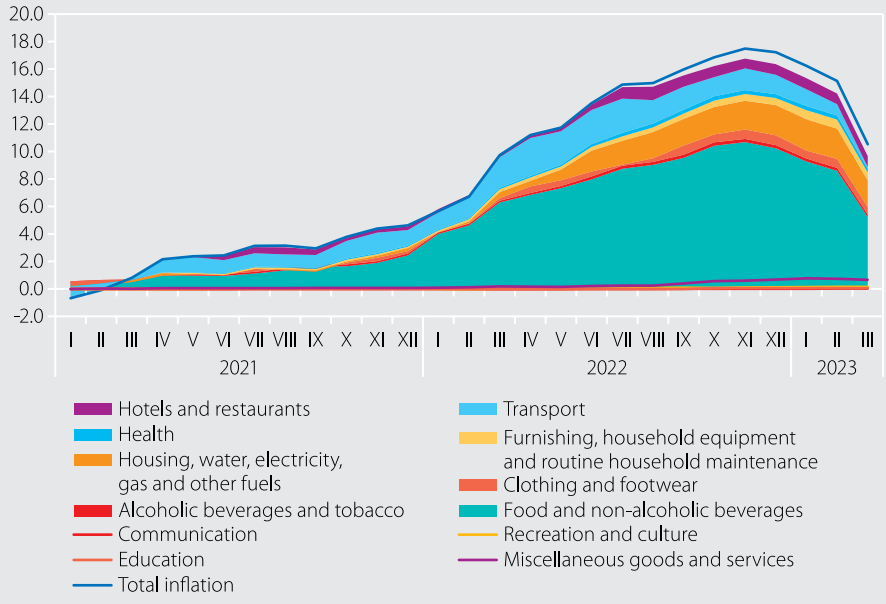
Source: MONSTAT and OPEC "Monthly Oil Market Reports"
(*North Sea Dated)

[5] Core inflation is used as an indicator of the trend of a long-term rate or a future rate of inflation, meaning that it enables distinguishing between temporary price shocks and long-term inflation. Total annual inflation is an indicator of the average price change of all products and services used by households for consumption purposes. Read more on the methodology at: *https://www.cbcg.me/slike_i_fajlovi/eng/fajlovi/fajlovi_publikacije/radne_studije/obracun_bazicne_stope_inflacije_english.pdf*

[6] *Commodity Markets Outlook*, April 2023.

Graph 3

Consumer prices' components in Montenegro, contribution to annual growth rate



Source: MONSTAT

According to MONSTAT data, the annual price growth of 14.5% in the *food and non-alcoholic beverages* category in March was the main contributor (with 5.40 pp) to the increase in total annual inflation rate of 10.5% (graph 3). Annual price growth was also seen in all other categories: *hotels and restaurants* (16.8%), *miscellaneous goods and services* (15.9%), *housing, water, electricity gas and other fuels* (14.2%), *furnishing, household equipment and routine household maintenance* (13.2%), *health* (7.2%), *clothing and footwear* (6.6%), *alcoholic beverages and tobacco* (5.5%), *recreation and culture* (4.8%), *education* (3.1%), *transport* (1.0%), and *communications* (0.5%) (graph 4).

Graph 4

Annual and monthly change in consumer prices in Montenegro, in %

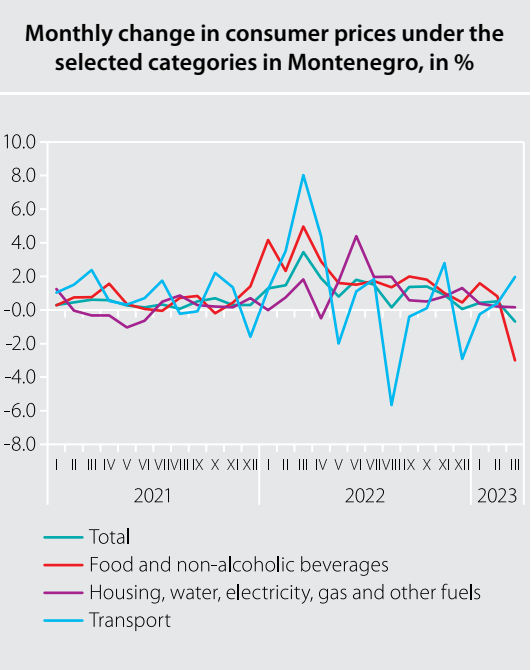
Source: MONSTAT

Producers` prices of manufactured products recorded the year-over-year growth in the first three months of 2023 of 12.0% Price growth was recorded in manufacturing industry and the mining and quarrying sector of 10.7% and 36.8%, respectively, while prices in the electricity, gas and steam supply sector remained the same. On the annual level, the producers' prices increased by 10.7% in March this year.

High rates of inflation were recorded in most countries in the region and the EU. The highest annual rate of consumer prices among countries in the region in March was recorded in Serbia (16.2%), North Macedonia (14.7%) and Bosnia and Herzegovina (10.3%), while Albania recorded the lowest rate of 5.3%.

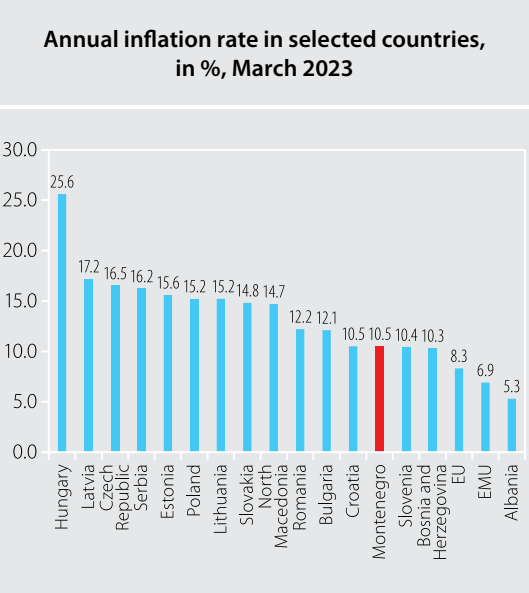
The annual HICP[7] inflation recorded in the EU stood at 8.3% in March 2023. Of the EU countries, the highest inflation was seen in Hungary, 25.6% and Latvia, 17.2%, while the lowest rate of inflation was recorded in Luxembourg, 2.9%. The annual inflation rate in the euro area in the same period amounted to 6.9% and it was 2.3 pp lower than the annual rate in December 2022, and the highest contributors to inflation with 3.12 pp and 2.10 pp were the annual price increase of food, alcoholic beverages and tobacco of 15.5% and services of 5.1%, respectively. In its May report[8], the European Commission forecast inflation in euro area of 5.8% in 2023 and 2.8% in 2024.

