

5. Prices and the Exchange Rate

In October and in Q3 inflation moved below the lower limit of National Bank of Serbia target band and at the end of October, it amounted to 1.5%. Low cost pressures in food production caused by low price in primary agricultural products in global and domestic market, low oil prices and slow growth in regulated prices are most significant disinflationary factors that have influenced the movement of inflation below the target band. Underlying inflation (measured by the CPI excluding prices of food, energy, alcohol and tobacco) in Q3 and October also moved below the lower limit of NBS target band and the main factors that influenced that were stable and unchanged dinar exchange rate, as well as low import inflation. National Bank of Serbia continued with the easing of monetary policy in July- key policy rate was reduced to 4.0% and was not changed in the following months. Given that the inflation was stabilized below the lower limit of the target band in the long term, as well as that it is not expected to significantly accelerate in coming years, NBS reduced target inflation by 1 p.p. to $3 \pm 1.5\%$, which is estimated as appropriate policy. By the end of 2016 inflation will move below the lower limit of the target band, but it is expected that it will be within the limits of the new target band, where it should be retained. Average inflation in 2016 will amount to 1.2%, while at the end of the year it will be around 2.2%. At the end of Q3 dinar exchange rate was at nominally unchanged level when compared to Q2 (appreciation of 0.02%), in October it slightly appreciated (by 0.1%) and it remained virtually unchanged in November (depreciation of 0.03%). In July National Bank intervened by buying foreign currency in the interbank market to prevent dinar appreciation due to increased demand for domestic currency, which was also done in October. During Q3 and in October, dinar really appreciated by 0.9%, which is largely the result of the differences in inflation in Serbia and in the countries of the eurozone, given that nominal exchange rate remained virtually unchanged.

Prices

In Q3 and October, inflation trend is below the lower limit of the NBS target band

Year-on-year inflation amounted to 0.6% at the end of third quarter of 2016, which is above the value at the end of Q2 (Table T5-1). In October, inflation rose to 1.5%, but it is still significantly below the lower limit of a still valid NBS target band of $4 \pm 1.5\%$. On a monthly basis, deflation still occurs very often- in July 0.1% and in September 0.6%, while inflation in August amounted to 0.9% and in October 0.7%. Low prices of oil and primary agricultural products as well as low inflation in international environment during 3 were main disinflationary factors. The decline in food production costs, caused by the fall in the prices of primary agricultural products in the second half of the year has disinflationary effect, and so does a good domestic agricultural season. From the second half of November, when the price of crude oil amounted to relatively low 43 dollars per barrel, its price was in growth, until the beginning of December, when it stabilized at around 51 dollars per barrel. It is expected that the growth in global oil prices will spill over to other prices, but the effect will be modest. The oil prices trend in the following period is still tentative because it is uncertain whether the agreed reduction in production is enough, or will the countries that are largest oil exporters comply with the agreement.

Table T5-1. Serbia: Consumer Price Index, 2010-2016

	Consumer price index				
	Base index (avg. 2006 =100)	Y-o-y growth	Cumulative index	Monthly growth	3m moving average, annualized
2010					
dec	144.2	10.2	10.2	0.3	11.7
2011					
dec	154.3	7.0	7.0	-0.7	2.5
2012					
dec	173.1	12.2	12.2	-0.4	9.9
2013					
dec	176.9	2.2	2.2	0.2	-0.9
2014					
mar	179.1	2.3	1.2	-0.3	5.1
jun	180.4	1.2	2.0	0.1	2.9
sep	181.2	2.1	2.4	0.7	1.6
dec	180.0	1.8	1.8	-0.4	-2.4
2015					
mar	182.4	1.8	1.3	0.7	5.5
jun	183.8	1.9	2.1	0.5	3.1
sep	183.7	1.4	2.1	0.0	-0.2
oct	183.3	1.4	1.8	-0.2	2.7
nov	183.1	1.3	1.7	-0.1	-1.3
dec	182.8	1.6	1.6	-0.2	-1.9
2016					
jan	183.8	2.3	0.5	0.5	1.1
feb	183.7	1.4	0.5	-0.1	1.3
mar	183.5	0.6	0.4	-0.1	1.5
apr	184.2	0.4	0.8	0.4	0.9
may	184.3	0.8	0.8	0.1	1.3
jun	184.4	0.3	0.9	0.1	2.0
jul	184.3	1.2	0.8	-0.1	0.2
aug	185.9	1.2	1.7	0.9	3.5
sep	184.8	0.6	1.1	-0.6	0.9
oct	186.1	1.5	1.8	0.7	4.0
nov	185.9	1.5	1.7	-0.1	0.0

Source: SORS.

