



PRICE STABILITY REPORT 2013

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LIST OF ACRONYMS

ARIMA	Autoregressive Integrated Moving Average
GDP	Gross Domestic Product
CBCG	Central Bank of Montenegro
CPI	Consumer Price Index
EONIA	Euro OverNight Index Average
EU	European Union
FAO	Food and Agriculture Organization
IMF	International Monetary Fund
MONSTAT	Statistical Office of Montenegro
OPEC	Organization of the Petroleum Exporting Countries
VAT	Value Added Tax
FDI	Foreign Direct Investments
UN	United Nations
USD	United States Dollar

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1. INFLATION INDICATORS

1.1. Inflation Trend in Montenegro

Consumer prices in 2013 recorded disinflation trend. After y-o-y inflation of 4.2% in January 2013, annual rate in December amounted to 0.3% and it showed y-o-y decrease by 3.9 percentage points. Similar change was recorded in 2009 and it amounted to 3.4 percentage points, although it was characterised with more inflation rates fluctuations during the year, while annual inflation in 2013 mostly on downtrend. December 2013 inflation was by 0.4 percentage points lower than the lowest annual growth rate recorded until then (December 2010) of 0.7%. The result of such low inflation rate was an extremely low basis, i.e. price level, from the previous year, when the inflation rate was 5.1% with somewhat moderate price fluctuation in some categories of consumer price basket categories in 2013. Lower prices of *food and non-alcoholic beverages* and *transport* particularly contributed to low annual inflation rate, since they jointly account for almost a half of total consumer price basket (i.e. 48.7%). Observed by quarters, the highest growth in prices in 2013 was reported during Q1 (0.5%), and Q3 (0.7%), while price decline was recorded in Q2 and Q4 of -0.1% and -0.8%, respectively.¹ Observed monthly, the highest growth in consumer prices were recorded in March and July (0.4% and 0.7%, respectively), while monthly decline in prices was recorded in June and November (-0.6% each).

Table 1

	Inflation, %							
	2012.				2013.			
	III	VI	IX	XII	III	VI	IX	XII
Change relative to the previous year-end	2.2	3.2	4.3	5.1	0.5	0.4	1.1	0.3
Annual change	2.7	3.9	4.4	5.1	3.3	2.2	1.8	0.3

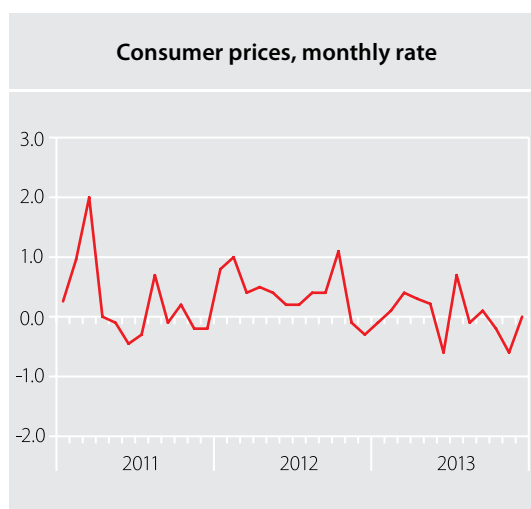
Source: Monstat

The highest growth in 2013 was in the prices from *alcoholic beverages and tobacco* (7.4%), due to price increase of 9.6% resulting from increased excise duties on tobacco. Price increase in prices of *housing, electricity, gas and other fuels* of 1.7% mostly resulted from growth in electricity prices of 4.6%. Prices under *health care* grew by 1.4%, mostly due to price increase in prices of *pharmaceutical products* of 2.3%, and prices of *other products and services* grew 3%. Prices of *clothing and footwear, education, and*

¹ Due to rounding of figures, when calculating quarterly inflation, the sum of rates insignificantly differs from total annual inflation.

hotels and restaurants recorded respective increase of 0.3%, 0.2% and 0.1%. Lower prices in some food products groups resulted in the price decline of *food and non-alcoholic beverages* by 0.6%. Under this category, bread and cereals recorded annual decline in prices of 4.3%, while respective decrease in prices of milk, cheese and eggs, oils and fats, sugar, jam, honey, marmalade and confectionery products, other food products and non-alcoholic products amounted to 3.6%, 16.9%, 2.9%, 0.1%, and 1.2%. Prices of vegetables, fruits, meat, and fish increased 11.3%, 3.6%, 0.4% and 6.1%, respectively. Prices

Graph 1



Source: Monstat

under *transport* were 1.1% lower, mostly due to lower prices of fuels and lubricants by 1.6%. Price decline was recorded under *culture and entertainment, communications and furnishing, household equipment and routine household maintenance* by 2.7%, 0.7%, and 0.1%, respectively.

The UN *World Economic Situation and Prospect 2014* reported that prices of most primary commodities have declined moderately during 2013, mainly driven by generally weak global demand as global economic growth remained anaemic. In the outlook, with global demand is expected to pick up moderately in 2014-2015, although slower. Stronger changes in prices may appear if there are difficulties in supply-side factors, such as weather conditions (for agricultural commodities) and geopolitical tensions (for oil).

Table 2

Share of individual categories in total inflation *					
	Weights	XII 13/XII 12	Growth rate	Contribution	Share in total inflation
TOTAL	1000.0	100.3	0.3	0.3	100.0
Food and non-alcoholic beverages	386.4	99.4	-0.6	-0.2	-81.0
Alcoholic beverages and tobacco	37.9	107.4	7.4	0.3	96.8
Clothing and footwear	70.7	100.3	0.3	0.0	7.4
Housing, water, electricity, gas and other fuels	153.1	101.7	1.7	0.3	91.1
Furnishing, household equipment and routine household maintenance	46.9	99.9	-0.1	0.0	-2.4
Health	38.2	101.4	1.4	0.1	18.1
Transport	101.0	98.9	-1.1	-0.1	-38.2
Communications	57.1	99.3	-0.7	0.0	-12.8
Entertainment and culture	27.2	97.3	-2.7	-0.1	-25.3
Education	15.7	100.2	0.2	0.0	1.0
Restaurants and hotels	23.0	100.1	0.1	0.0	0.5
Other products and services	42.8	103.0	3.0	0.1	44.8

* We would like to note that, despite the index changes, the share of certain categories is recorded only at the second or the third digit, due to the weighting structure.

Source: Monstat and CBCG calculations

Although FAO Food Price 2013 Index, according to the UN Food and Agriculture Organisation, was 1.6% lower than in 2012, it showed the third highest ever recorded index value. Due to high dependence on exports, the changes in food prices at global markets will reflect also on food prices in Montenegro, which recorded annual decline in 2013. It should be noted that food prices were relatively high in 2012.