Graph 5



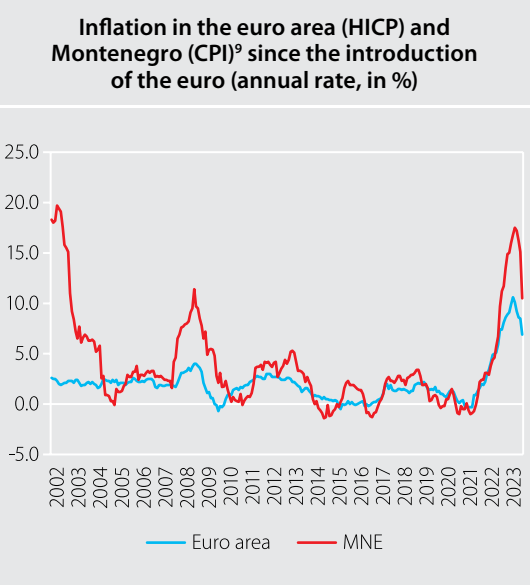
Source: MONSTAT

Graph 6



Source: National statistical offices and Eurostat

Graph 7



Source: MONSTAT and Eurostat

[7] Harmonised Index of Consumer Prices (HICP) is the basis for a comparative measure of inflation in Europe and the assessment of stability of monetary value in the euro area. Every EU member state is obliged to produce the HICP index.

[8] Source: *European Commission European Economic Forecast, Spring 2023*, May 2023

[9] Cost of living has been used for measuring inflation in Montenegro until 2009, after which consumer prices were introduced.

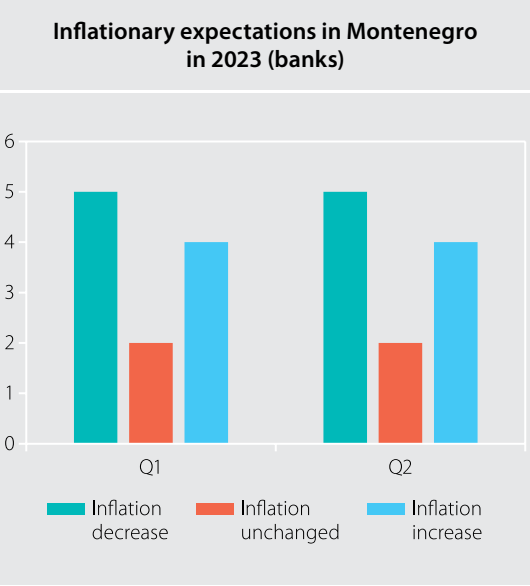
2. INFLATION EXPECTATIONS

2.1. Banks' expectations

As for inflation expectations of banks, based on the survey conducted in May this year, five banks expect inflation to decline, four banks expect it to increase, and two believe that it will remain at the 2022 level (graph 8).

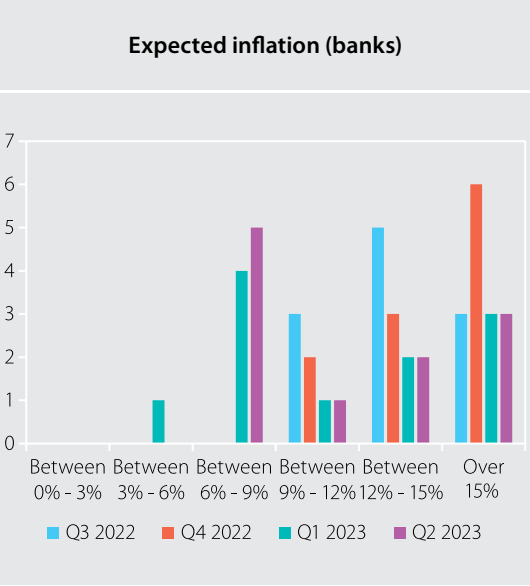
When it comes to banks' expectations regarding inflation levels, five banks expect inflation between 6% and 9%, three banks expect it to be higher than 15%, two banks believe it will range between 12% and 15%, and one bank expects it will be between 9% and 12% (graph 9).

Graph 8



Source: Central Bank Survey

Graph 9

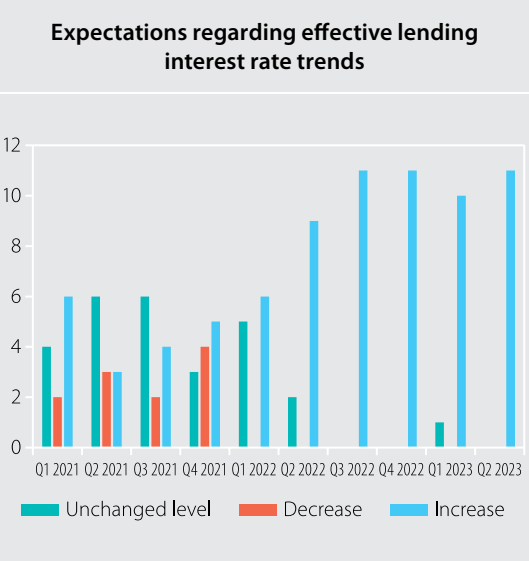


Source: Central Bank Survey

As for expectations regarding the nominal lending interest rates, all banks also expect they will rise. Expectations are the same regarding the effective lending interest rate (graph 10).

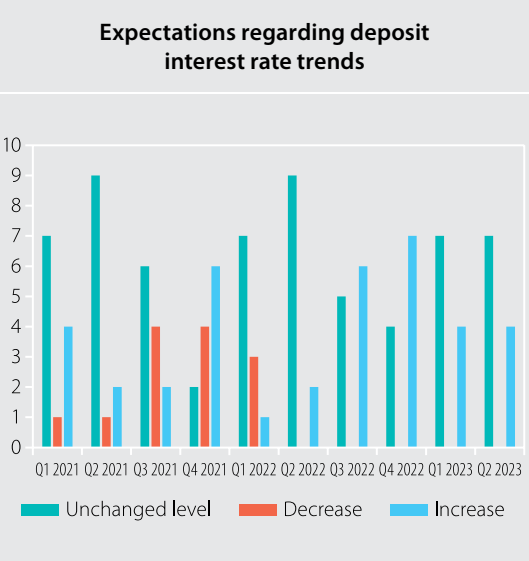
The situation with deposit interest rates is that four banks expect their increase, seven banks expect no change, while none expect their decline (graph 11).

Graph 10



Source: Central Bank Survey

Graph 11



Source: Central Bank Survey

For the purpose of calculating inflation forecasts we use the market trend indicator (horizontal line in graph 12) that is calculated as the difference between the number of banks expecting inflation growth and those expecting inflation decline. If the market trend indicator has a negative value, a decrease in inflation is expected in the upcoming period. However, if its value is positive, then an increase in the inflation rate can be expected. If it has a zero value, no change in the inflation rate can be expected in the upcoming period. The more negative market trend indicator value, the lower the inflation expectations and vice versa, a higher positive value means higher inflation level expectations. The surveys conducted in the first two quarters in 2023 indicate a decline in banks' inflation expectations in 2023.

