CENTRAL BANK OF
MONTENEGRO
RESEARCH AND STATISTICS AND IT DEPARTMENT

INFLATION REPORT
QUARTER I, 2010

Year VI, Number 18

PUBLISHED BY: *Central Bank of Montenegro*
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1. INFLATION INDICATORS

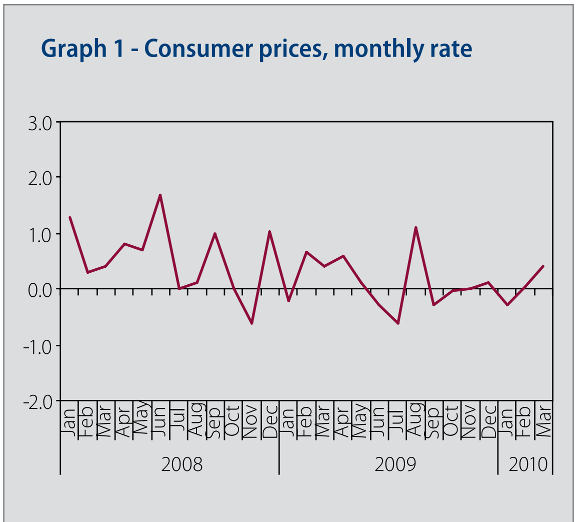
Over the first quarter of this year, CPI inflation in Montenegro amounted to 0.2%. The highest growth was recorded by the prices of transportation (3.2%), prices from the category „restaurants and hotels" (1.8%), health care (1.6%) and food and non-alcoholic beverages (1%). Observed by months, the growth of consumer prices was recorded in February (0.1%) and March (0.4%), while the decline was recorded only in January (-0.3%). At the annual level, consumer prices in March 2010 increased by 0.7% or 4.8 percentage points less in relation to March 2009. The average consumer prices' rate (three months of 2010 in relation to the same period of the previous year) amounted to 0.6%.

With the increase of 1%, the prices of food and non-alcoholic beverages in the first quarter recorded the highest share in total inflation (251%). His was mostly due to higher prices of fruits (7.7%) and vegetables (10.1%). Prices of certain food products decreased: meet (-0.6%), milk, cheese and eggs (-0.7%), oils and fats (-0.6%) and non-alcoholic beverages (-2.9%). The transportation prices increased by 3.2% or 249.1%, mostly due to the growth of fuel (6.4%) and transportation prices (1.2%). High share of food and non-alcoholic beverages and transportation in total inflation was cancelled by the decrease of housing prices (-5.8%) where the electricity prices (-11.3%) recorded the highest decline. The prices of pharmaceutical products increased (0.7%) as well as the prices of medical and dentist services (4.1%) which affected the total growth of prices from the „health care" category by 1.6%. In the category „restaurants and hotels" prices of hotel management increased by 2.2%, which, being a new product, will substantially affect the prices in this category in relation to the previous year when this category comprised only two products (accommodation in dormitories). Due to lower prices of alcoholic beverages (0.7%), the prices of alcoholic beverages and tobacco declined by 0.3%. The tobacco prices recorded a minor decline of 0.02%. The prices of clothes and footwear slightly increased (0.1%) while the prices of communications declined by 0.1%, due to the decline of prices of telephone devices excluding the prices of services. Culture and entertainment prices declined (-1.2%) while the education prices remained the same in the first quarter of 2010. Despite the index changes, the share of certain categories is recorded only at the second or the third digit, due to the weighting structure (Table 2).

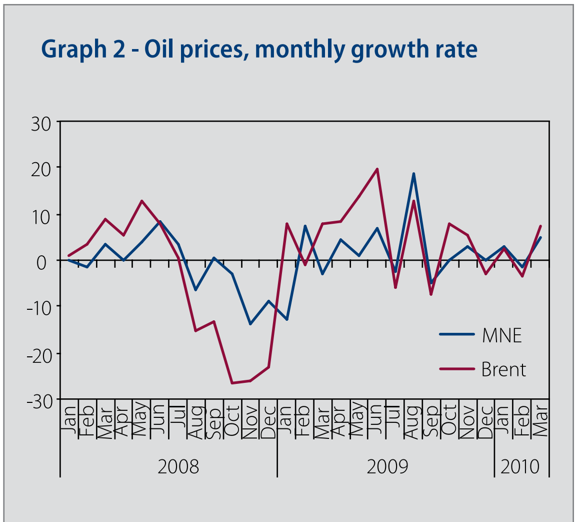
Table 1 – Inflation, %

	2009				2010
	Q1	Q2	Q3	Q4	Q1
Change in relation to previous year-end	0,8	1,2	1,4	1,5	0,2
Annual change	5,5	2,8	1,7	1,5	0,7

Source: Monstat



Source: Monstat



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

The annual **core inflation** rate in March declined amounting to -0.2%. Since October 2009, this rate has continuously been lower than the total inflation due to "calming" of prices included in the core inflation and increasing of prices of some excluded products. The annual core inflation in March 2009 was by 0.21 percentage points higher than the total annual inflation.

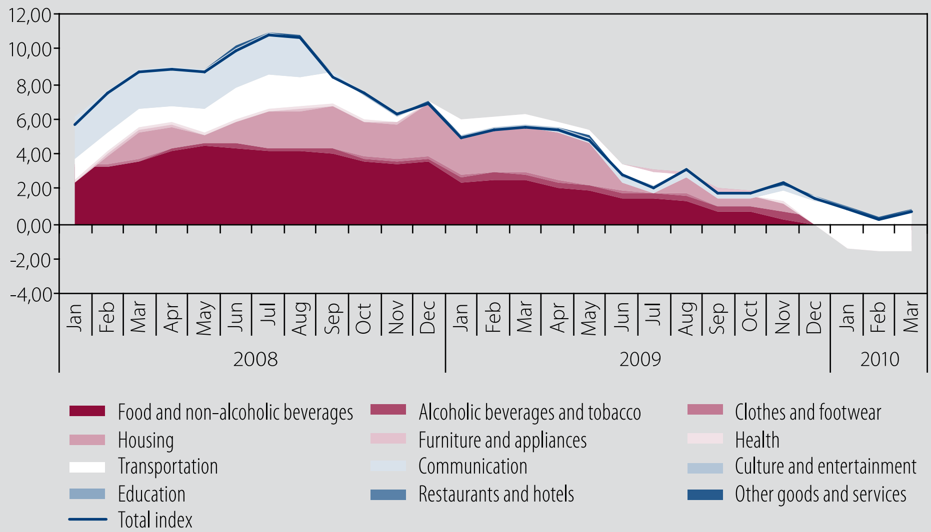
With certain oscillations, oil prices at the world's markets were increasing as of the beginning of 2010. The price of OPEC reference basket averagely amounted to USD/barrel 75.4 in the fist quarter, which was by 1.9% more in relation to December 2009. The price of "Brent" oil averagely amounted to USD/barrel 76.24 in the fist quarter, or 2.6% more in relation to December 2009. The highest „Brent" oil price was recorded in March amounting to USD/barrel 78.90, representing the highest price as of the beginning of the financial crisis (in October 2008 it amounted to USD/barrel 71.87). The analysts foresee the increase of global demand in 2010 which will be activated by increased demand if the region as well as increased petrochemical and transportation activities.