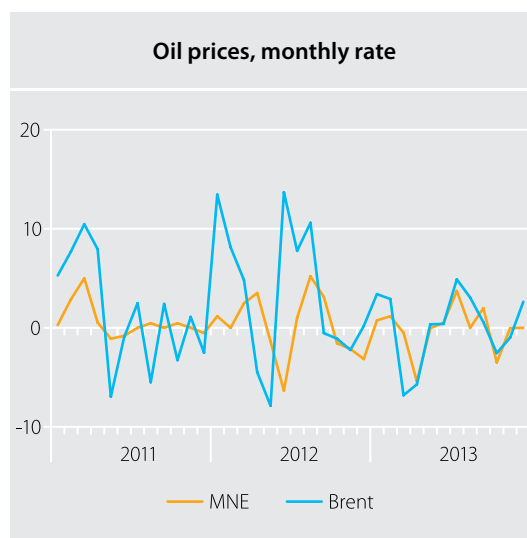
The prices of liquid fuels and lubricants, which were mostly affected by the changes in the global oil prices, recorded the annual decline of 1.6%. The price of the OPEC reference basket amounted on average to 105.9 USD/barrel in 2013, being 3.3% lower than in 2012. The average price of the OPEC reference basket in 2013 was 108.6 USD/barrel, or 2.7% lower relative to average price in 2012. Observed during the year, the highest level

of average Brent price in 2013 was recorded in February (116.29 USD/barrel), and the lowest in April (102.17 USD/barrel), to reach the level of 110.81 USD/barrel in December, which represented an increase of 1.4% compared to December 2012 average price. As in the previous years, prices were mostly under the effects of geopolitical tensions at the Middle East, amount of stocks and global macro-economic trends forecasts. Since the IMF, according to the latest World Economic Outlook report², raised the global economic growth rate from 3% in 2013 to 3.7% in 2014, it is expected that the growth will foster oil demand that, in addition to other factors, will affect the price of this sector in 2014.

The prices under the category *alcoholic beverages and tobacco* accounted for the main share of 0.3 percentage points and the total recorded share in total inflation of 96.8%, and prices from the category *housing, water, electricity, gas and other fuels* accounted for 0.3 percentage points and made up 91.1% of total inflation. The category *food and non-alcoholic beverages* were on negative 0.2 percentage points. Graph 3 shows shares in annual inflation of individual components of consumer prices.

During 2013, monthly³ **core inflation** rate was mostly below total monthly inflation, except in March, October and November. The highest range between total monthly and core inflation was recorded in May and November (due to the change in prices of certain products that would be otherwise excluded from the calculation of core inflation, e.g. electricity prices, agricultural product prices and the like). Graph 4 shows the trend in the annual rate of total and core inflation.

Graph 2

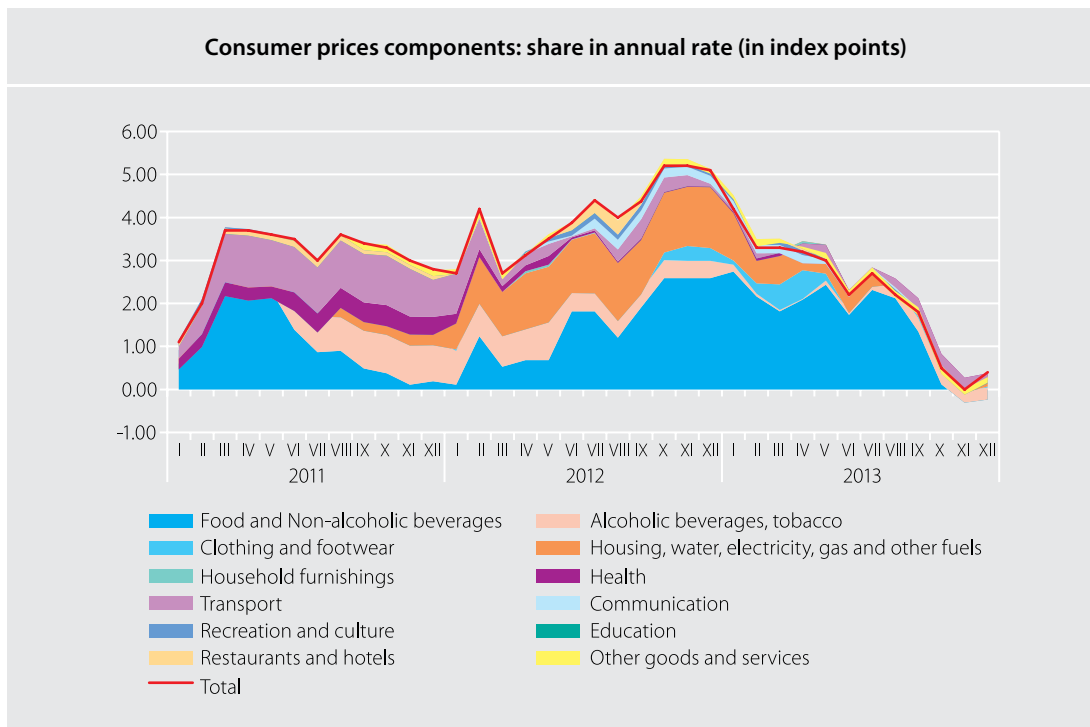


Source: Monstat and "Monthly Oil Market Reports", OPEC

² Updated in January 2014

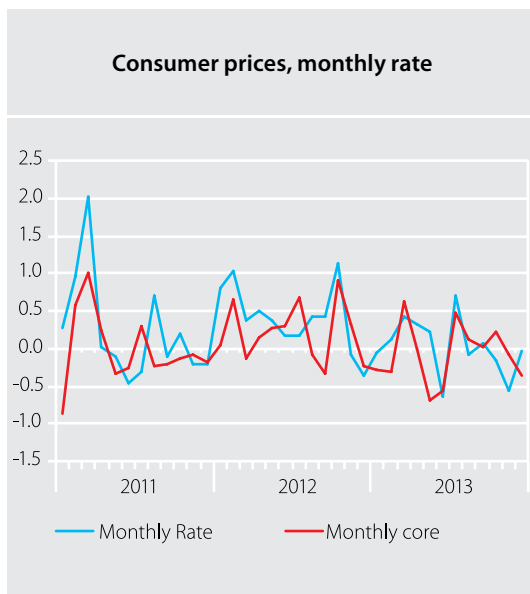
³ As in 2012, data on annual change in prices for all products included in the core inflation basket were not available for 2013, and it was not possible to calculate annual core inflation.

Graph 3



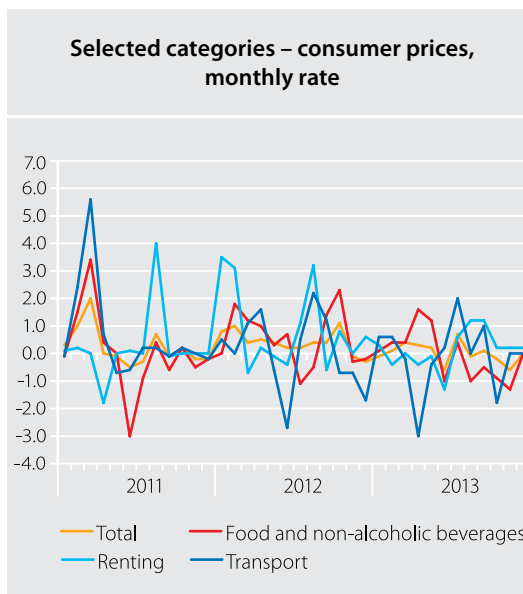
Source: Monstat and CBCG calculations

Graph 4



Source: Monstat and CBCG calculations

Graph 5



Source: Monstat

The producers' prices of manufactured products recorded a y-o-y decline of 0.6% in 2013. Manufacturing industry prices and prices of electricity, gas and other fuels recorded respective decline of 1.1% and 0.7%. The mining and quarrying prices reported the annual growth of 4%. The average growth in the producers' prices of manufactured products amounted to 1.6% in 2013, whereby an average growth in prices was recorded in mining and quarrying prices (2.7%) and electricity, gas and other fuels sector by 9.2%, while prices in manufacturing industry recorded an average decline of 1.2%.