Graph 12

Source: Central Bank Survey

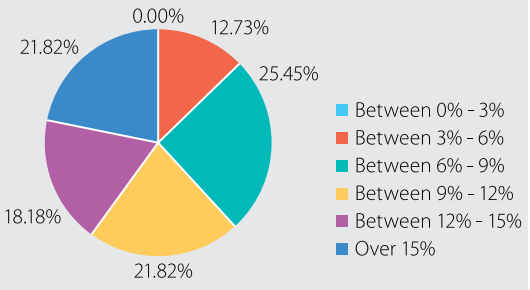
2.2. Expectations of the corporate sector (banks excluded)

Inflation

Of the total number of surveyed companies, 25.45% expect the inflation to range between 6% and 9% in 2023. Inflation in the range between 9% and 12% and above 15% is expected by 21.82% companies, while 18.18% of the respondents expect it to be between 12% and 15%. Some 12.73% of companies believe that inflation will range between 3% and 6%, while none of them expect it to be between 0% and 3% (graph 13).

Graph 13

Expected inflation in Montenegro in 2023 (responses based on percentage share)

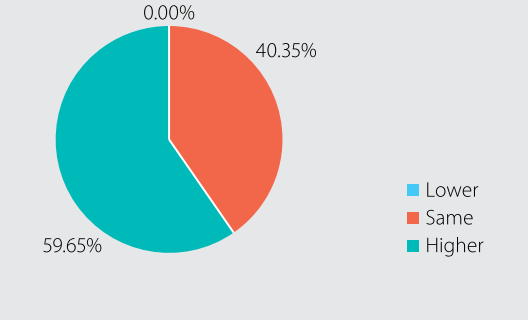


Source: Central Bank Survey

As much as 59.65% of the surveyed companies expect earnings to rise in 2023 in relation to the previous year, while the remaining 40.35% expect them to remain the same (graph 14). With regard to the number of employed persons, 50.00% of the respondents expect it to remain unchanged, 41.07% expect this number to increase, and 8.93% expected it to decline in relation to the previous year (graph 15).

Graph 14

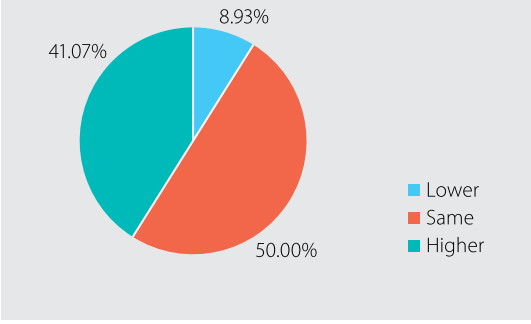
Expected earnings in 2023 in relation to 2022



Source: Central Bank Survey

Graph 15

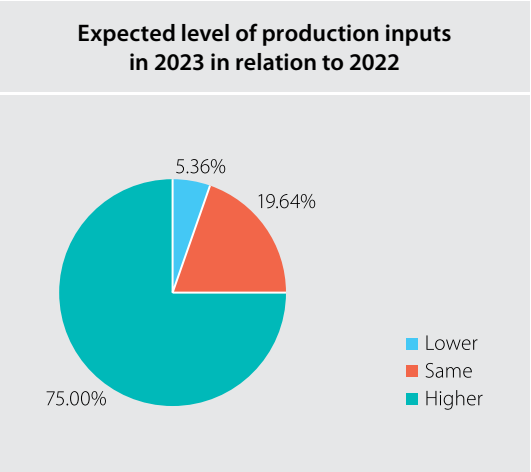
Expected number of employed persons in 2023 in relation to 2022



Source: Central Bank Survey

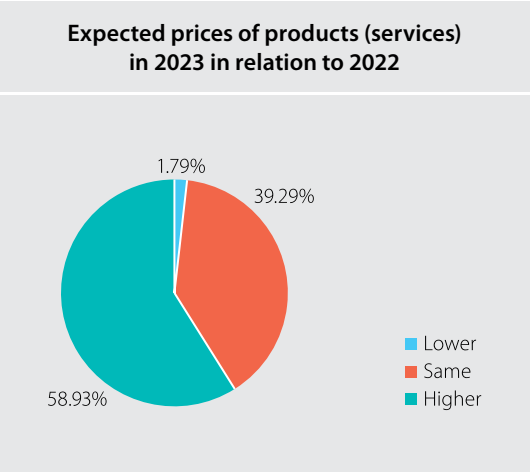
The majority of surveyed companies (75.00%) expect higher prices of production inputs they use (graph 16), and 58.93% plan to increase the prices of their products and/or services in 2023 (graph 17).

Graph 16



Source: Central Bank Survey

Graph 17



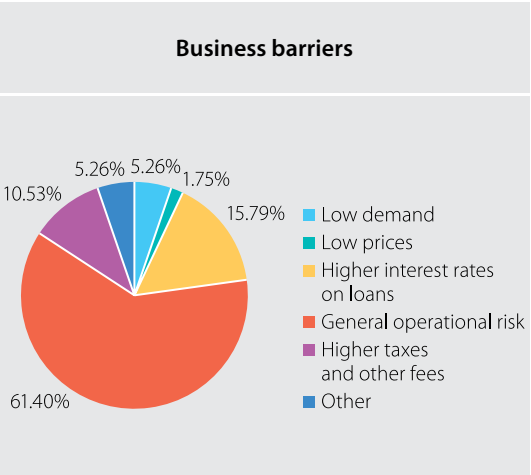
Source: Central Bank Survey

Business Environment

Results of the survey in the area of business barriers (graph 18) show that most of the surveyed companies (61.40%) see general operational risks as the major obstacle, then high lending interest rates (15.79%), followed by too high taxes and other forms of duties (10.52%), poor demand and other barriers (5.26% each), and low prices (1.75%).

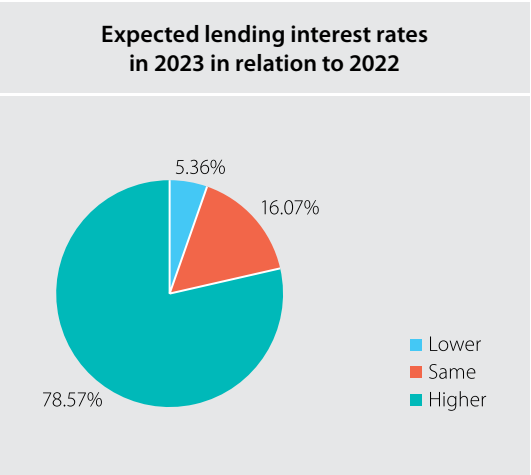
With regard to the lending interest rates, 78.57% of the respondents expect them to increase, 16.07% expect unchanged levels, and 5.36% believe they will decline in the current year relative to 2022 (graph 19).