Table 2 – Share of individual categories in total inflation

	Weights	III 10/XII 09	Growth rate	Contribution	Share in total inflation
TOTAL	10000	100.2	0.2	0.2	100.0
Food and non-alcoholic beverages	3755	101.0	1.0	0.4	251.0
Alcoholic beverages and tobacco	372	99.7	-0.3	0.0	-7.0
Clothes and footwear	761	100.1	0.1	0.0	3.4
Housing	1287	94.2	-5.8	-0.7	-485.2
Furniture and appliances	494	100.8	0.8	0.0	25.3
Health	280	101.6	1.6	0.0	29.7
Transportation	1216	103.2	3.2	0.4	249.1
Communications	558	99.9	-0.1	0.0	-2.1
Culture and entertainment	321	98.8	-1.2	0.0	-25.3
Education	218	100.0	0.0	0.0	0.0
Restaurants and hotels	296	101.8	1.8	0.1	34.7
Other goods and services	442	100.9	0.9	0.0	26.4

Source: Monstat and CBM calculations

Graph 3 - Consumer prices' components: contribution to annual growth rate (index points)



Source: Monstat and CBM calculation

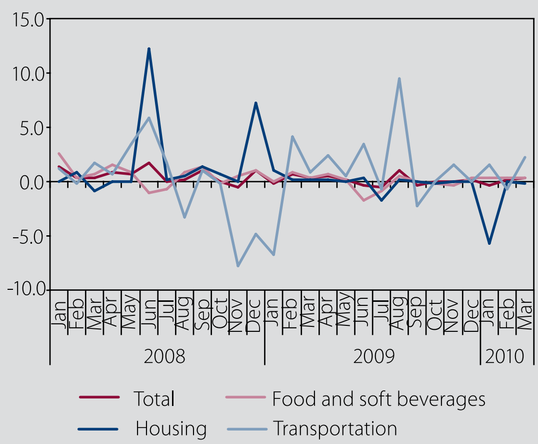
In March 2010, the annual consumer prices' rate amounted to 0.7%. Such low inflation, despite the high annual rate in category „transportation" (18.4%), was affected by the decline of the annual prices of food and non-alcoholic beverages (-1.2%), housing (-6.6%) and furniture and appliances (-6.1%).

Producers' prices of manufactured products decreased by 3.6% un the first quarter, whereby the electricity prices recorded the lowest decline of 8.6%, manufacturing industry prices decreased by 2% while the prices of mining and quarrying decreased by 1%. Observed annually, producers' prices of manufactured products declined by 4.6%.

Graph 4 – Consumer prices, annual growth rate

Source: Monstat

Graph 5 – Selected categories – consumer prices, monthly growth rate

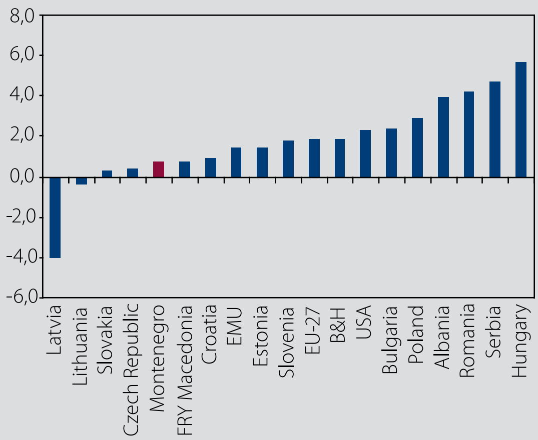


Source: Monstat

If we compare annual inflation in Montenegro with selected countries, we can observe that Montenegro is at the top of the scale with the same rate as in FYR Macedonia (0.7%). Lower annual inflation rate was recorded in Czech Republic (0.4%), Slovakia (0.3%), Lithuania (-0.4%) and Latvia (-4%).

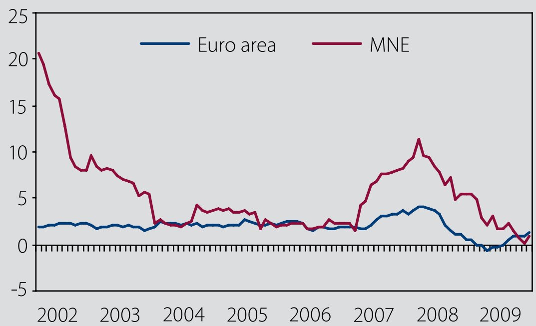
Annual growth in Euro are, measured by the harmonized consumer price index amounted to 1.4%, while measured by consumer prices in Montenegro it amounted to 0.7%.

Graph 6 - Annual inflation rate in selected countries, March 2010



Source: National Statistical Offices and Eurostat

Graph 7 – Inflation in Euro area and Montenegro since introduction of euro (annual rates)



Source: Monstat and Eurostat

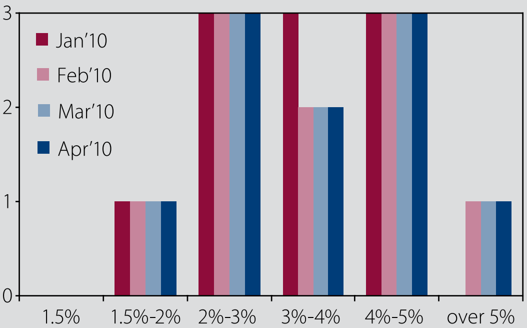
2. INFLATION FORECASTS

Banks' expectations

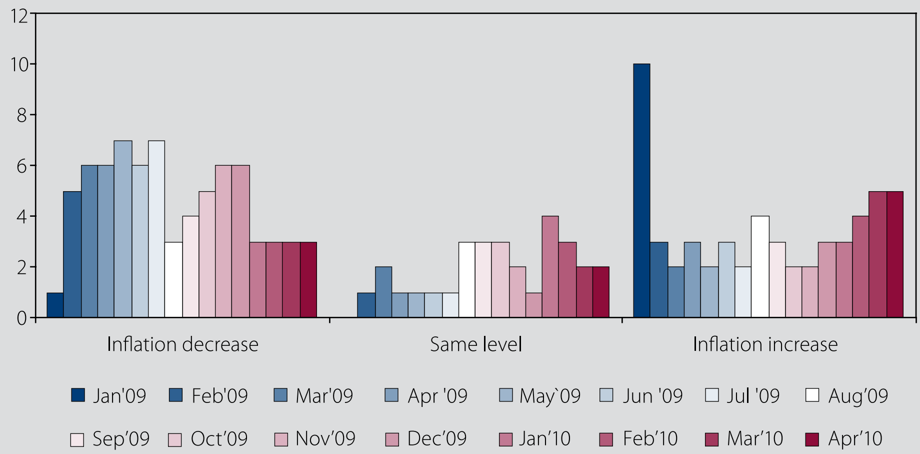
Regarding the banks' inflation expectations, based on survey results from April 2010, new ranges (from 1.5% to 5% and over) on inflation were offered. Five banks expect higher, three expect lower inflation rate in relation to 2009, while two banks expect that it shall remain at the same level from 2009 (Graph. 8). One bank did not respond to the survey on inflation expectations.