Underlying inflation was below the lower limit of the NBS target band and amounted to 1.6% in October

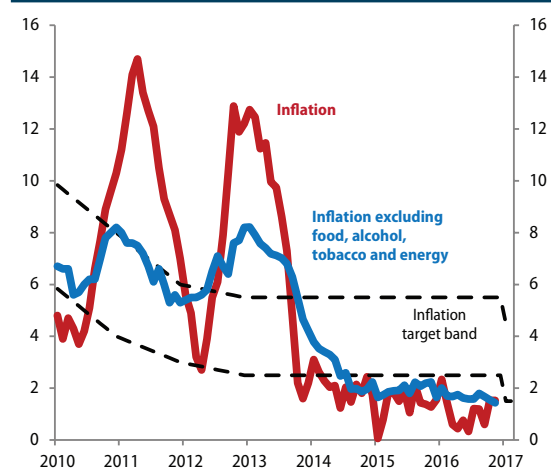
Underlying inflation (measured by the consumer price index excluding prices of food, alcoholic beverages, tobacco and energy products) was also below the lower limit of the target band of the NBS and at the end of Q3 amounted to 1.7% (Graph T5-2), while in October, it decreased slightly and amounted to 1.6%. Stable low underlying inflation (which ranged from 1.6% to 2.2% in the long term) was greatly contributed by a stable, practically fixed dinar exchange rate, as well as a fall in interest rates. The growth of underlying inflation should be affected by the continuation of the recovery in domestic demand, as well as the growth of inflation in eurozone countries (whose low inflation so far exerted disinflationary pressure on the import prices in Serbia, given that it is expected to grow in 2017). The prices of the most basic metals (aluminum, lead, zinc, tin, nickel, cobalt, etc.) have grown in the past several months, while copper price recorded a significant leap in November, which continued in December, so it can be expected that these prices will have inflationary effect in coming months.

Since the beginning of the year NBS target inflation has amounted to 3±1.5%

Low and stable inflation in the long past period, a slowdown in convergence of regulated prices to the level of the European Union and the absence of other significant inflationary factors, as well as the reduction in internal and external imbalance led to anchoring of the expectations of the price growth below the officially targeted corridor. Therefore, the National Bank of Serbia and the Government of the Republic of Serbia made the decision to decrease the target inflation rate by 1 percentage point for 2017 and 2018 - from January 2017 target band will amount to

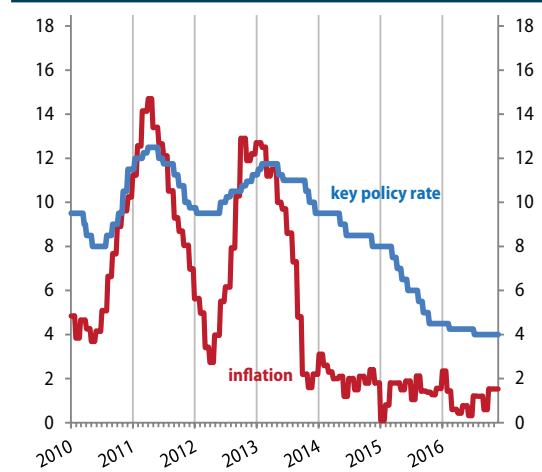
3 ± 1.5%, which is more in accordance with the expected inflation trend in future. In previous issues of QM, we suggested that it could be good for the NBS credibility to either bring inflation within the limits of the corridor or adjust the corridor according to the expected inflation trend. Overall, we estimate that the new inflation goal is more adequate for the following years, although we believe that the target band is relatively wide. The key policy rate (KPR) was reduced in July to 4.0% (Graph T%-3) and it has been kept at this level up until today.