Graph 18



Source: Central Bank Survey

Graph 19

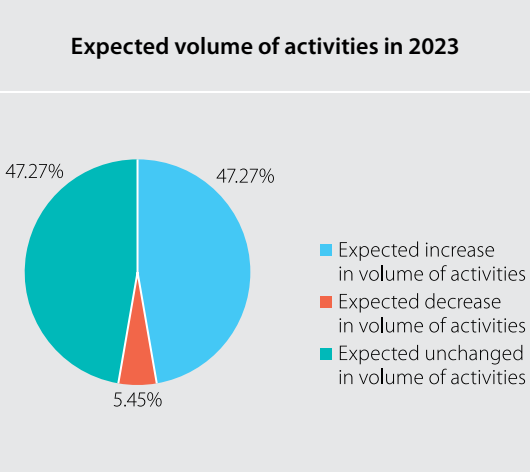


Source: Central Bank Survey

Investments

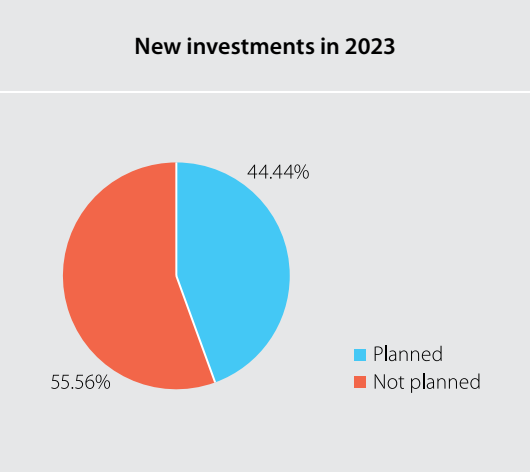
Out of the total number of companies surveyed, 47.27% of them plan to increase the volume of activities by the end of 2023, the same number expect an unchanged volume, while 5.45% of the respondents expect a reduced volume of activities (graph 20). The majority of those surveyed (55.56%) do not plan new investments (graph 21), and of those who do plan, they will use most of the investments (71.43%) to increase their fixed assets (graph 22). The surveyed entities highlighted insufficient exploitation of the existing capacities and unfavourable conditions for capital borrowing and other barriers as the main barriers to new investments (graph 23).

Graph 20



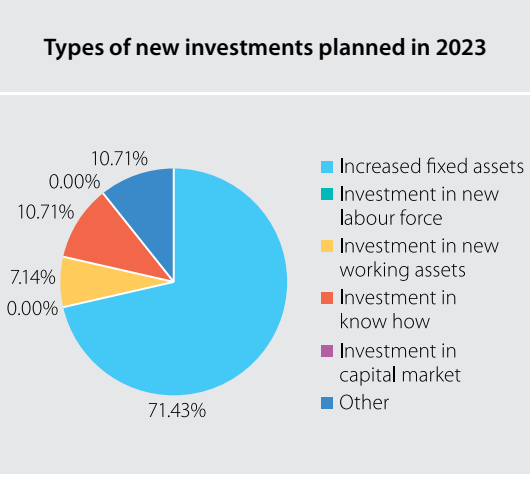
Source: Central Bank Survey

Graph 21



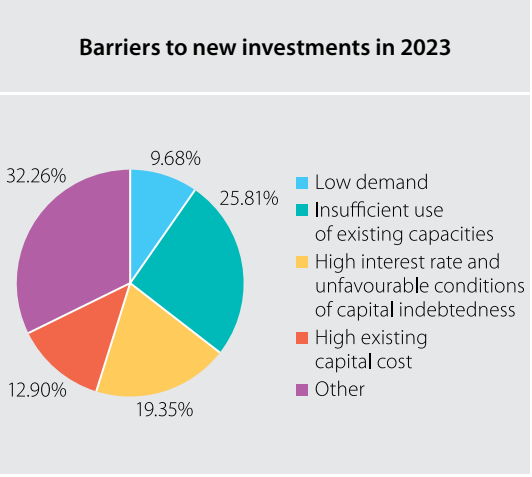
Source: Central Bank Survey

Graph 22



Source: Central Bank Survey

Graph 23



Source: Central Bank Survey

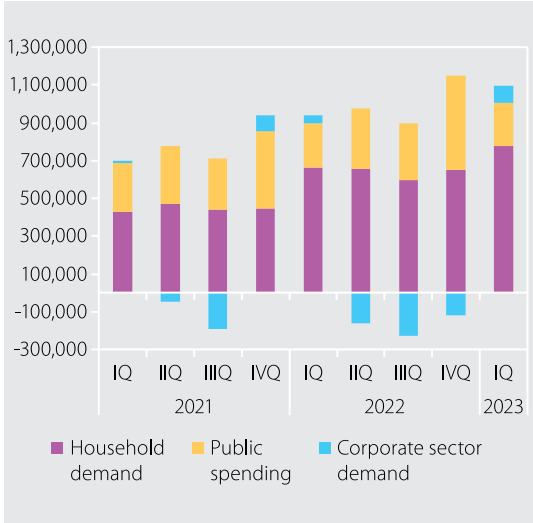
3. INFLATION DETERMINANTS

3.1. Demand

According to preliminary data, aggregate demand recorded both quarterly and the year-on-year growth in the first quarter of 2023. Observing the structure of total demand in the reporting period, the share of retail and wholesale demand increased compared to the previous quarter, while that of public spending declined (graph 24).

Graph 24

Aggregate demand in Montenegro, in thousand euros



Source: Central Bank calculations

Graph 25

Aggregate demand in Montenegro, quarterly change, in %

Source: Central Bank calculations

Box 1 – Aggregate demand calculation methodology

For the purpose of a more complete monitoring of aggregate demand as a determinant of inflation, the Central Bank has developed the aggregate demand calculation methodology. The starting point of this methodology is 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. In the existing methodology, a number of substantial data were not available, such as: corporate investments, revenues from share sales, non-market income, non-observed economy revenues, and the like. Methodology of aggregate demand calculation is expressed by 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 – retail sector net savings (savings – loans granted)

I = – wholesale net savings (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

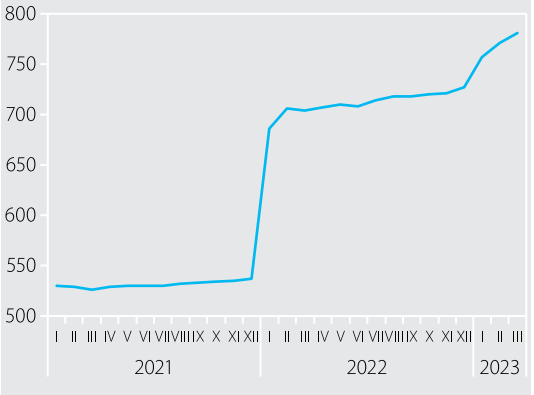
3.1.1. Earnings and other available demand determinants

In the first quarter of 2023, average gross earnings in Montenegro amounted to 956 euros, while an average earnings without taxes and contributions amounted to 770 euros. In relation to the previous quarter (Q4 2022), the average gross and net earnings rose by 6.90% and 6.50%, respectively. Compared to Q1 2022, average earnings and average earnings without taxes and contributions rose by 9.01% and 10.16%, respectively.

If we take into account consumer prices, i.e. earnings trend observed in real terms, it is concluded that real earnings increased in all three months of the reporting quarter.