Concerning the inflation level, banks' expectations are different. One bank expects growth rate between 1.5%, 2% and over 5%. Two banks expect growth ranging from 3% and 4%, three banks between 2% and 3% and three banks between 4% and 5%.

Graph 9 – Forecasted inflation level (banks)



Graph 8 - Inflation forecasts (banks)

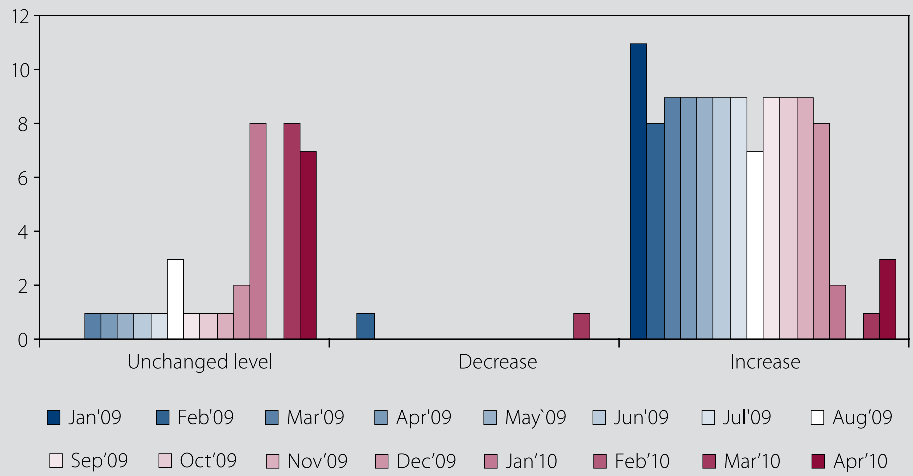


Concerning the expectations on the lending interest rates, no bank forecasted a decrease either in nominal or effective interest rates. Seven banks expected that nominal rates will not change, while six banks expected no changes in lending interest rates. Four surveyed banks expect growth of effective interest rates and three banks foresee an increase in nominal lending interest rates in 2010 in relation to 2009.

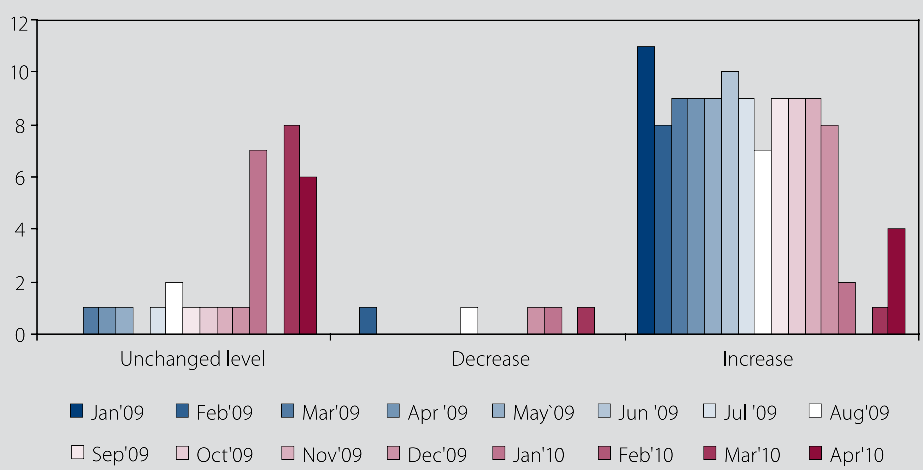
Concerning the expectations regarding deposit interest rates, six banks expected unchanged level, while two banks expect the decline and two of them the growth of deposit interest rates in 2010 in relation to 2009.

For the purpose of calculating inflation forecasts we use market trend indicator (black line in Graph 12). It is calculated as the difference between

Graph 10 – Nominal lending interest rates forecasts

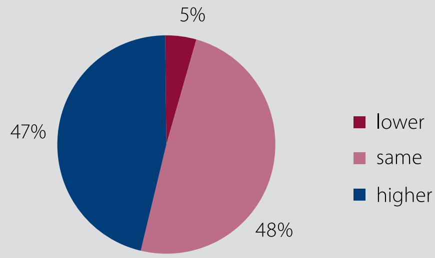


Graph 11 – Effective lending interest rates forecasts

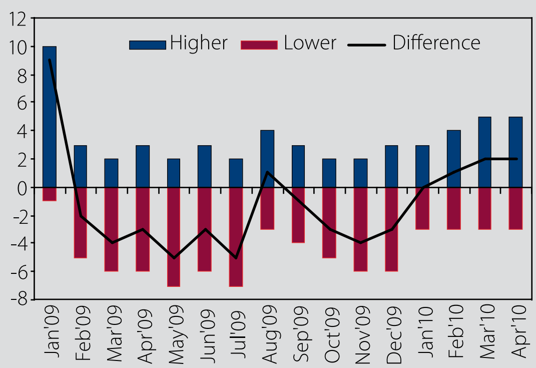


the number of banks expecting an inflation increase (blue columns) and the number of banks expecting an inflation decrease (red columns). If the market trend indicator has a negative value, a decrease in the inflation rate is expected in the upcoming period. If it has a positive value, then an increase in the inflation rate can be expected. If it has a zero value, an unchanged inflation rate can be expected in the upcoming period. The more negative value, the lower inflation forecast, and vice versa. Higher positive value affects higher inflation. Except in January, when the market trend indicator had zero value (Graph 12), expectations regarding inflation began to increase. Thus, in April 2010, these expectations are substantially higher in relation to the last quarter of 2009.

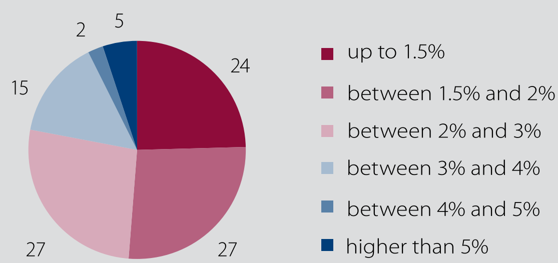
Graph 13 - Forecasted inflation in 2010 in relation to 2009 (responses by percentage share[1])



Graph 12 – Market trend indicator



Graph 14 – Forecasted inflation in 2010

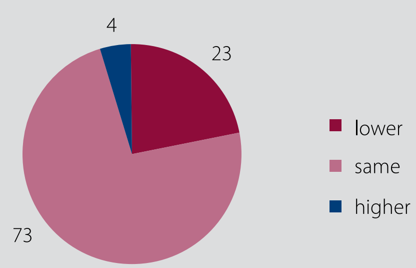


Expectation of the economy (except banks)

Inflation

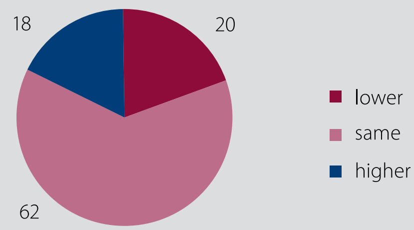
The company survey results show that 47% of companies expect a rise in inflation, 48% believe that there it will be remain at the same level, while 5% expect lower inflation rate in 2010, in relation to 2009. Accordingly, 27% of surveyed companies believe that inflation will range between 1.5% an -2% in 2010. Some 4% of companies expect that salaries of their employees will be higher, 23% expects lower level, while 73% of them expect no change in salaries. Most of the surveyed companies (66%) expect the same value of prices of the production inputs, while 18% expects lower prices of their respective products (services) in 2010. Regarding the number of employees, 62% of surveyed companies believe that this number will not change, 20% believes that it will be reduced, while 18% believe that it will increase in 2010.