Chart T5-2. Serbia: Y-o-y Inflation Rate and Underlying Inflation and the NBS Target Band 2010-2016



Source: NBS and QM estimates

Chart T5-3. Serbia: NBS Reference Interest Rate and y-o-y Inflation Rate, in %, 2010-2016



Source: NBS

Relatively low inflation in Q3

There was a relatively modest increase in prices in the third quarter of 2016, so that inflation reached 0.2% (Table T5-4), i.e. by months: -0.05% in July, 0.87% in August and -0.59% in Q3 in September. Inflation in Q3 was mostly contributed by the growth in the prices of some food products (fresh meat prices rose by 8.9%, while prices of milk and dairy products increased by 1.7%, making a total contribution to inflation of 0.71 pp), tobacco (increase by 4.7%, contribution of 0.22 pp), books (increase by 13%, the contribution of 0.07 pp), products and services from the group of transport (increase by 0, 3%, contribution of 0.04 pp) and drugs (increase by 1%, the contribution of 0.03 pp). Drop in prices of vegetables (drop by 16.8%, contribution of -0.82 pp), followed by clothing and footwear (-1.2%, contribution -0.06 pp) and drop in prices of bread (-0, 5%, the contribution of -0.03 pp) and fruit (-1.3%, contribution -0.03 pp) had disinflationary effect.

Relatively high monthly inflation in October

In October, price growth amounted to 0.7%, mainly due to a growth in the prices of food (growth of 0.7%, contribution to inflation of 0.2 p.p.), out of which the vegetables price increased the most (growth of 6.7%, contribution of 0.33 p.p.), followed by electricity (increase by 3.8%, contribution of 0.2 pp) and the price from the group of recreation and culture (growth of 2.5% and contribution of 0.14 percentage points). A fall in the fruit prices of 4.3% had disinflationary effect (contribution of -0.09 p.p.), while other groups of products and services had significantly less impact on the consumer price index.

Table T5-4. Serbia: Consumer Price Index: Contribution to Growth by Selected Components

	Share in CPI (in %)	price increase in Q3 2016	Contribution to overall CPI increase (in p.p.)	Price increase in October 2016	Contribution to overall CPI increase (in p.p.)	Price increase in November 2016	Contribution to overall CPI increase (in p.p.)
Total	100.0	0.2	0.2	0.7	0.7	-0.11	-0.11
Food and non-alcoholic beverages	32.1	-0.5	-0.2	0.6	0.19	-0.68	-0.22
Food	28.6	-0.6	-0.2	0.7	0.20	-0.73	-0.21
Alcoholic beverages and tobacco	7.3	2.9	0.2	0.0	0.00	-0.11	-0.01
Tobacco	4.7	4.7	0.2	0.0	0.00	0.00	0.00
Clothing and footwear	4.6	-1.2	-0.1	1.1	0.05	0.92	0.04
Housing, water, electricity and other fuels	13.7	-0.1	0.0	1.4	0.20	0.34	0.05
Electricity	4.9	0.0	0.0	3.8	0.19	0.00	0.00
Furniture, household equipment, routine maintenance	4.8	0.4	0.0	0.4	0.02	0.25	0.01
Health	5.0	0.8	0.0	0.0	0.00	0.06	0.00
Transport	12.7	0.3	0.0	0.4	0.05	0.24	0.03
Oil products	5.8	0.4	0.0	0.8	0.05	0.36	0.02
Communications	5.1	-0.3	0.0	0.1	0.00	-0.07	0.00
Other items	14.7		0.1		0.19		-0.01