Graph 26

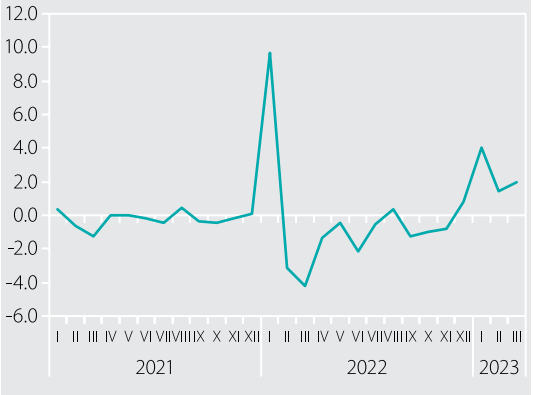
Average earnings without taxes and contributions in Montenegro, in euros



Source: MONSTAT

Graph 27

Monthly change in real gross earnings in Montenegro, in %



Source: MONSTAT

Retail loans[10] recorded positive trends in the first three months of the current year. Loans to this sector grew at the monthly average rate of 0.57% during the reporting period, as compared to 0.79% in same three-month period in 2022.

At end-March 2023, retail loans amounted to 1,581.74 million euros, which is 116.15 million euros or 7.92% more than in same period of the previous year and 26.65 million euros or 1.71% more than at tin December 2022 (graph 28).

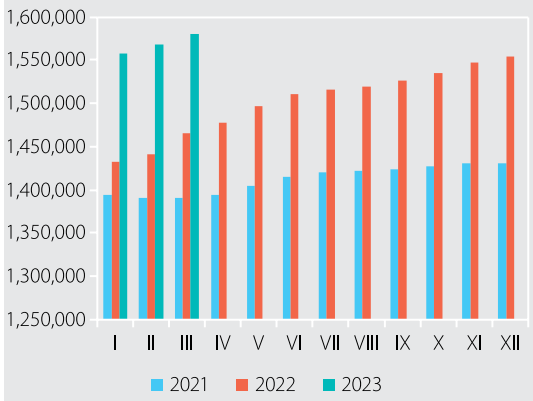
Debt *per capita*[11] amounted to 2,564.86 euros at the end of the reporting period, recording an increase of 192.15 euros or 8.10% year-on-year and a 47.25 euro or 1.88% increase in relation to end-2022.

At end-March this year, total MFI loans granted to the retail sector amounted to 70.05 million euros, which is 7.08 million euros or 11.24% more year-over-year and 3.10 million euros or 4.63% more than at the end-2022.

Retail deposits amounted to 1,696.29 million euros at end-March this year, being 246.03 million euros or 16.96% higher than at end-March 2022 but 5.08 million euros or 0.30% lower than at end-2022.

Graph 28

Retail loans, in thousand euros, January 2021 - March 2023, end-month balance



Source: CBCG calculations

The loan to deposit ratio for this sector was 0.93 at end-March this year, and it deteriorated relative to the same period of the previous year when it amounted to 1.01, while it rose relative to end-2022 when it equalled 0.91.

At the end-Q1 2023, the retail sector had a net savings of 114.55 million euros, which is was more favourable than at the end of the previous year when the retail sector net debt amounted to 15.32 million euros. At end-December 2022, the retail sector recorded net savings in the amount of 146.28 million euros.

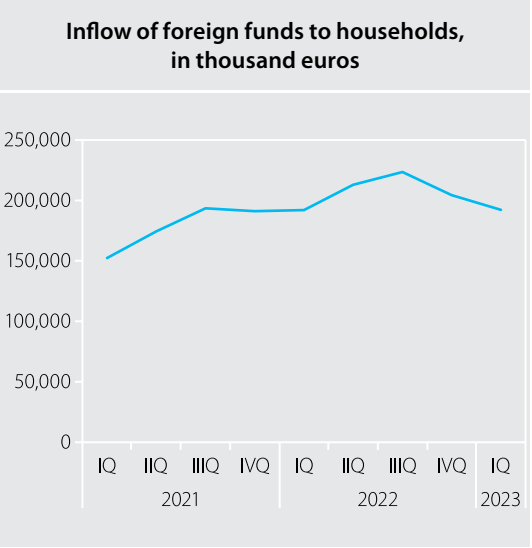
[10] The retail sector includes resident natural persons and entrepreneurs.

[11] Population estimate for 2022 as at 1 January 2022 amounts to 617,683, Source: MONSTAT.

In the reporting quarter, the balance of payments statistics recorded a mild year-on-year increase in the inflow of monetary resources arising from remittances (graph 29).

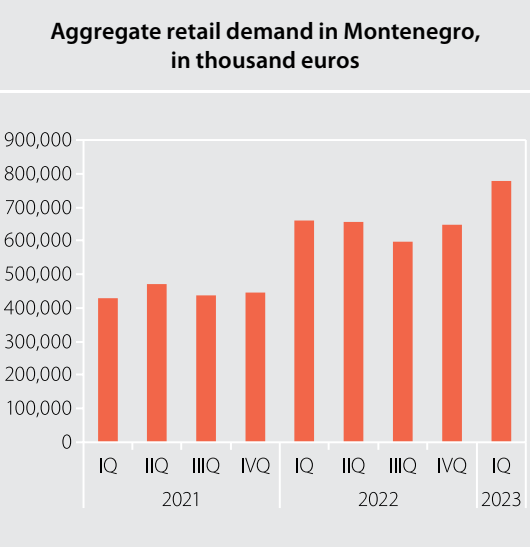
Total retail sector demand by quarters shows that household demand was higher in Q1 this year both compared to the previous quarter and year-on-year (graph 30).

Graph 29



Source: Central Bank

Graph 30



Source: Central Bank calculations

3.1.2. Budget analysis

Budget of Montenegro

According to the Ministry of Finance preliminary data, total revenues[12] of the Budget of Montenegro amounted to 648.77 million euros in Q1 2023.

Current revenues of the Budget amounted to 542.44 million euros or 8.78% of projected GDP[13] and they were 12.38% higher than planned for Q1 2023 and 30.58% higher year-over-year, which is primarily owing to greater tax discipline, a successful application of the Law on Reprogramming of Tax Claims, an increase in wage coefficients for employees in the public sector, as well as due to an increase in consumer prices, the transfer of funds collected from the implementation of the "Economic Citizenship" project, and the payment of funds by the EU as a direct budget support for energy efficiency. In the structure of current revenues, tax revenues accounted for the main share of 63.86%, followed by contributions with 18.39%, other revenues with 7.36%, donations with 6.40%, fees with 3.48%, and duties with 0.51%.

[12] Revenues include current revenues (direct and indirect taxes and non-tax revenues), borrowings and loans from domestic and foreign sources, as well as revenues from property sale and receipts from loan repayment.

[13] Source: Ministry of Finance; estimated GDP for 2023 amounts to 6,174.6 million euros.

Tax revenues amounted to 346.38 million euros, recording a 5.99% increase relative to the plan and a 15.41% increase year-on-year. All taxes other than personal income tax and property turnover tax increased year-over-year. The highest nominal increase of 50.35 million euros was recorded in VAT collection.

Revenues arising from contributions amounted to 99.78 million euros or 18.14% more than planned and 19.11% more than in the comparative quarter in 2022.

In Q1 2023, *consolidated budget expenditure* amounted to 478.80 million euros or 7.75% of GDP. Recorded expenditures were 16.65% lower than planned but also 9.17% higher year-on-year.

Current budget expenditures amounted to 208.23 million euros and they were 10.99% lower in relation to the plan and 21.01% higher year-on-year. The highest downward deviation from the plan was seen in other expenditures (7.20 million euros or 44.62%), while no budget expenditure item recorded decline.