Graph 15 – Expected level of salaries in 2010

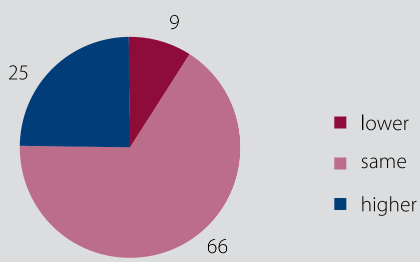


[1] Responses to all survey questions for companies are presented as the share, and hereinafter this will not be specially indicated.

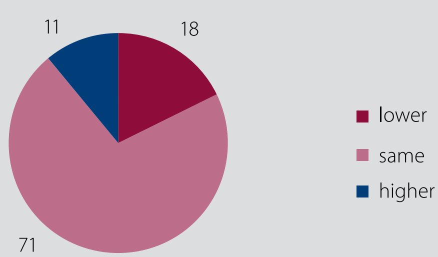
Graph 16 – Expected number of employees in 2010



Graph 17 – Expected level of prices of production inputs in 2010 .



Graph 18 – Expected level of prices of products (services) in 2010

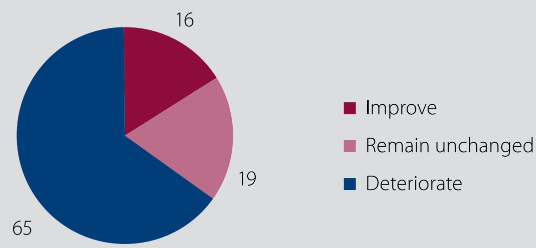


Business Environment

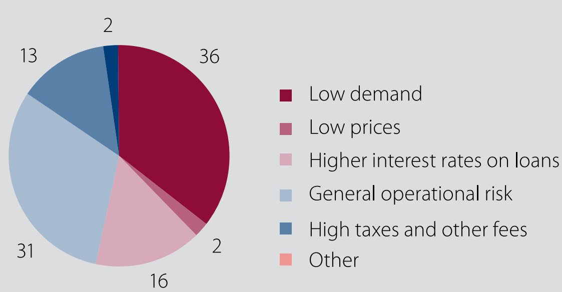
The survey results show that most of the surveyed companies (65%) expect deterioration in the business environment. Some 19% expects unchanged and 16% the improved business environment.

In addition, 19% of the surveyed companies expect lower, 51% unchanged, and 30% expects higher lending interest rates in 2010 in relation to 2009. Concerning business barriers, most of the surveyed consider low demand (36%), general operational risks (31%) and high lending interest rates (16%) as obstacles.

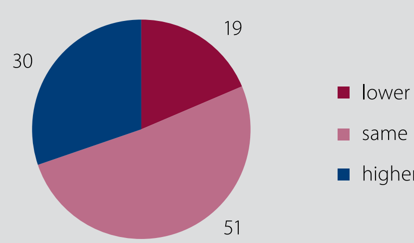
Graph 19 – Expected business environment in 2010 in relation to 2009



Graph 20 – Business barriers



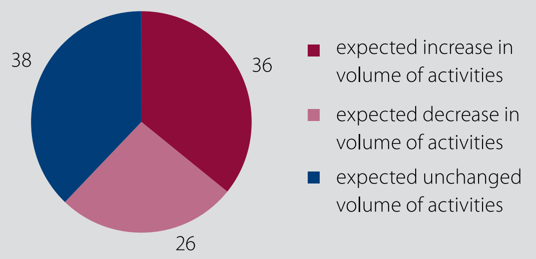
Graph 21 – Expected level of lending interest rates in 2010 in relation to 2009



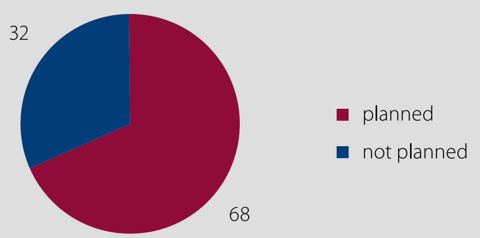
Investments

Of the total surveyed companies, 36% plan to increase the volume of activities in 2010, while 68% plan new investments. Most investments (60%) related to an increase in fixed assets, while low demand (36%) and high interest rates (29%) are described as the largest obstacles to new investments.

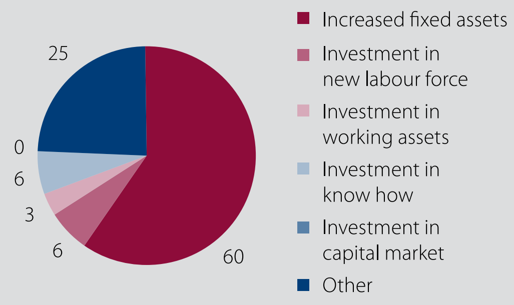
Graph 22 – Expected volume of activities in 2010



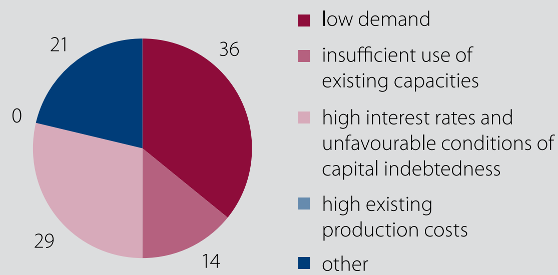
Graph 23 - New investments in 2010



Graph 24 - Types of planned new investments for the first half of 2010



Graph 25 – Obstacles to new investments in the first half of 2010



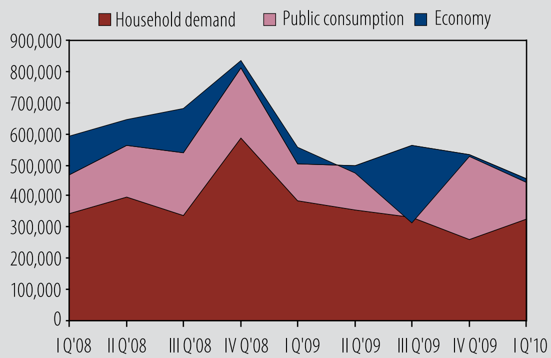
3. INFLATION DETERMINANTS

3.1. DEMAND

In the first quarter of 2010, the aggregate demand declined in relation to the same period of the previous year. Observed by sectors, decrease of demand was recorded in household and corporate sectors, while public consumption recorded minor increase. In relation to the previous quarter, public consumption and corporate sector demand decreased, while the households' demand increased. In the total structure, the households' demand increased, while corporate sector's demand decreased in relation to the same quarter of 2009.

In the first quarter of 2010, the aggregate demand was lower in relation to the same period of the previous year, as well as in comparison with the last quarter of 2009.