Export prices of producers of manufactured products⁴ recorded the y-o-y decline of 5.8%, while average annual decline in prices was 2.7%. Manufacturing industry reported annual decline in prices of 6.2%, and mining and quarrying reported growth of 2.2%.

Import prices of manufactured products⁵ declined by 2% in December 2013 compared to the previous year, and the average annual rate showed a decrease of 1.4%. Annual decline was also reported by the manufacturing industry prices (2%), while mining and quarrying prices reported annual growth of 8%.

1.2. Inflation Trends in the Region and the EU

Compared with individual regional countries, the annual inflation rate in Montenegro was the lowest positive rate of 0.3%, since Bosnia reported negative inflation rate of 1.2%. Annual inflation in Croatia, Slovenia, Macedonia, Albania and Serbia amounted to 0.5%, 0.9%, 1.4%, 1.9% and 2.2%.

The inflation rate in Montenegro was below the inflation reported in the Euro area. To be precise, the annual inflation rate in Montenegro was identical to the annual inflation of Spain that, in addition to Portugal with the annual inflation of 0.2%, recorded the lowest annual inflation among the EU Member States.

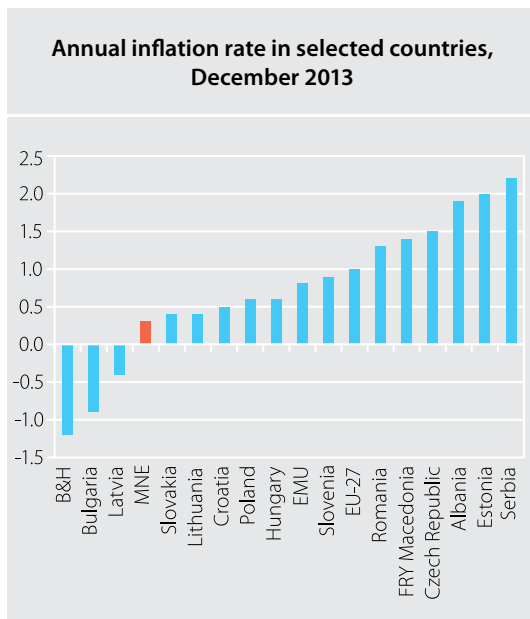
With regard to the inflation in the EU Member States, the lowest annual inflation rate was recorded in Greece (-1.8%), Cyprus (-1.3%), Bulgaria (-0.9%) and Latvia (-0.4%), while the highest rate was recorded in Finland (1.9%) and Estonia, Austria and the UK (2.0% each). The annual inflation rate reported in the Euro area was 0.8% and the components that recorded the highest growth were electricity (0.11 percentage points), tobacco (0.08 percentage points), restaurants and cafés (0.05 percentage points), while the largest negative contribution was from fuels (-0.13 percentage points), telecommunications (-0.14 percentage points) and medical services (-0.07 percentage points).

The annual rate reported in the EU 28 was 1.0% in December 2013; it was 0.8% in Euro area, while it was 0.3% and HICP inflation was 0.4% in Montenegro.

⁴ The exports prices index represents the monitoring of monthly changes in the prices in industrial products made by companies and sold at foreign markets. It is an important economic indicator that can be used as time series deflator, particularly for national account purposes.

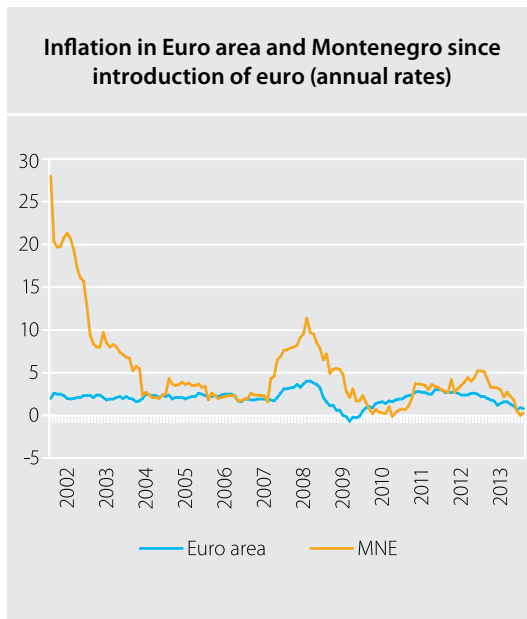
⁵ The imports prices index represents the monitoring of monthly changes in the prices of industrial products from imports. It can be used as a deflator of time series, particularly for the national account purposes and as a tool for price adjustments when entering different purchase and sales agreements.

Graph 6



Source: National Statistical Offices and Eurostat

Graph 7



Source: Monstat and Eurostat

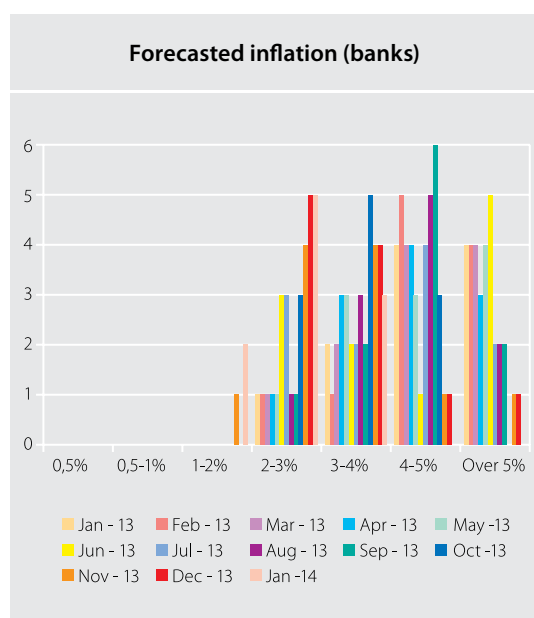
2. INFLATION EXPECTATIONS OF THE BANKING SECTOR AND ECONOMY

2.1. Banks' Expectations

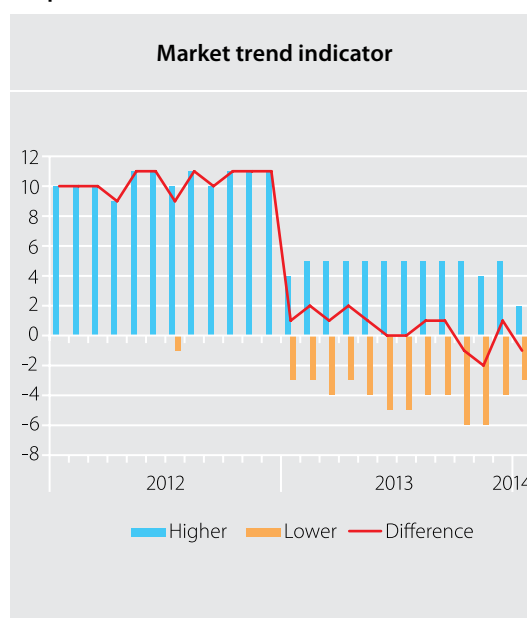
With regard to the inflation forecasts of banks⁶, based on the survey conducted in January 2014, five banks expect the inflation ranging between 2% and 3%; three banks expect inflation between 3% and 4%, while two banks expect inflation to range between 1% and 2%.