Capital expenditures amounted to 14.98 million euros or 0.24% of GDP. Compared to the plan, they were 73.79% lower, while the year-over-year decline amounted to 57.98%, partly due to the completion of construction of the priority section of the Bar - Boljari highway and partly due to the non-implementation of planned projects.

In Q1 2023, *cash surplus* of the Budget of Montenegro was estimated at 63.64 million euros or 1.03% of GDP.

3.1.3. Non-financial sector

Lending to the non-financial sector[14] recorded positive trends in the first three months of the current year. Loans to this sector grew at a monthly average rate of 0.74% during the reporting period, while this average amounted to 2.06% during the same period of the previous year.

At end-March 2023, total loans to the non-financial sector amounted to 1,289.75 million euros, which is 59.50 million euros or 4.84% more year-on-year and 28.17 million euros or 2.23% more compared to end-2022.

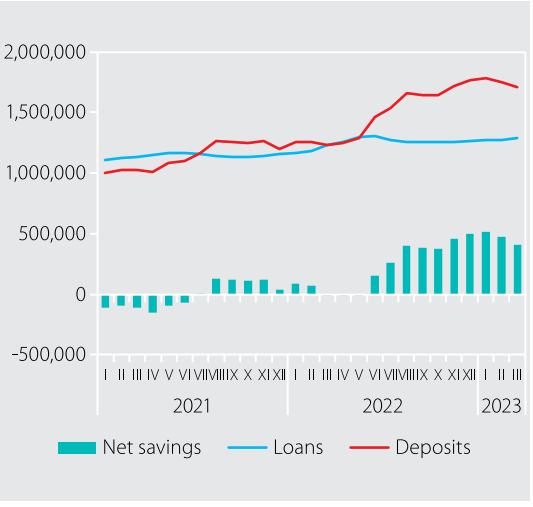
Long-term loans accounted for the main share in the structure of loans to the sector with 77.16%, which indicates that loans to the corporate sector were mainly used for increasing the volume of economic activity.

Deposits of the non-financial sector amounted to 1,705.89 million euros at end-March this year, recording an increase of 476.50 million euros or 38.76% in relation to March 2022, while they were 60.76 million euros or 3.44% lower than in December 2022.

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

Graph 31

Net savings/indebtedness of the non-financial sector, in thousand euros, 2021 - March 2023, end-month balance



Source: CBCG calculations

The loans to deposits ratio of the non-financial sector was 0.76 at end-March 2023 and it decreased compared year-on-year when it was 1.00, while it rose compared to the end of the previous year when it stood at 0.71.

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

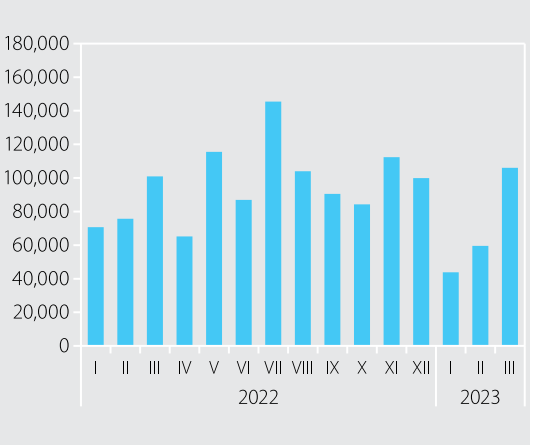
At end-March 2023, net savings of the non-financial sector was recorded in the amount of 416.14 million euros, which is much more favourable than in the comparative period of the previous year when a net debt was recorded in the amount of 861,000 euros, while it was lower than at end-2022 when it reached 505.07 million euros (graph 31).

3.1.4. External demand and the current account

Preliminary data show that the current account deficit amounted to 259.88 million euros in the first three months of 2023, which is the year-on-year increase of 36.82%. This increase is a result of an increase in deficit on the goods account and it was partially offset by increases of surpluses on the services account and the secondary income account.

Graph 32

Total FDI inflow in the balance of payments in Montenegro, 2022 - January-March 2023, in thousand euros



Source: Central Bank

The goods account recorded a deficit of 568.98 million euros or 36.89% more year-over-year. Total visible exports amounted to 226.81 million euros, recording an increase of 4.96%, whereas total visible imports amounted to 795.79 million euros, being 25.97% higher year-on-year. The services account recorded a surplus of 138.87 million euros, which is 81.21% more than in the same period last year. The primary income account registered a surplus of 46.89 million euros, which is a decline of 15.56% that resulted from an increase in expenditure for international investments of 54.78% as well as a lower inflow arising from compensations to employees (a 2.60% decline).The secondary income account ran a surplus of 123.34 million euros or 31.87% more year-on-year.

Preliminary data suggests that net foreign direct investments (FDI) inflow amounted to 117.83 million euros in the first quarter of 2023, which is the year-on-year decrease of 30.07%. Total FDI inflow reached 209.41 million euros and it dropped by 15.33% (graph 32). Equity investments amounted to 131.08 million euros (1.21% increase), while the inflow in the form of intercompany debt added up to 69.97 million euros or 20.28% less year-over-year. In the structure of equity investments, investments in companies and banks amounted to 25.72 million euros (a 43.05% decline), while real estate investments reached 105.36 million euros (a 24.90% increase). The inflow arising from the withdrawal of funds invested abroad amounted to 8.36 million euros. In the structure of total FDI inflow, the share of real estate investments amounted to 50.31%, followed by intercompany debt with 31.41% and investments in companies and banks with 12.28%. Total FDI outflow amounted to 91.58 million euros or 16.16% more than in the comparative three-month period last year. The outflow from residents' investments abroad amounted to 20.22 million euros, while the withdrawal of non-residents' funds invested in Montenegro amounted to 71.36 million euros.

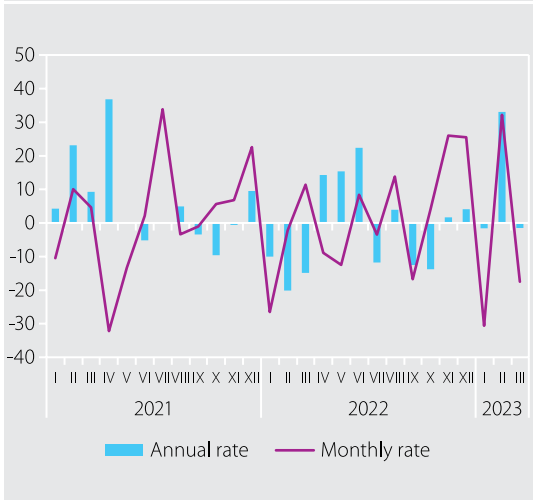
The portfolio investments account recorded a net outflow of 122.85 million euros, while the net outflow from the other investments account amounted to 58.28 million euros.