Graph 26 - Aggregate demand, EUR thousand



Box 1 - Aggregate demand calculation methodology

For the purpose of complete monitoring of aggregate demand as the inflation determinant, the CBM has developed the aggregate demand calculation methodology. The starting point of this methodology is that the aggregate demand is the total demand of three sectors: Personal consumption (household), investment consumption (corporate sector) and public consumption. However, taking into account the lack of numerous data necessary for calculating the aggregate demand, the existing data should not be treated as the indicator of the exact amount of aggregate demand, but as an indicator showing the aggregate demand trend. A number of substantial data are not available under the existing methodology, such as: corporate investments, revenues from selling shares, non-market incomes, non-observed economy revenues, and the like. The methodology for calculating the aggregate demand is given in the following equation:

AD=C + I + G

C=sum of paid salaries + sum of paid pensions + paid frozen foreign currency deposits + net compensations to households - net 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

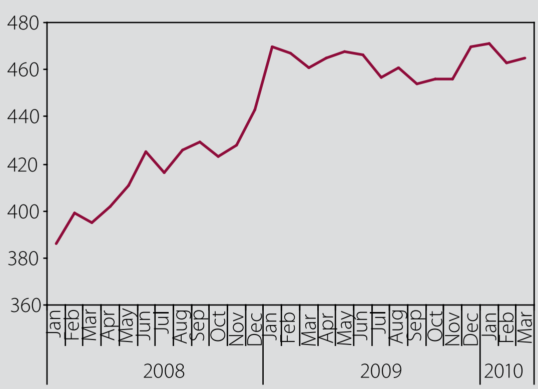
In the first quarter of 2010, the average salary in Montenegro amounted to EUR 695, while the average salary without taxes and contributions amounted to EUR 466, the same as in the first quarter of the previous year. In relation to the previous quarter, the average salary without taxes and contributions increased by 1.2%.

Taking into account the consumer prices, i.e. salaries in real amounts, it can be concluded that real salaries grew only in January, while they declined in February and March.

In the first quarter of 2010, the households' loans declining trend slowed down. On a monthly level, loans granted to this sector declined at an average rate of 0.7% (in 2009 they declined by the average rate of 1%) and at end-March 2010 they amounted to EUR 900.6 million. Loans granted to household sector were EUR 108.9 million or 10.8% lower in relation to end-March 2009, while they were EUR 18.7 million or 2.04% lower in comparison with end-2009.

At the end of the first quarter of 2010, households' loans in micro-credit financial institutions (MFI) amounted to EUR 59.5 million. Households' debt to MFIs decreased by EUR 14.2 million or 19.2% in relation to the end of the first quarter of the previous year, while in relation to end-2009 it decreased by EUR 5.7 million or 8.7%.

Graph 27 - Average salaries without taxes and contributions in Montenegro

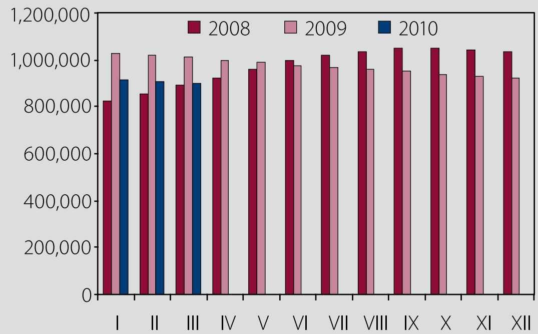


Source: Monstat

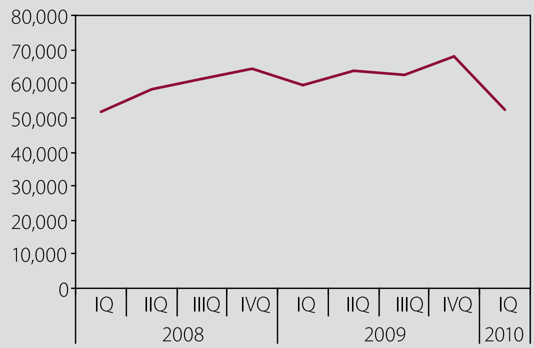
Graph 28 – Real wages (monthly growth rate)

Source: Monstat

Graph 29 - Loans to households, in EUR thousand



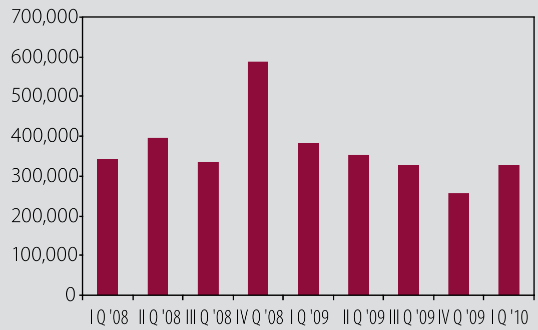
Graph 30 - Inflow of foreign funds to households, EUR thousand



Source: CBM

Deposits of household sector amounted to EUR 849.7 million at the end of the first quarter of 2010, which is EUR 69.1 million or 8.9% more in relation to the same period of the previous year and EUR 5.8 million or 0.7% more in relation to end-2009.

Graph 31 - Household demand, EUR thousand



The balance of payments statistics shows that the inflow of foreign funds to natural persons was lower in the first quarter of 2010 in relation to the same quarter of the previous year as well as in relation to other quarters of 2009. This inflow includes employees' compensations, pensions, remittances and other transfers.

Observing the total demand of household sector by quarters, it can be noticed that the demand was lower in the first quarter of 2010 compared to the same period of 2009, while in relation to the previous quarter it recorded significant growth.

3.1.2. Budgetary analysis

Consolidated public consumption

The assessment of the Ministry of Finance showed that the consolidated public consumption in the first quarter of 2010 amounted to EUR 291.4 million or 9.4% of estimated GDP for 2010. Compared to the same period of the previous year, public consumption was 6% higher, while it was 25.4% lower than planned. Realized level of public consumption was financed from tax revenues in the amount of EUR 154.6 million, contributions (EUR 62.6 million), fees (EUR 21.4 million), taxes (EUR 6 million), other current revenues (EUR 8.2 million), and revenues from loan repayments (EUR 0.7 million). In addition to basic revenues, consolidated public expenditure in the first quarter of 2010 was financed from privatization and sale of property (EUR 5.9 million) and donations (EUR 1.3 million).

Current public revenues[2] amounted to EUR 253.5 million or 8.1% of estimated GDP for 2010. Current public revenues were 9.8% lower than planned resulting from an obvious reduction in some categories of tax revenues (profit tax, real estates tax, local taxes and excise duties) and substantial decrease of other current revenues (fees, various compensations, other revenues and revenues from loan repayments). In relation to the same period of the previous year, public revenues decreased by 5.4%. The structure of current public revenues shows the

[2] *Total current public revenues include budget revenues, state funds and local government.*

largest share of tax revenues (61%), followed by contributions (24.7%), while all other revenues made up 14.3% of public revenues.

In relation to the first quarter of 2009, tax revenues recorded a minor increase of 3.1% in the first quarter of 2010, due to the increase from VAT revenues (11%), custom revenues (4.4%), local taxes (23.8%) and other taxes (17.7%). In addition, revenues from contributions increased by 13.6%, whereby all contribution categories increased. At the same time, the revenues from fees decreased by 54%, contributions by 16% and other current revenues by 37%.