For the purpose of calculating inflation forecasts we use market trend indicator (red line in Graph 9). It is calculated as the difference between the number of banks expecting an inflation growth (blue columns) and the number of banks expecting inflation decrease (orange columns). If the market trend indicator has a negative value, a decrease in the inflation rate is expected in the upcoming period. If it has a positive value, then an increase in the inflation rate can be expected. If it has a zero value, an

Graph 8



Graph 9

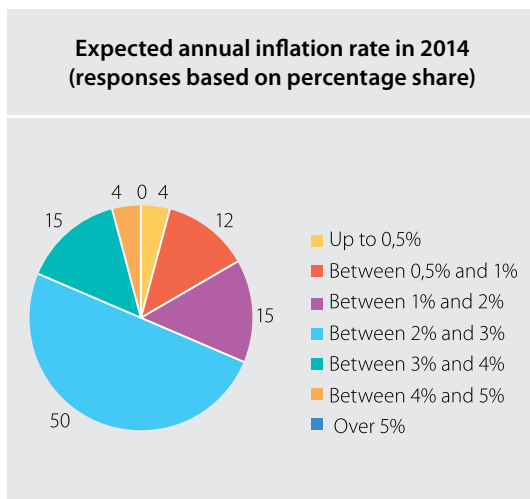


⁶ Although responding to the survey, one bank gave no response to this question.

unchanged inflation rate can be expected in the upcoming period. The more negative its value is, the lower the inflation forecast is, and vice versa, while higher positive value means higher inflation level forecasts. In that respect, Graph 9 indicates that inflation forecasts significantly dropped in January 2013 and they were, with smaller fluctuations until the end of the year, at significantly lower level relative to the previous period, particularly the Q4 2012, when all banks expected inflation growth. Inflation expectations in January 2014 pointed to the inflation decline.

2.2. Expectations of Economy (Except Banks)

Graph 10



Inflation

Out of total surveyed companies, the largest number (50%) expected that inflation in 2014 would range between 2% and 3%. Some 15% of the surveyed companies expect inflation to range between 1% and 2%, and the same percentage of companies expects inflation between 3% and 4%. Some 12% of the surveyed companies expect inflation to range between 0.5% and 1%, while 4% of companies expect inflation below 0.5%. Inflation between 4% and 5% was expected by 4% of the surveyed companies, while none of surveyed companies expected inflation higher than 5%.

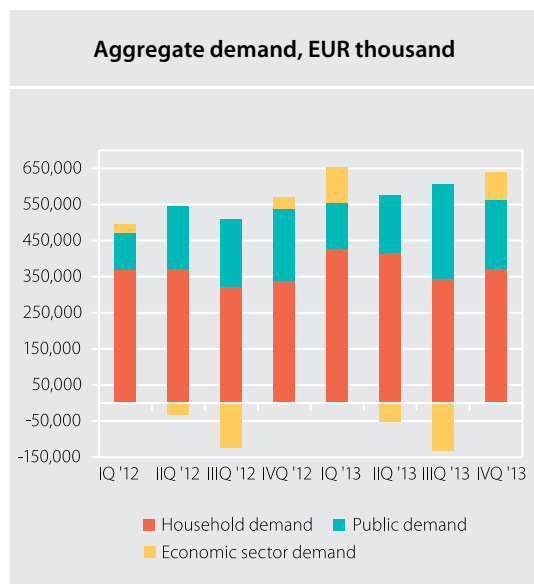
3. INFLATION DETERMINANTS

3.1. Demand

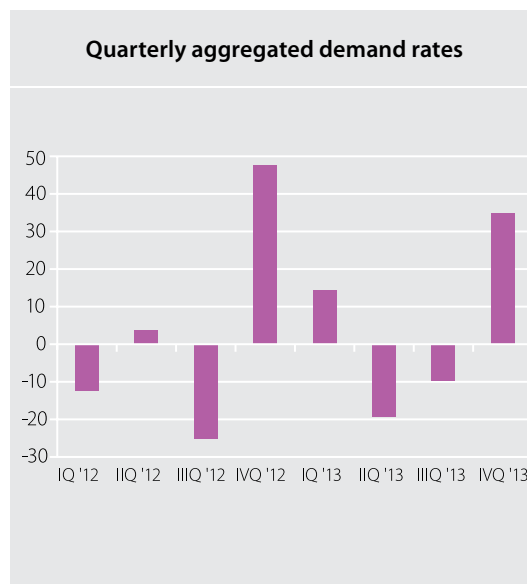
Based on the preliminary data, the highest level of aggregate demand was recorded in Q1 2013, followed by aggregate demand decline in Q2 and Q3, and the re-growth in Q4. Total demand in Q4 2013 was higher than the demand shown in Q4 2012. With regard to the structure of total demand in Q4 2013 relative to Q4 2012, the share in demand of households and public consumption declined, while corporate increased.

The level and the rate of aggregate demand in Q4 2013 increased in relation to the previous two quarters, yet lower that the Q1 2013 level.

Graph 11



Graph 12



Box 1 - Aggregate demand calculation methodology

For the purpose of complete monitoring of aggregate demand as the inflation determinant, the CBCG has developed the aggregate demand calculation methodology. The starting point of this methodology stems that the aggregate demand is the total demand of three sectors: (household) personal consumption, (corporate sector) investment consumption, 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 selling shares, non-market incomes, non-observed economy revenues, and the like. Methodology of calculation of the aggregate demand 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 – net savings by households (savings – loans granted)

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

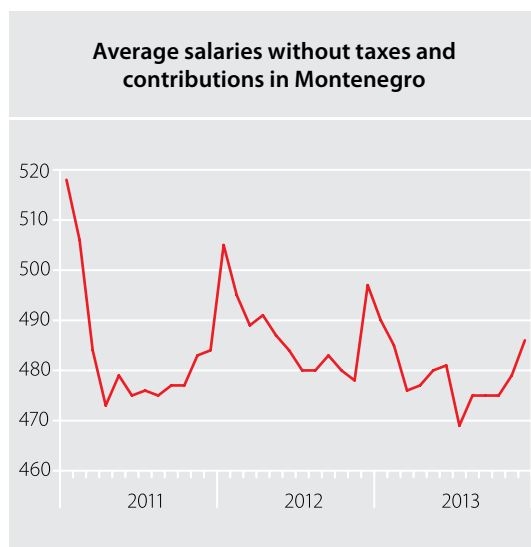
G = public consumption – paid pensions – salaries paid from the budget – net savings by the Government (deposits – loans – Treasury bills)

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

3.1.1. Salaries and other Available Demand Determinants

The average gross salary in Montenegro amounted to EUR 726 in 2013, while average salary without taxes and contributions amounted to EUR 479. The average salary (gross) recorded a decrease of 0.1% in 2013, while average salary without taxes and contributions (net) recorded a decline of 1.6%. Real average net salary in 2013 was by 3.8% lower than average net salary in 2012.