3.2. Supply and production

In Q1 2023, industrial output recorded the year-over-year increase of 9.5% due to an increase recorded in the *electricity, gas and steam supply* sector of 34.4%. At the same time, *manufacturing industry* and *mining and quarrying* sector recorded respective declines of 8.7% and 14.0%. Monthly data on the industrial output trends in the reporting period shows that monthly falls were recorded in January (-30.6%) and March (-17.5%), while an increase of 32.2% was seen in February.

Graph 33

Industrial production in Montenegro, in %



Source: MONSTAT

According to preliminary data from MONSTAT, 135,786 *tourists* visited Montenegro during the first quarter of 2023, which is 61.90% more compared to the same period of the previous year. Tourist overnights reached 333,452, which is an increase of 46.31%. Both domestic and foreign tourist overnights rose by 8.87% and 61.88%, respectively.

In the first quarter of 2023, according to MONSTAT data, a total of 12,628 m³ of *forest assortments were produced in state forests*[15], which represents a growth of 47.3%[16] compared to the same period in 2022.

[15] The total 2023 production of forest assortments (from national and private forests) is to be published by MONSTAT at end-2024.

[16] Presented through weighted index.

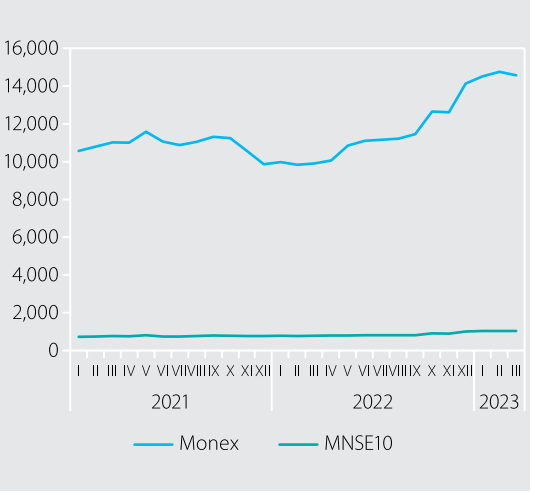
According to preliminary MONSTAT data, the total value of executed *construction works* amounted to 149.42 million euros in the reporting quarter, recording the year-over-year decline of 7.04%, while measured by the effective working hours, it declined by 1.52% (to 4.34 million euros).

Preliminary MONSTAT data also indicate that the results in transport showed positive trends in the majority of its segments. Thus, road passenger transport increased 6.56%[17] year-over-year, while road freight transport rose 14.72%[18]. Railway transport saw a 16.67%[19] increase in passenger transport, while freight transport declined by 33.72%[20]. Air transport saw a 78.41% growth in passenger traffic at airports, and cargo traffic at airports increased by 45.26%. Total turnover of goods in ports amounted to 544,591 tonnes and it was 15.29% lower compared to the same three-month period in 2022, with exports accounting for 58.11% and imports made up 41.89%. Exports in this period declined by 29.59% while imports increased by 17.94%.

3.3. Stock exchange indices

Graph 34

Movement of Montenegro Stock Exchange indices, in index points, 2021 - March 2023, end-month



Source: Montenegro SE calculations

At end-March 2023, the MONEX[21] and MNSE10[22] indices rose compared to the same period last year as well as compared to end-2021 (graph 34).

At end-March 2023, the SE index MONEX reached 14,597.17, recording a growth of 4,666.79 index points or 47.08% year-on-year, while compared to the end of the previous year it recorded growth of 437.82 index points or 3.10%.

The SE index MNSE10 reached 1,032.95, recording a growth of 254.12 index points or 32.63% year-on-year, while compared to the end of the previous year it recorded an increase of 23.17 index points or 2.35%.

[17] Presented through the number of transported passengers, while it increased by 37.64% when expressed in passenger kilometres.

[18] Presented through transported goods in thousand tonnes, and when presented in ton-kilometres it decreased by 5.23%.

[19] Presented through the number of transported passengers, but when presented in passenger-kilometres, it increased by 42.56%.

[20] Presented in thousand tonnes, while presented in ton-kilometres, it decreased by 28.22%.

[21] The MONEX is the benchmark Montenegro Stock Exchange index aimed at providing a more precise description of the share price trends in the official and in the free market of Montenegro Stock Exchange AD Podgorica. The MONEX index is the successor to the MONEX20 and, according to the new methodology, it contains more companies in its index basket.

[22] The MNSE10 is the blue-chip index of the Montenegro SE that describes the movement of prices of shares at the Stock Exchange and Free market of "Montenegro Stock Exchange" AD Podgorica. It includes the top ten companies from the Montenegrin market.

4. MONETARY POLICY

During the first three months of 2023, there were no changes to the existing monetary policy instruments nor were any new decisions passed regarding the Central Bank of Montenegro`s monetary policy instruments.

5. INFLATION FORECAST FOR THREE QUARTERS OF 2023 AND THE FIRST QUARTER OF 2024

5.1. Model assessment

Montenegro's inflation fan chart is a graphic representation of inflation 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 foreign trade deficit, and the like.).

Montenegro's fan chart for three quarters of 2023 and the first quarter of 2024 is based on three estimated constituent parts:

1. **Central projection values** – the values of the fan chart central projection 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 are possible in the Montenegrin economy over the 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 the inflation rates. The position of the mean value of inflation distribution will also depend on this.

Central projection of fan chart - ARIMA model for three quarters of 2023 and the first quarter of 2024

With a view to developing the inflation fan chart, an ARIMA (Autoregressive Integrated Moving Average) model of time series of inflation of Montenegro presented via the Consumer Price Index[23] was developed.

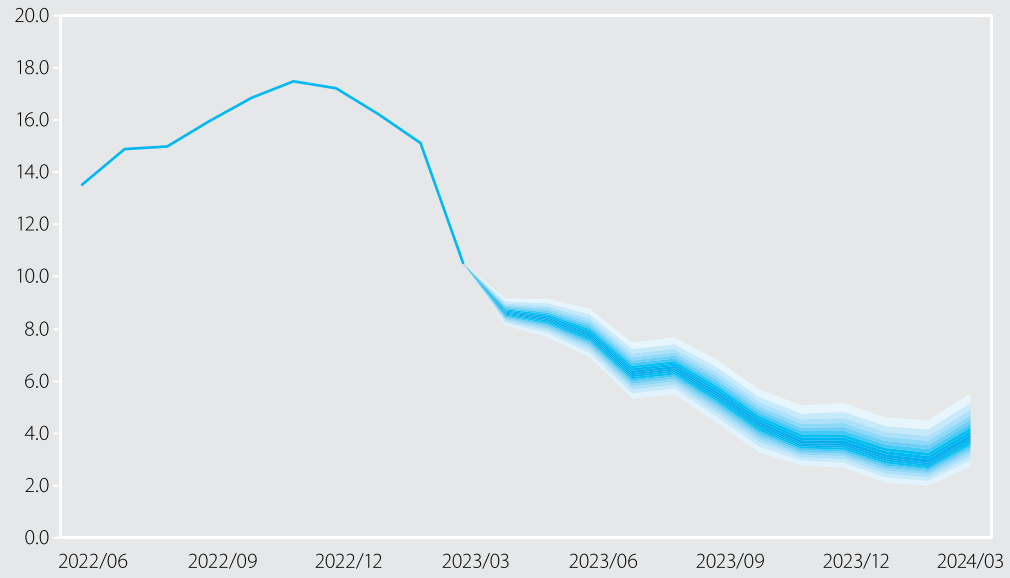
[23] A detailed explanation of the ARIMA model of Montenegro was presented in the working study of the Central Bank no. 11 "*Inflation forecasting: Empirical research on the retail price index trend of Montenegro for 2007 - applying the ARIMA model.*"

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)[24] has a sufficient confidence level for the forecast purposes.