The increase of consolidated public expenditures in relation to the same period of the previous year resulted from the increase of current expenditures (for example: subventions, interests, renting, gross salaries, expenditures for material and services), social protection transfers and reserves, while expenditures from transfers to institutions, individuals, NGO and public sector, capital expenditures and borrowings and loans granted declined. Current budgetary consumption (consolidated public expenditures decreased by capital expenditures of the current budget with funds, local government and capital budget) amounted to EUR 266.9 million or 8.6% of GDP and it was lower by 17% in relation to planned, while in relation to the same period of 2009 it increased by 16%.

In the structure of public expenditures, transfers had the highest share of 47%, followed by capital expenditures (8.4%), while all other expenditures had 1.6% share in total. In the current expenditures, most of funds (62%) were allocated to employees' gross salaries, expenditures for material and services (15.8%), interests (6.1%), subventions (7.3%), while other expenditures accounted for 9% of funds.

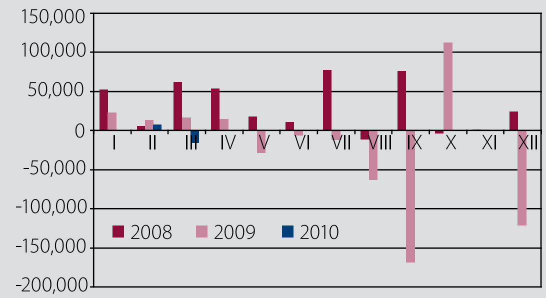
At the end of the first quarter of 2010, public sector recorded deficit of EUR 37.9 million or 1.3% of estimated GDP.

3.1.3. Economy

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

Loans granted to the corporate sector were substantially higher than their deposits in the first quarter of 2010. Net debt of the corporate sector at end-March 2010 was 1% lower in relation to December or 25.1% in relation to March 2009. The structure of loans granted to the corporate sector shows that the share of long-term loans in total loans disbursed to this sector amounted to 70.8% at the end of the first quarter of 2010, whereby loans with maturity over 3 years made up 44.5% of total loans granted to the corporate sector. Such loans' structure points to their dominant use for increasing the economic activity.

Graph 32 - Net indebtedness of corporate sector, monthly change, EUR thousands



3.1.4. External demand and balance of payments current account

In the first quarter of 2010, according to preliminary data, current account deficit amounted to EUR 242 million or 6.2% less in relation to the previous year. Significant decline of domestic and external demand was recorded in relation to previous years. Foreign commodity trade was characterized by the decline of export and import of commodities by 21.2% and 11.6%, respectively. Total commodity exchange amounted to EUR 374.7 million or 13.3% less in relation to the same period of 2009. Commodity account deficit amounted to EUR 254 million or 9% in relation to the previous year. Coverage of import by export was 2 percentage points lower amounting to 19.2% in the first quarter 2010, still representing extremely high coverage.

In the first quarter of 2010, Montenegro recorded deficit of EUR 17 million in foreign commodity exchange. Revenues from services amounted to EUR 50.6 million or 8.3% in relation to the previous year. The highest revenues were in transportation (EUR 19.8 million), travel – tourism (EUR 10.5 million), other business services (EUR 6 million) and construction services (EUR 5.9 million). Expenditures from services amounted to EUR 67.6 million or 5.3% more in relation to 2009.

Factor revenue accounts, during the reporting period, recorded a surplus of EUR 4.7 million or 66.9% lower than in the first quarter of 2009. Factor income revenues amounted to EUR 37.3 million or 8.8% less than in the first quarter of 2009. Most of revenues referred to employees' compensations (EUR 36.3 million). Expenditures amounted to EUR 32.6 or 22% more than in 2009. The largest part of expenditures resulted from interests' repayment (EUR 19.5 million) or 5.6% less than in 2009.

Current account transfers continued the cash inflow trend. In the first quarter of 2010, current transfers' balance amounted to EUR 24.5 million or 55.1% more in relation to the same period of 2009. Total inflow from current transfers in the observed period amounted to EUR 31.5 million or 19.3% more than in 2009, of which EUR 5.1 million referred to the state sector, and EUR 26.4 million to all other sectors. In the same period, current account expenditures amounted to EUR 7 million.

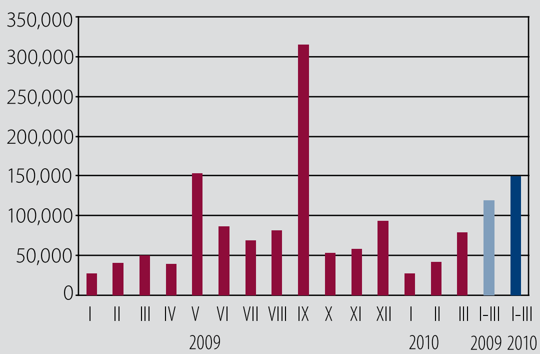
According to preliminary data, net inflow of foreign direct investments (FDI) in the period January – March 2010 (inflow minus outflow), amounted to EUR 129.2 million or 43,9% more in relation to the same period of 2009. Total FDI inflow amounted to EUR 148.8 million or 25% more than in the same period of the previous year.

Observed by the FDI structure, the highest inflow came from investments in local companies and banks (EUR 75 million) or 30% more in relation to the same period of 2009. The inflow of EUR 36.8 million or 32.3% more was in the form of intercompany debt. Real estates investments amounted to EUR 31.1 million or 6.5% less in relation to 2009. Inflow from cash withdrawal which residents invested abroad amounted to 5.8 million.

Total FDI outflow in the period January-March 2010 amounted to EUR 19.6 million or 33.1% less in relation to the same period of 2009. In the outflow structure, EUR 12.4 referred to the decrease of liabilities of domestic companies based on loans granted by parent companies. The outflow from the sale of real estates of non-residents amounted to EUR 2.3 million, while the outflow from withdrawal of funds invested in local banks and companies amounted to EUR 1.5 million. Investments of residents in foreign banks and companies amounted to EUR 1.9 million, while the outflow from real estates purchased abroad amounted to EUR 1.5 million.

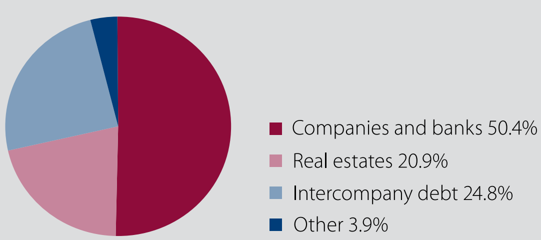
During the observed period, the account of **portfolio investments** recorded deficit of EUR 1.7 million. Inflow of funds from portfolio investments amounted to EUR 0.9 million, while at the same time the outflow amounted to EUR 2.6 million. In the first quarter of 2010, net inflow from **other investments** (loans, commercial credits, cash and deposits) amounted to 8.3 million or 88.6% less in relation to the same period of 2009.

Graph 33 - FDI inflow in the period 2009 – March 2010, in EUR thousand



Source: CBM

Graph 34 - Structure of total FDI inflow during the period January-March 2010, in EUR thousand



Source: CBM

3.2. SUPPLY AND PRODUCTION

Based on chain monthly indices, the physical volume of industrial output increased by 18.7% compared to end-2009. Based on monthly indices in relation to average from 2009, growth amounted to 18.9%. Monthly data on industrial output showed increase in January (13.5%), and March (17.4%) while in February it decreased (-10.9%). If we compare the first three months of this year with the same period from the previous year, the decline of industrial output amounted to 14.5%.