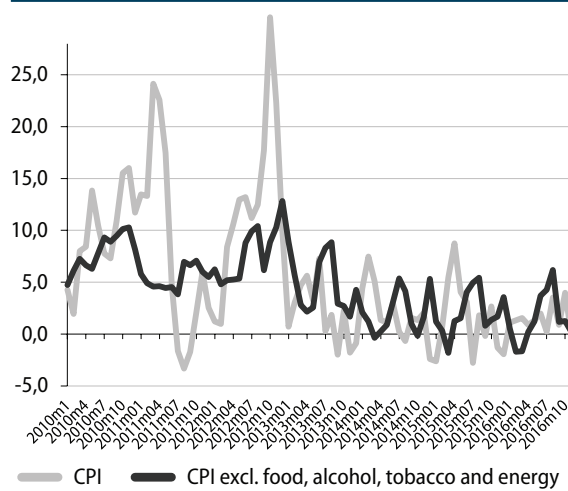
Source: SORS and QM estimates

Total and underlying inflation are at a stable low level

Total inflation at the end of Q3 was 0.9% (3m annualized average), while in October, it rose to 4.0% (Graph T5-5). Growth in total inflation was largely contributed by the October increase in food prices and electricity. Underlying inflation (3m annualized average of inflation excluding food, alcoholic beverages, tobacco and energy products) at the end of Q3 stood at 1.2%, while in October increased slightly to 1.3%. The September decline in underlying inflation (from 6.2% to 1.2%) is the result of the output of a relatively high underlying inflation of 0.6% in June from the calculation of a 3m average and input into the calculation of a September deflation of 0.6%.

Until the end of 2016, inflation will move below the lower limit of the target band, while it is expected to enter within the limits of a new NBS target band in 2017

Year-on-year inflation growth can be expected in November and December, as monthly deflation from November and December of 2015 are left out from its calculation, but it will nevertheless move below the lower limit of a still targeted band of the NBS until the end of the year. Inflation will enter within the limits of a new corridor in early 2017. In the following months, price growth will be slightly influenced by the spillover of the October growth in the price of electricity, growth in the world price of crude oil and basic materials (whose growth can be expected in the next year), as well as the recovery of domestic demand, while stable dinar exchange rate, low prices of the agricultural products and good domestic agricultural season will have disinflationary effect.

Chart T5-5. Serbia: CPI and Underlying Inflation Trend, Annualized Rates, in %, 2010-2016

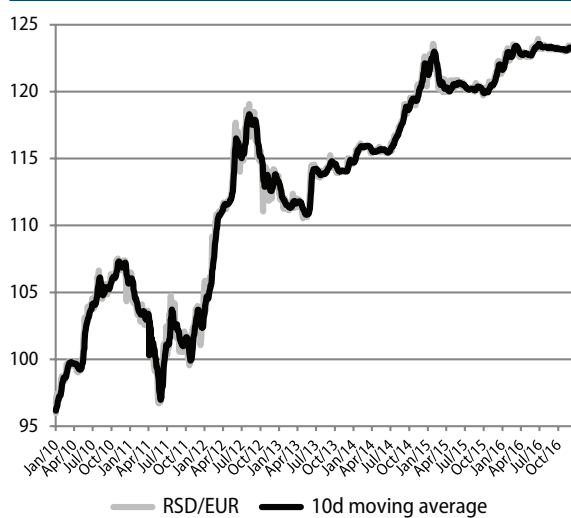
Source: SORS and QM estimates

Inflation growth in international environment should also influence the prices in Serbia, via growth in the prices of imported products and domestic supplements. As the NBS showed the willingness to “defend” the dinar exchange rate in the previous period (both in the case of depreciation pressures, as well as in appreciation pressures) and as the same is expected to continue also in the period until the presidential elections in 2017, the dinar exchange rate will most likely continue to be a bit variable, so that the effect of the exchange rate spillover to the prices will be minimal. We expect that at the end of the year inflation will amount to 2.2%, while average inflation in 2016 will be around 1.2% (we assumed monthly inflations for November and December at the average level of the current year).

The Exchange Rate

Dinar exchange rate in Q3 and October and November remained almost unchanged.