Graph 13



Source: Monstat

Graph 14



Source: Monstat

Observed by months, the highest nominal growth of salaries without taxes and contributions was recorded in August (1.3%) and in December (1.5%). In the first three months, salaries without taxes and contributions were on continuous downtrend, and the highest monthly decline was reported in March (-1.9%) and in July (-2.5%).

Taking into account the consumer prices, i.e. trends in salaries in real amounts, it can be concluded that real salaries reported the highest growth in November and December, while the highest real decline was reported in March and July.

Households' loans reported positive trend in 2013. The average monthly growth of loans granted to this sector was 0.7%, while this decline at the average rate of 0.2% was recorded in 2012. Total banks' loans and other receivables to the household sector amounted to EUR 881.3 million at 2013 year-end, which indicated a growth of EUR 72.1 million or 8.9% in relation to 2012 year-end.

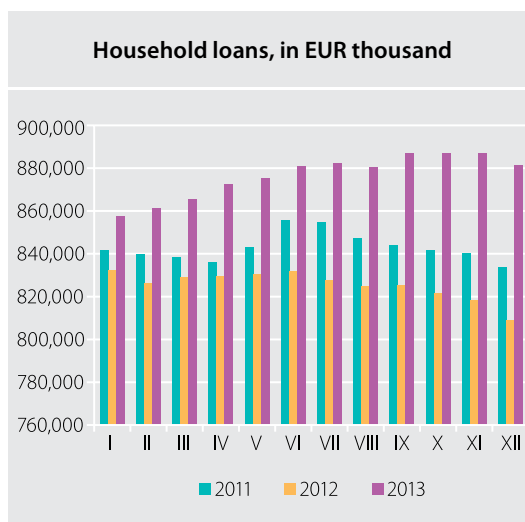
The average indebtedness of this sector grew over the one-year period. Thus, debt *per capita* amounted to EUR 1,421 at end-December 2013, and it was EUR 116 or 8.9% higher than in end-2012.

Total MFI loans and other receivables to the household sector amounted to EUR 34.1 million at 2013 year-end, which indicated a growth of EUR 5.9 million or 20.7% in relation to 2012 year-end

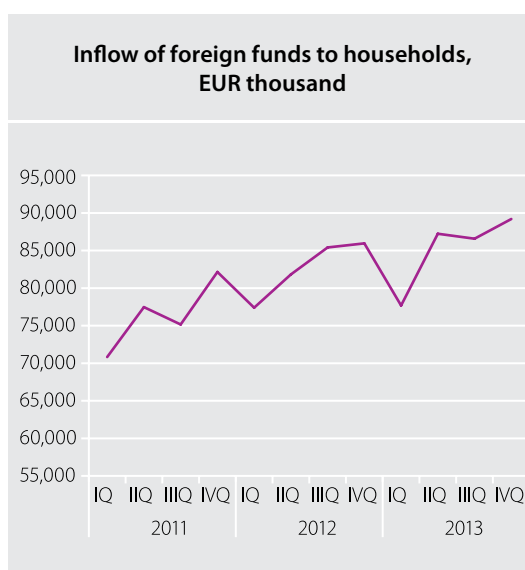
Household deposits were also mainly on an uptrend in 2013 (except in May and October) and they recorded an average monthly growth of 0.6% (an average monthly growth of 0.9% was recorded in 2012). Deposits of this sector amounted to EUR 1,237.5 million at the end of 2013, which represented a y-o-y increase of EUR 90.7 million or 7.9%.

Loans to deposits ratio amounted to 0.71 at end-2013, remaining at the same level as at end-2012. Households' sector reported total net savings in the amount of EUR 356.2 million, which represented a y-o-y increase of EUR 18.5 million or 5.5%.

Graph 15

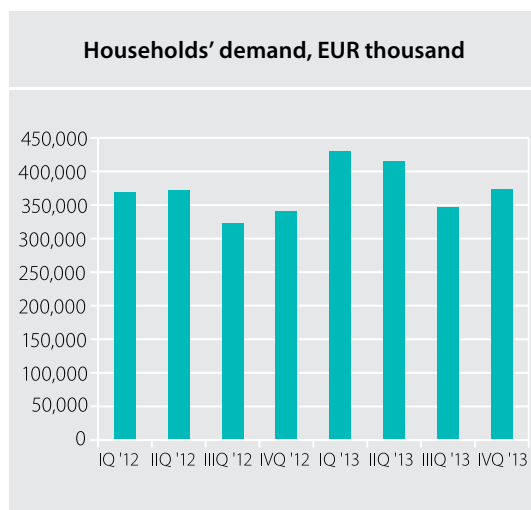


Graph 16



Source: CBCG

Graph 17



The balance of payment statistics showed that the y-o-y increase was recorded in the inflow of cash based on foreign remittances in favour of domestic natural persons, as well as based on salaries and compensations to employees.

According to preliminary indicators, total demand of the household sector in Q4 2013 was higher compared to Q4 2012, as well as compared to the demand of the Q3 2013, while a somewhat lower level was reported compared to Q1 and Q2 2013.

3.1.2. Public Sector Demand

Montenegrin public finances⁷

According to the Ministry of Finance preliminary data, consolidated *public consumption* in 2013 amounted to EUR 1,508.5 million or 45.2% of the estimated GDP⁸. Public consumption showed a y-o-y growth of 1%. The achieved level of public consumption was financed by income from taxes (amounting to EUR 863.5 million), contributions (EUR 398.5 million), duties (EUR 68.2 million), fees (EUR 33.2 million), other revenues (EUR 49.7 million) and receipts from loan repayment (EUR 7.5 million).

Current public consumption (public consumption reduced by capital expenditures) amounted to EUR 1,399.5 million or 42% of GDP and it grew y-o-y by 2.2%, while capital budget amounted to EUR 108.9 million or 3.3% of GDP.

Moreover, according to economic classification, current expenditures accounted for the main share in the structure of public expenditures (44%), followed by transfers (40.3%), capital expenditures (7.2%), while 8.5% referred to other expenditures.

Public revenues were estimated at EUR 1,420.6 million, or 42.6% of the estimated GDP, being 9.3% higher y-o-y. As for the structure of public revenues, taxes accounted for the main share of 60.8%, followed by contributions (28%), whereas the remaining public revenues accounted for 11.2%.

According to the Ministry of Finance data, public spending deficit amounted to EUR 87.9 million in 2013.

⁷ The structure of Montenegrin public finances comprises of the Budget of Montenegro with the State funds (Pension and Disability Fund, Health Insurance Fund, Compensation Fund, Employment Agency and Labour Fund) and local government budgets (Old Royal Capital of Cetinje, Capital of Podgorica and 19 municipalities).

⁸ Estimated GDP for 2013 amounted to EUR 3,335.9 million.

Budget of Montenegro

According to Ministry of Finance preliminary data, Budget of Montenegro recorded total revenues⁹ amounting to EUR 1,587.1 million in 2013.

Source revenues amounted to EUR 1,235.2 million or 37% of estimated GDP, and in relation to the plan, they increased by 6.3%, and they showed a y-o-y increase of 10.2%. Tax revenues recorded the highest share in the structure of current revenues (61.2%), followed by contributions (32.2%), other revenues (2.7%), fees (2.2%), duties (1.1%) and receipts from loan repayment (0.6%).