In the first quarter of 2010, Montenegro was visited by 48,5 thousand tourists or 14.4% less than in the same period of 2009. The number of arrivals of domestic tourists decreased by 15.5%, while the number of foreign ones decreased by 14%. The number of overnights in the observed period amounted to 192,8 thousand or 24.8% less than in the previous year.

In the first three months of this year, total **wood production** amounted to 12,477 m^3 or 11.5% more than in the same period of the previous year.

The value of construction works amounted to EUR 35 million or 17.9% less than in the comparative period. The construction activity measured by effective working hours was reduced by 9.5 %.

In the first quarter of 2010, a decrease of 37.8% was recorded in the volume of passengers in road transport in relation to the same period of 2009, while the road cargo transport decreased by 7.8%. The number of passengers in railway transport was 20.5% higher, while cargo railway transportation increased by 19%. The number of passengers in air transport decreased 29% in relation to the same period of the previous year.

Total turnover in harbours amounted to 338,9 thousand tonnes in the first three months or 9.7% lower in relation to the same period of the previous year, where the export increased by 22% and the import by 34.7%.

3.3. STOCK EXCHANGE INDICES

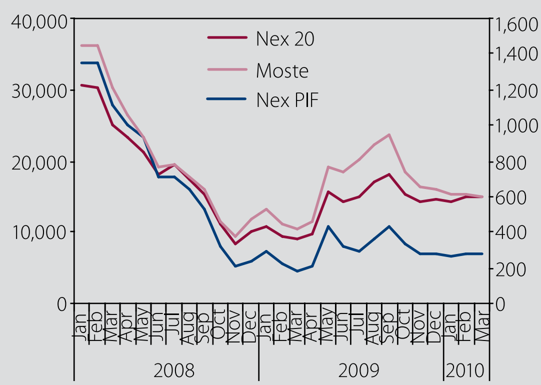
In the first quarter if of 2010, Montenegrin stock exchange indices increased only in February. In relation to end-2009, NEX20 index recorded the absolute growth of 333.3 index points or 2.3%, while MOSTE and NEXPIF indices declined. MOSTE recorded absolute decline of 34.55 index points or 5.4%, while NEXPIF declined by 142.9 index points or 2.0% in the absolute amount.

In relation to the end of the first quarter of 2009, all three indices recorded growth: Moste – 46.8%, NEX20 – 67.6% and NEXPIF – 53.3%.

Graph 35 - Industrial output, annual growth rate

Source: Monstat

Graph 36 - Nex Montenegro and Montenegro stock exchange indices (NEX20 and NEX PIF - left scale and MOSTE- right scale)



Source: Montenegro stock exchange and Nex Montenegro stock exchange

Compared to their maximum historical values (reached in 2007), at end-March 2010 all indices decreased: Moste – 4.1 times, NEX20 – 3.3 times, and NEX PIF – 7.4 times.

Table 3 – General Data on Indices

	MOSTE		NEX 20		NEXPIF	
Value as on 31 March 2010	604,44		14.930,19		6.877,79	
Absolute change in 2010	-34,55		+333,31		-142,87	
Initial index value	100,0	March 2003	1000,00	March 2003	1000,00	March 2003
Maximum value over 2010	623,92	18.02.2010.	15.164,99	01.03.2010.	7.115,87	16.03.2010.
Maximum historical value	2.455,4	07.05.2007	48.617,88	07.05.2007.	50.780,54	17.08.2007
Maximum historical value	94,8	23.06.2004	918,57	14.04.2003	959,53	02.04.2003
Growth (decline) in 2010	-5,41		2,28		-2,03	

Source: Montenegro and Nex Montenegro stock exchanges

4. MONETARY POLICY

In the first quarter of 2010, there were no changes in existing decisions referring to the CBM monetary policy. New decisions were not enacted.

5. INFLATION FORECAST IN 2010

The "Fan Chart" model is applied for the forecast of inflation in Montenegro. This is a graphic presentation of the distribution of projected inflation forecasts expressed in the form of Consume Price Index (CPI[3]). To wit, instead of identifying some specific points, by using the Fan Chart, through the distribution of forecasts, any potential risks and uncertainties that could affect the inflation movements over the following period of time are also taken into consideration. The purpose of the Fan Chart is to point out and take into consideration any existing uncertainty in real economy, consequently reflecting on the growth of inflation rate (higher prices of energy sources, an increase/decrease in foreign trade deficit).

The Fan Chart of Montenegro for 2010 is based on the following three assessment components:

1. **Values of the central projection**: The values of the Fan Chart central projection are deducted from the ARIMA model, and also by applying the Tramo/Seats simulation in order to obtain the most efficient model

2. **Level of uncertainly** - determines the Fan Chart width The level of uncertainly ratio is a result of analytic analysis and calculation of relative effects of potential internal (expected increase in electricity prices) and external impacts (oil prices) that may occur in the Montenegrin economy in 2010

3. **The Fan Chart curve**: following the curve showing the level of distribution of the projected inflation, the Fan Chart adjusts to the forecast in the sense that the values of the central projection forecasting the inflation rate movements are either "overrated" or "underrated". The position of an average value of the inflation distribution will depend on this trend.

Fan Chart Central Projection - ARIMA Model for 2010

For the purpose of Fan Chart preparation, the ARIMA (Auto-Regressive Integrated Model with Variable Averages) model of temporal series of inflation in Montenegro was developed and expressed by Consumer Price Index[4].

ARIMA model was used for the purpose of short-term forecasts (10 months of 2010). An iteration of 382 ARIMA models was prepared. All models were ranked according to their respective diagnostics efficiency and quality.

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[3] *Consumer Price Index*

[4] *A detailed explanation of the ARIMA model of Montenegro is provided in the working study of the Central Bank of Montenegro No 11 "Inflation Forecast: Empirical Research of Retail Price Index Movements in Montenegro in 2007 –Application of ARIMA Model", 2007. In addition to this, although the CBM monitors, as the basic indicators of price levels, the Costs of Living Index (CLI), and CPI (Consumer Price Index), inflation forecast is based on the retail price index for two reasons. First of all, the Costs Living Index, before it was improved in 2006, used to contain a set of negative values, which made the preparation of a projection more difficult; due to non-stationary series it had to be prepared in DLog format. Secondly, the CPI index has series is too short to create a model.*

The selected ARIMA model, ARIMA (5, 1, 5)[5] has a sufficient levels of certainty for the forecasting purposes. The CPI time series was used for the forecasting purposes for the first time, which will be used as the basis for inflation forecasting in the future.