Chart T5-6. Serbia: Daily RSD/EUR Exchange Rate, 2010-2016



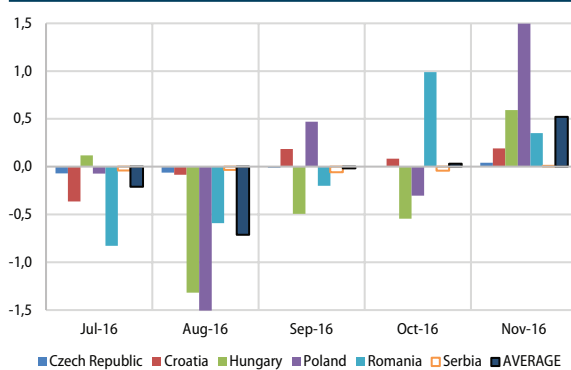
Source: NBS

During Q3, dinar strengthened against the euro by 0.02%, when compared to the end of Q2 (i.e. by 0.14%, when observed at the level of the quarter intersection), in October strengthened by additional 0.1%, while in November, it weakened by 0.03% (Graph T5-6). Significantly larger changes in the exchange rate occurred in relation to the US dollar and Swiss franc. Against the dollar, dinar strengthened by 1.1% in Q3 and in October and November it weakened by 2.2% and 3.2% retrospectively, while it depreciated against the Swiss franc in Q3 by 0.02% and in October by 1.6% and in November by additional 2.1%. In order to prevent the dinar appreciation due to an increased demand for the domestic currency, NBS intervened by buying foreign currency (mostly in July and October) at the Interbank Foreign Exchange Market (IFEM).

Exchange rate volatility in Serbia is significantly lower than in most countries in the region

By observing dinar exchange rate changes in the past four months (Graph T5-7) in comparison with the changes in the countries in the region with a similar exchange rate regime, it can be concluded that there is a significantly greater impact of the Central Bank to the movement of the exchange rate in Serbia and that the objective was to prevent a major dinar exchange rate variations. Purchase of the foreign exchange in the IFEM contributed to the reduction of depreciation pressures, which prevented the deterioration of the economy of Serbia competitiveness, which, of course, we assess as positive. Considerably larger fluctuations of the exchange rates of most other selected currencies when compared to the dinar in recent months can be

Chart T5-7. Nominal Exchange Rate Change (in %) in Selected Countries



Source: Eurostat, NBS, QM estimates

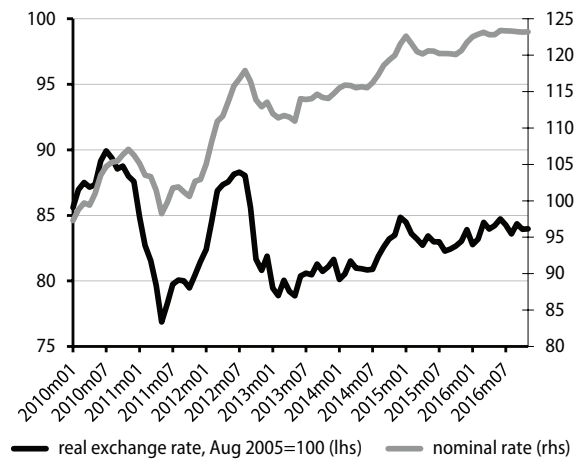
Note: an increase represents depreciation

explained by the willingness of the central banks of these countries to allow greater exchange rate changes in the economies with a lower level of euroisation than is the case in Serbia. Due to a high exposure to the euro, too large dinar depreciation in Serbia would increase the cost of loan servicing and jeopardize macroeconomic stability, while too high appreciation would jeopardize the competitiveness of the economy. Therefore, central banks in other countries may implement measures aimed at achieving a price and financial stability relatively independently from the changes in the exchange rate, while in highly euroized economies this is only possible in relatively narrow corridor.

Real appreciation in Q3 and October

During Q3 dinar appreciated by around 0.4%, while in October, it really strengthened by additional 0.5 p.p. (Graph T5-8). Given that the nominal dinar exchange rate moved considerably less, the main factor that led to a moderate appreciation of 0.9% during these for months was a substantially higher inflation in Serbia when compared with the countries of the eurozone. NBS interventions in the interbank market prevented a higher real appreciation and consequently greater loss of competitiveness of Serbian economy. The real exchange rate now has a similar value as at the end of 2014.

Chart T5-8. Serbia: Nominal and Real RSD/EUR Exchange Rate, Monthly Averages, 2010-2016



Source: NBS, SORS, Eurostat and QM estimates

Note: an increase represents depreciation