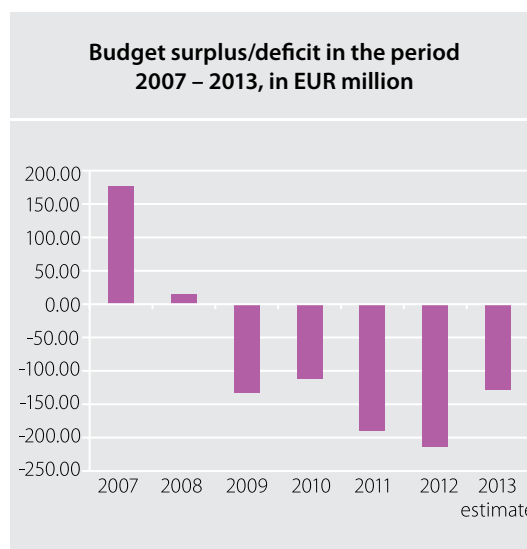
Tax revenues amounted to EUR 755.7 million and were by 7.9% higher than planned, as well as showing y-o-y growth of 9.9%. Observed individually by the type of revenue, only personal income tax, VAT and other state taxes and duties were above the plan, while all the remaining tax revenues were recorded below the plan for 2013. The value of VAT amounted to EUR 492.2 million and showed nominal increase of EUR 74.5 million or 21%. Such growth in VAT collection was the result of grey economy suppression measures and the application of higher VAT rate (from 17% to 19%). Excise duties also grew at the amount of EUR 9.7 million or 6.4%, explained by gradual excise duties' increase in 2013. Collection of personal income tax grew by EUR 13.4 million or 16.2% in relation to 2012. Revenues from contributions amounted to EUR 398.5 million or 3.7% more in relation to plan for 2013, and they showed y-o-y growth of 10%.

Consolidated budget expenditures amounted to EUR 1,363.5 million in 2013, and made up 40.9% of the estimated GDP. In relation to 2012, recorded expenditures increased by 2.2%, exceeding the plan by 8.5%. Current expenditures amounted to EUR 600.3 million, or 1.3% higher than planned.

Capital budget amounted to EUR 61.8 million or 1.9% of GDP.

The *Budget of Montenegro deficit* was estimated at EUR 128.3 million, or 3.8% of GDP.

Graph 18



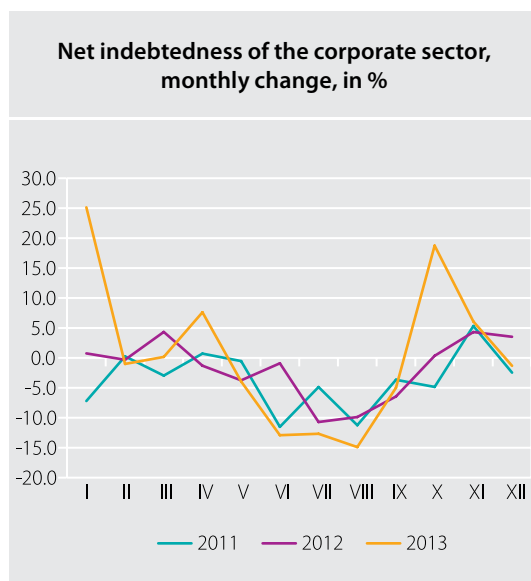
Source: Ministry of Finance

3.1.3. Economy

Due to the absence of data on investments by the corporate sector, net corporate sector leverage can be used for demand approximation.

⁹ Revenues include source revenues (direct and indirect taxes and non-tax revenues), borrowings, donations and revenues from privatization and sale of properties.

Graph 19

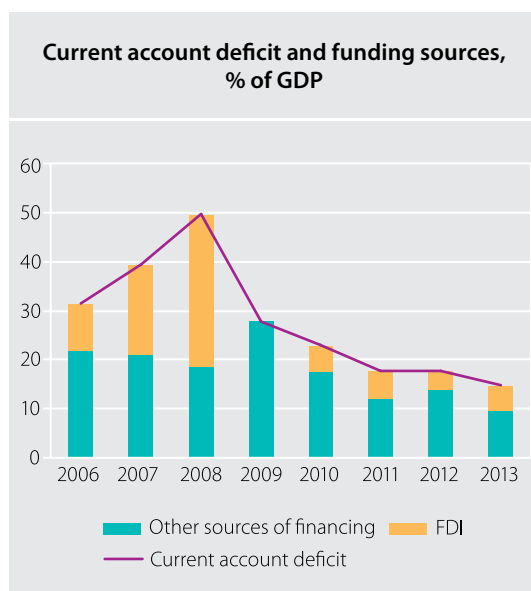


Loans and receivables to corporate sector were significantly above the corporate deposits in 2013; therefore, this sector was net debtor also in 2013. Net corporate debt was EUR 395.9 million, which was the y-o-y decrease of EUR 8 million or 2%. Long-term loans accounted for the main share in the structure of loans and other receivables to the corporate sector (72.1%), which indicates that loans to this sector were mainly used for the increase in the volume of economic activity.

3.1.4. External Demand and the Current Account

The current account deficit in 2013 showed lower y-o-y decrease. This resulted from a decline in the visible export and positive trends at other current account sub-accounts. According to the preliminary data, the current account deficit was 14.6% of GDP, or 17% less than in 2012. The growth in goods and services account had positive effect to total current account balance. The current account deficit is mostly provided from foreign direct and portfolio investments, and through the issue of bonds at the international market.

Graph 20



Source: CBCG

The imports dependence still remains high in international trade in goods. According to preliminary data, imports made up 51.9% of GDP in 2013, which resulted in still high foreign trade deficit of 40% of GDP. The decline of external deficit of 4.3% was the result of commodities export increase with the simultaneous import decline. The value of commodities exports in 2013 grew 2.8% and its share in GDP was 12.1%. Such export trend was the result of electricity export, which amounted to EUR 95.6 million or one quarter of total Montenegrin export. Import decreased by 2.7% in 2013, whereby the highest import decrease was recorded in import of electricity (48.9%) and oil and oil derivatives (10.8%). The prices of imported industrial products declined at the rate of 1.4%¹⁰ relative to 2012.

¹⁰ Source: Release: Producer price indices in Montenegro, December 2013, Monstat

Positive trends were noted at the services account, which resulted in a surplus of EUR 646.8 million or 19.4% of GDP, i.e. showing the y-o-y increase of 5.6%. The growth in tourist turnover continued also in 2013, which mostly contributed to the realisation of a surplus in the services account. Higher tourist demand in 2013 resulted in increased revenues from travel and tourism by 3.5% in relation to 2012. Balance at the goods and services account was negative and amounted to 20.5% of GDP, or 4 percentage points less than in 2012.