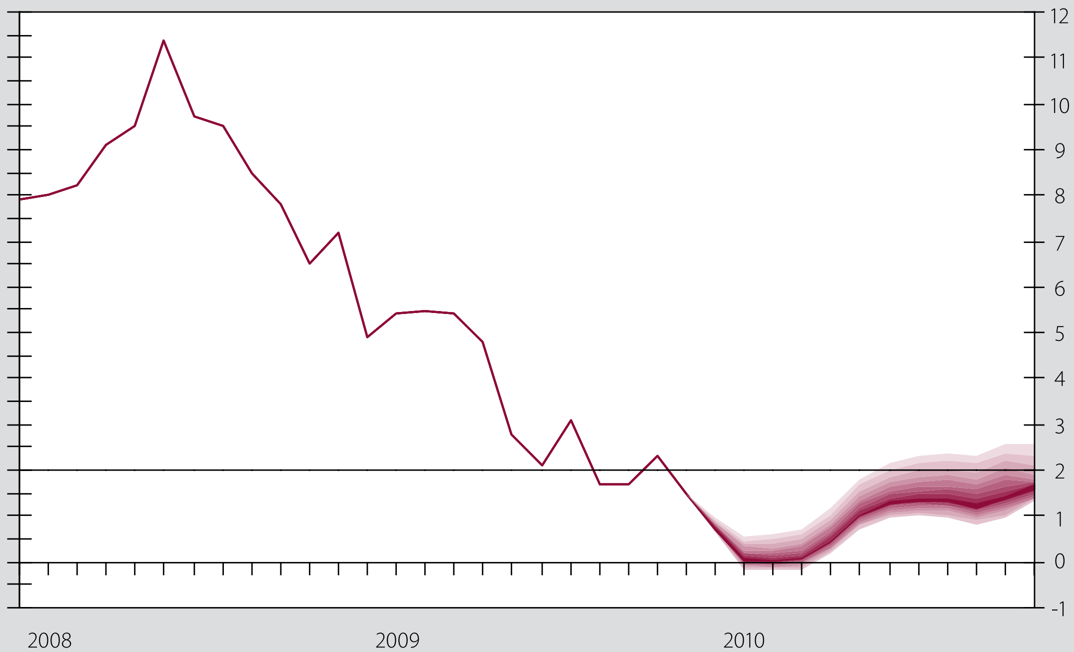
Following the Tramo/Seats[6] procedure, 4 breaking points were identified (Chow Test for the identification was used) in the previous series; those substantially corresponded to the changes of the inflation structure from 2001 to the end of 2009, which was included in the ARIMA model through dummy variables.

Results of ARIMA projection were compared to the values of projected values by Tramo/Seats procedures which expressed substantial level of compatibility.

The values of monthly projections were entered as the value of central projection of the Fan Chart of CPI for 2010. The resulting values represented a distribution style, meaning the values with the highest frequency in the distribution of this time series.

Mean value of the produced model is 3.1, curve ratio varied between 1.26 and 1.86, while the values of standard deviations amounted to $\sigma2=1.43$ or $\sigma1=0.29$. Like in the previous two years, this showed that the central span was located in the lower part of the distribution, which means that the corresponding range of uncertainty was concentrated towards the higher levels of inflation. This is shown in the graph as a "thicker" range concentrated above the central "dominantly red" range.

Graph 37 – Projected CPI in Montenegro for 2010



[5] *ARIMA Model is usually marked as ARIMA (p, d, q), where p represents the number of autoregressive variables, d refers to the level of depending variable stationary, while q represents the number of variables, movable averages which are placed in the corresponding model.*

[6] *Tramo program represents a program for model assessment and design (mostly ARIMA, having problems with a lack of data, data errors and the presence of a large number of extreme data in time series. SEATS program is used to extract the elements of time series than cannot be directly extracted; those elements are extracted as a trend, season, cycle, and occurrence of Easter or Christmas effect, which allows a superior analysis and projection of ARIMA model. (For more details, please see the manual Tramo and Seats (Gómez and. Maravall, 1996).*

Fan Chart explains 90% of the probability of the inflation distribution. The central projection is usually in the deepest shade of the Fan Chart, i.e. in the central 10% of probability. [7] 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.

The Fan Chart showing the inflation in Montenegro, based on an ARIMA model assessment and Tramo/Seats simulation for 2010, shows 90% probability that the inflation, measured by Consumer Price Index, will move within an interval between -0.1%% and 2.3% depending on the month. Namely, the uncertainty increases as the time horizon for making a projection increases, and consequently the range of a forecast becomes wider.

The central Fan Chart projection relating to the darkest area on the chart represents a range of probability of 10%, forecasting that the inflation in 2010, measured by Consumer Price Index, will range between 0% and -1.7%, depending on the number of months covered by the projection.

Observed from the economic aspect, according to the model forecast, it is realistic to expect that the inflation will be low the first half of the year, primarily due to a slow down in economic growth, lower aggregate demand, unemployment growth, stagnation in earnings and available income.

External assumptions referring to the calculation of the uncertainty level were based on the statistical approach:

1. The price of oil and oil derivatives will not exceed +15% of the price from December 2009;
2. The price of aluminium will not decline more than 10% in relation to that from June 2009;
3. Real estate prices will decrease up to 7% in relation to the last quarter of 2009;
4. Real wages increase is 2%;
5. World's economic growth in 2010 remains at the level of IMF forecast from October 2009[8];
6. There will be no substantial corrections of taxes and excise duties;
7. Revenues from tourism will not decline more than 10% in relation to 2009.

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[7] *The values of the current style (central projection) are usually found in the darkest part of the curve; nevertheless, if there is a significant level of risk, it may happen that none of these values are included into the central projection (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)*

[8] *IMF, World Macroeconomic Outlook, October 2009*

6. EXPECTED INFLATION IN 2010

The first quarter of 2010 was still characterized by the recession expressed in low inflation rate which was characteristics of 2009 as well. Inflation rate is still extremely low, while the core inflation rate is still negative. However, there are positive indications coming from many surveyed companies on planned investments in 2010.

The level of the aggregate demand is decreasing, as well as the level of economic activity. External demand and import are on a downward trend. Public expenditure is increasing. Market trend indicator shows higher inflation in this year, while the most of surveyed companies and banks expect inflation ranging from 2% to 3%.

The world's economy is starting to come out of recession and it is expected that economic growth will be slow and very vulnerable. Bearing in mind the crisis in Greece, danger from the crisis in some EU countries and necessity of gradual cancellation of monetary and fiscal stimuli some economists point out that "W" curve cannot be excluded from the recovery. After the new expansion phase of the world's economy, a gradual inflation growth can be expected, as the result of widely implemented expansive measures against the crisis' consequences and the aggregate demand growth. However, such scenario is not expected in this year.

Model-based assumption shows 90% probability that the inflation rate in 2010 will range from -0.1% to 2.3%. Our experts' assessment is somewhat lower in relation to the forecast from the previous quarter, and it indicates that inflation in this year might be ranging from 1% to 3%.

Table 4 – Forecasted inflation rate

Optimistic forecast	Realistic forecast	Pessimistic forecast
1%	2%	3%

The assumptions on which this estimation is based as well as the estimation in Fan Chart are the following:

- The prices of oil and oil derivatives will not increase more than 15% in relation to December 2009;
- Aluminium prices will not fluctuate over 10% in relation to June 2009;
- Real estates prices will not decline more than 7% in relation to the last quarter of 2009;
- Growth of real wages will not increase over 2%;
- Global economic growth in 2010 remains at the level of the IMF forecast from October 2009[9];
- There will be no significant corrections of taxes and excise duties;
- Tourism revenues will not fluctuate over 10% in relation to the level from 2009.

Deviation of any of these indicators would require the forecast revision.

[9] *IMF, World Macroeconomic Outlook, October 2009.*