Monthly forecast values were used as the value of central projection of the CPI graph for three quarters of 2023 and the first quarter of 2024. 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 2023 and the first quarter of 2024



Source: CBCG, 2023

Mean value of the obtained model is 5.4. The value of the coefficient of asymmetry varies in the range of from 0.5 to 1, and the relative standard deviation is 0.3. Model projection of inflation is located in the lower band of the distribution. This indicates that the corresponding range of uncertainty of future inflation is set towards higher levels. The Fan Chart explains a 90% probability of inflation distribution. The central projection is usually in the deepest shade of the Fan Chart, i.e. in the central 10% of probability[25]. The fan chart has an equal number of bands (eight) on either side of the central band whereby every band of the same colour, both above and below the central band, cumulatively describe

[24] ARIMA model is generally referred to as an 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.

[25] 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*).

the next 10% of inflation trend probability. As the degree of uncertainty grows over time, so the fan chart spreads.

The fan chart of inflation in Montenegro, based on the ARIMA model assessment for three quarters of 2023 and the first quarter of 2024, indicates that there is a *90% probability that the CPI inflation will range between 2.0% and 9.2%, depending on the month, with the central projection at 5.4%.*

If we analyse the projected inflation for 2023, inflation will range from 2.7% to 9.2%, with the central projection at 8.05%. Inflation projected for December 2023 ranges between 2.7% and 5.2%, with the central projection at 3.6%. The fan chart central projection (the darkest part) represents a 10% probability span (graph 35).

A gradual decrease in the prices of energy and other raw materials on the world market is expected in 2023 and, consequently, a decrease in overall inflation. The risks related to the projected inflation rate shown on the fan chart are set symmetrically. Inflation could reach higher levels in case of higher energy prices on the world market, as well as the spillover of energy prices to the prices of other products and services. An additional risk represents the possibility of a further wage growth in 2023. On the other hand, lower prices of energy and other raw materials on the world market, the slowdown of global economic growth, which has a modest but direct impact on the prices of raw materials, and the additional tightening of monetary policy and lower-than-expected inflation in the main foreign trade partner countries could contribute to the weakening of inflationary pressures.

The projection is based on the following assumptions:

1. In addition to reduced global cost pressures and resolved disruptions in global supply chains, inflation in the countries that are Montenegro`s main foreign trade partners is still at a high level.
2. According to the ECB`s[26] baseline scenario forecast from March, the average inflation in the euro area will amount to 5.3% this year. The inflation projection shows that inflation in the euro area will gradually decrease during the year, reaching 2.9% at end-2023. As the ECB explains, a very important role in the inflation decline will be played by the expected decrease in the prices of energy generating products, that is, the resolving of supply bottlenecks that has already begun, and the effects of decisions on monetary policy tightening. It is assumed that the energy prices in the euro area that rose of over 40% last autumn will decline in 2023 due to the weakening of the strong base effect, as well as the strengthening of the euro exchange rate. Next, prices for the other HICP components are expected to begin to decline with the easing of producer cost pressures, especially those related to food prices inflation. According to the ECB projections, total inflation has been on a downward trend this year and it could come down to 2.9% and 2.1% in 2024 and 2025, respectively.
3. The ECB started with the normalization of its monetary policy in 2022, which implied an increase in the reference interest rates. The rate on main refinancing operations was increased to 3.5 bp in March 2023. The ECB has announced that they will continue to increase the interest rate until the available data and market expectations begin to signal that inflation has a downward trend leading to the target inflation rate of around 2%. The impact of the continued

[26] Source: ECB (2023): *ECB staff macroeconomic projections for the euro area*, March 2023

normalisation of the ECB's monetary policy and further increases in interest rates that are expected on the markets will also transmit to the real economy and the reduction of demand.

4. According to data from the FAO, food prices recorded the year-on-year drop of 19% in March 2023 due to a decline in the prices of vegetable oils, dairy products, and grain. Trading on the futures markets indicates that the prices of primary agricultural products will fall by about 16% in 2023 compared to the highs recorded in the previous year. However, as stated in the IMF (2023)[27], the period of transmission to domestic retail food prices could take from six to twelve months. The ECB projections indicate that food prices could be on a downward trajectory in the next two years.
5. Oil and other raw material futures in the world markets point to prices slowdown in 2023. Projections are that the price of oil will be around USD 78 per barrel in 2023, declining to around USD 74 per barrel in 2024, in line with the expected reduction in the prices of oil, gas and other raw materials, and the resolving of supply bottlenecks of imported raw materials. Compared to the previous projection, this is a downward correction of the prices of oil and other raw materials.

Finally, the Russian-Ukrainian conflict could trigger new inflationary trends that have not been accounted for under the present projection. Changes of any of the abovementioned parameters would require the forecast revision.

[27] Source: IMF blog (2023): *Global Food Crisis May Persist, With Prices Still Elevated After Year of War.* Available at: https://www.imf.org/en/Blogs/Articles/2023/03/09/global-food-crisis-may-persist-with-prices-still-elevated-after-year-of-war

6. EXPECTED INFLATION IN 2023

A significant economic growth as well as a significant slowdown in price growth in Montenegro were registered in the first quarter of 2023.

The largest number of surveyed banks and corporate sector expect the inflation rate between 6% and 9%. Preliminary data indicate that aggregate demand recorded the year-over-year growth in the first quarter of 2023, as well as compared to the fourth quarter of 2022, which suggests that domestic inflationary pressures are still present. On the other hand, corporate expectations of a growing volume of economic activity and new investments will have a disinflationary effect.

All relevant international financial institutions have forecasted a lower inflation rate in 2023 compared to the previous year, which will largely affect a slowdown in price growth in Montenegro given that the current inflation is mostly imported.

The international environment is full of uncertainties, primarily regarding a further impact of the Russian-Ukrainian conflict, as well as the movement of food and oil derivatives prices. It is expected that the key central banks will continue with their restrictive monetary policies, which will put downward pressure on inflation.

For all these reasons, we expect a moderate inflation rate this year. The Fan Chart of inflation indicates that there is a 90% probability that the CPI inflation will range between 2.7% and 9.2%, with the central projection at 8.05%. Inflation projected for December 2023 ranges between 2.7% and 5.2%, with the central projection at 3.6%. Our expert assessment is similar to the model estimate and it indicates that inflation in 2023 will range between 2% and 6%.

Table 3

Forecasted inflation rate		
Optimistic assessment	Realistic assessment	Pessimistic assessment
2%	4%	6%

The expert assessment is based on the same assumptions as the model assessment. Deviation from any of the given parameters from the expected values would also require the forecast revision.