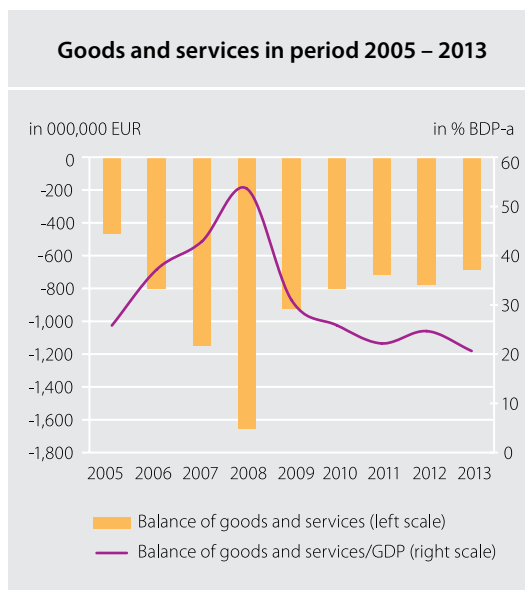
The growth in foreign remittances remained stable also in 2013. Total inflow based on factor income was EUR 212.7 million or 6.4% of GDP, which was a y-o-y increase of 3.1%, while current transfers' inflow amounted to EUR 184 million or 5.5% of GDP, which indicated a y-o-y increase of 2.4%.

A declining trend in FDI inflow was recorded in 2012. According to preliminary data, net FDI inflows was realised in the amount of EUR 323.9 million in 2013, which was a decrease of 29.8% over one-year period. Total FDI inflow amounted to EUR 479.2 million, of which 15.9% referred to the investments into banks and companies, 42.2% referred to investments in real estates and 39.4% referred to intercompany debt.

3.2. Supply and Production

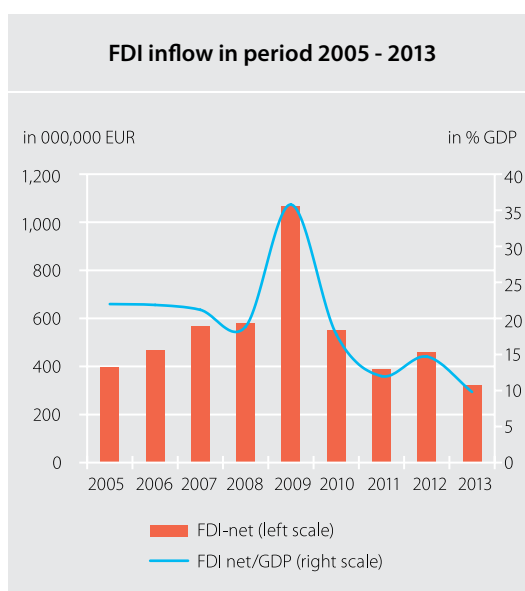
The industrial output in 2013 recorded increase of 10.6% in relation to the previous year.¹¹ Output growth of 38.7% was recorded in electricity, gas and steam supply sector, while output decline was reported in mining and quarrying sector, and manufacturing by 1.4% and 5%. With regard to monthly data on industrial output trend, the highest monthly growth was realised in November (27.6%), while the highest decline was in May (-20.7%).

Graph 21



Source: CBCG and Monstat

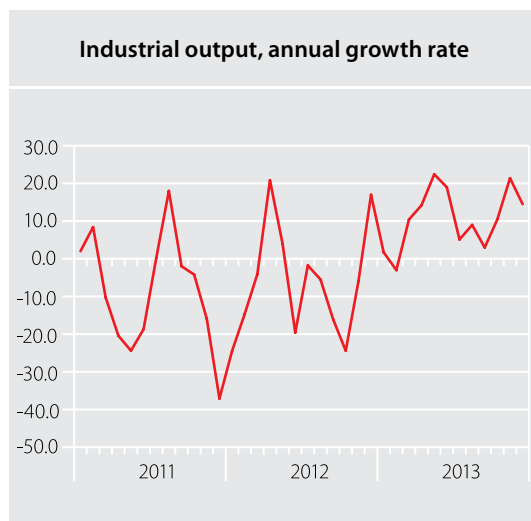
Graph 22



Source: CBCG

¹¹ Period-to period indicator, while y-o-y growth (December 2013 to December 2012) amounted to 14.5%.

Graph 23



Source: Monstat

Some 1,492,006 tourists visited Montenegro in 2013, which represented the y-o-y increase of 3.6%. The number of domestic tourists arrivals decreased by 4.4%, while foreign tourists' arrivals increased by 4.8%. Some 9,411,943 overnights were reported, which represented a y-o-y increase of 2.8%.

Total output of wood products was 255.6 thousand m³ in 2013, which represents a growth of 9.7%¹² in relation to the previous year, and resulted from extremely low basis in January 2012, and the non-existing output in February 2012.

The preliminary Monstat data showed that the total value of performed **construction works** in 2013 amounted to EUR 269.7 million, being 9.7% higher than in the previous year, and 31.5% higher when measured by effective working hours.

Air passenger transport recorded an increase of 14.1%, as did road passenger transport and railway passenger transport by 8.6% and 18.1%, respectively.

Compared y-o-y, air freight transport grew 0.3%, while road freight transport and railway freight transport (measured by thousand tonnes) grew 71.9%¹³ and 53.6%, respectively.

Total turnover in ports was 1.3 million tonnes in 2013 and it showed the y-o-y growth of 5.5%, whereby exports grew by 43.3% and imports declined by 16.3%.

¹² Shown as weighted index, the non-weighted output was 6.1% higher

¹³ Measured by tonne kilometres, road freight transport decreased by 12%, while railway freight transport grew 42.8%.

4. MONETARY POLICY

The Central Bank of Montenegro is responsible for monetary policy, fostering and maintaining the financial system stability and fostering and maintaining a sound banking system and safe and efficient payment systems. One of primary CBCG monetary policy objectives is contributing to achieving and maintaining price stability in the country.

The Central Bank of Montenegro Law (OGM 40/10, 46/10 and 6/13) sets out the following primary CBCG monetary policy instruments: open market operations, credit operations, lender of last resort, reserve requirements. However, it should be noted that all available primary CBCG monetary policy instruments have very limited influence on inflation trends.

In late 2013, the Decision Amending the Decision on Bank Reserve Requirement to be Held with the Central Bank of Montenegro (OGM 57/13) was passed. The Decision enables banks to allocate up to 30% of reserve requirement and hold it in the form of T-Bills issued by Montenegro with maturity up to 182 days, and to allocate up to 13% of reserve requirement and hold it in the form of T-Bills issued by Montenegro with maturity up to 91 day. The Amended Decision sets out that the Central Bank pays monthly fee to the bank on 7% of its reserve requirements funds to be calculated at the EONIA rate minus 10 basis points on annual basis, provided that this rate may not be lower than zero. Banks have the possibility to allocate up to 30% of reserve requirement and hold it in the form of T-Bills issued by Montenegro with maturity up to 182 days, and to allocate up to 13% of reserve requirement and hold it in the form of T-Bills issued by Montenegro with maturity up to 91 day until 31 December 2014.

4.1. Monetary Policy Measures for Suppressing Inflation

The Central Bank of Montenegro had not taken any monetary policy measure for suppressing inflation.

5. INFLATION FORECAST FOR 2014

5.1. Model Assessment

Montenegro's inflation fan chart represents a graph of probability distribution of inflation rate presented by the consumer price index. In that direction, instead of determining concrete points, using the distribution of probability the Fan Chart includes potential risks and uncertainties which in the future period would influence the inflation trend. The fan chart is aimed at considering uncertainties in the real economy flows, which result in the inflation rate movement, and periodically reflected in inflation rate trend (higher food and energy prices, increase/ decrease in the foreign trade deficit).

Montenegro's fan chart for 2014 was based on the following three estimated components:

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 degree of uncertainty ratios are obtained through analytical assessment and calculation of a relative impact of potential internal and external shocks that are possible in Montenegrin economy during 2014 and which are reflected through the width 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 are “overestimated” or “underestimated” inflation rates. This will also influence the position of the mean value of inflation distribution.

Fan Chart central projection - ARIMA model for 2014

With a view to developing a fan chart, an ARIMA (AutoRegressive Integrated Moving Average) model was developed of time series of inflation of Montenegro showed through the Consumer Price Index¹⁴.

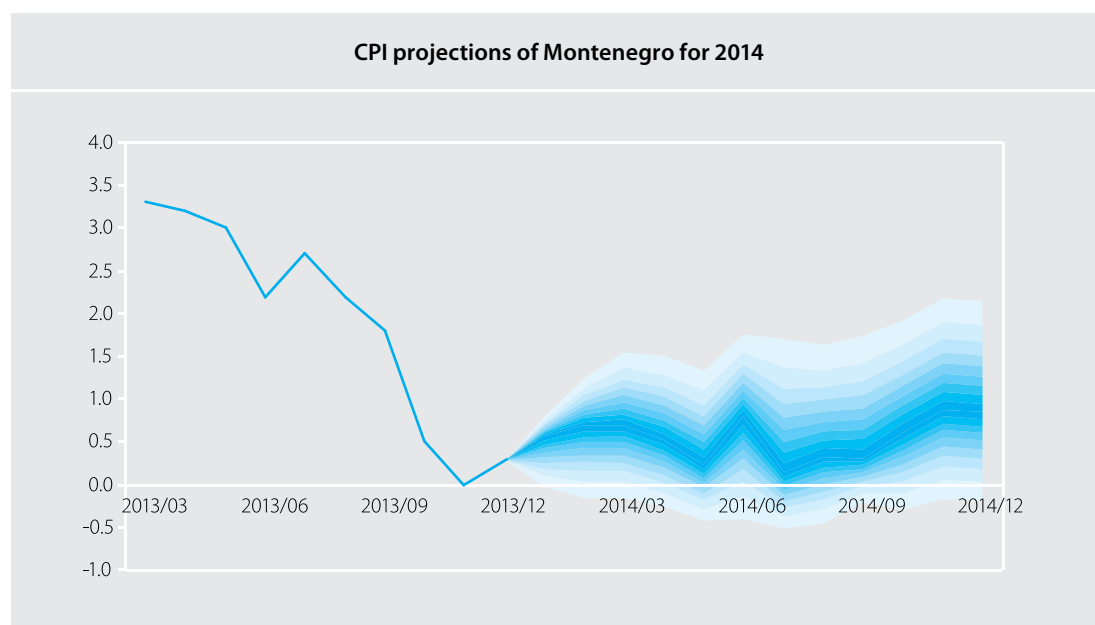
¹⁴ A detailed explanation of the ARIMA model of Montenegro is given in the CBCG working study No. 11 *Inflation Forecast: Empirical Research of Retail Price Index Movements in Montenegro in 2007 –Application of ARIMA Model*.

ARIMA model was used for short term forecasts (12 months), whereby iteration of ARIMA models was made, which were ranked based on their efficiency and quality of diagnostics. The selected ARIMA model (8,1,16)¹⁵, ARIMA has sufficient confidence level for forecasts.

The monthly forecasts value was used as the value of central projection of the CPI *Fan Chart* for 2014. The obtained values represent the distribution mode, i.e. values with the highest frequency in the distribution of this time series.

Mean value of the obtained model was 0.6, the curve (skewedness) varied between 0.5 and 1.2, while standard deviation values was 0.3. The central band was placed in lower part of distribution, i.e. the corresponding degree of uncertainty was concentrated towards higher inflation levels, which are reflected in the graph above central “the deepest shade of blue” band. The fan chart presents 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.¹⁶ The fan chart has an equal number of bands (eight) on either side of the central band whereby every band is of the same colour, both above and below the central band, cumulatively takes the inflation projection to the next 10% of probability. As the degree of uncertainty grows over time, so the fan chart spreads.

Graph 24



Source: CBCG, 2014

¹⁵ 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.

¹⁶ The mode value (central projection) is, by construction, always in the deepest band shade, but in case of a heavily unbalanced risk, the central projection may 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)

Montenegro's inflation Fan Chart based on the ARIMA model projection for 2014 shows, with a 90% probability that, depending on month, CPI inflation will vary between -0.5% and 2.2%. The inflation at 2014 year-end is forecasted between -0.19% and 2.2%. The central projections of the *Fan Chart* that refer to the darkest part of the graph, shows the probability range of 10% (Graph 24).

The following assumptions for forecasting inflation in 2014 (nominal annual growth) include:

1. In addition to international institutions' assumptions that there will be no significant food prices, the model projection has assumed seasonal fluctuations of agricultural products;
2. Although it is assumed that oil and oil derivative prices will not grow in 2014, due to geopolitical tensions growth in price of oil and oil derivatives was 5%;
3. Due to weather uncertainty, the growth in electricity price not exceeding 5% was assumed;
4. Real wages in 2014 will remain at the 2013 level;
5. Continued standstill and mild real estate prices growth;
6. VAT and/or other taxes will not increase.

Reasonably, deviation of any of the abovementioned parameters would require the correction of the forecast.

5.2. Expert Assessment

Taking into account insufficient reliability of statistical data, insufficiently long time series, and often the presence of one-off shocks, the CBCG complements the model assessment with the expert assessment on inflation.

It is evident that the de-inflation trend was present in 2012, as a result of very high inflation in 2012, decreasing population's purchasing power, and the absence in external price shocks (stable level of food and fuels prices).

The level of aggregate demand was on an uptrend in relation to the previous quarter, yet lower in relation to Q1 2013. Taking into account still low population's purchasing power (and expected standstill in real wages), we believe that aggregate demand would not pressure the price growth.

Slowed global economic growth will still be present, therefore this should price pressures should neither be expected from this side. Market indicator points to a decline in inflation expectations, and most of surveyed banks and companies expected inflation between 2% and 3%.

The estimated GDP growth rate in 2013 was 3.5%, and similar growth may be expected in 2014, which will also have anti-inflationary effect. Therefore, we believe that there will be no inflationary pressures in 2014.

In addition, the model forecast points to a decline in inflation. Montenegro's inflation *Fan Chart* based on the ARIMA model projection for 2014 shows, with a 90% probability that, CPI inflation will vary from -0.19% to 2.2%. Our expert assessment is very similar to the model-based assessment according to which the inflation in 2014 will vary from 0% to 3%. However, since the *fan chart* is skewed to lower

inflation levels, thus our expert assessment is not symmetric, and the central (real) projection is closer to lower band of expected inflation rate.

Table 3

Inflation rate forecast at the 2014 year-end		
Optimistic assessment	Realistic assessment	Pessimistic assessment
0%	1%	3%

This assessment is based on the same assumptions as the model assessment. The change in any parameter used for this forecast would require the revision of the forecast.

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