NATIONAL BANK OF SERBIA

I N F L A T I O N
REPORT
May 2008

Belgrade, May 2008

Introductory Note

Based on the Memorandum of the NBS on the Principles of the New Monetary Policy Framework adopted by the Monetary Policy Committee in its meeting of 30 August 2006, the NBS has been maintaining price stability within the framework of the defined inflationary corridor using policy rate as its main instrument and other monetary policy measures as supporting instruments.

Since the NBS aims to formally adopt inflation targeting in the near future to increase transparency of its monetary policy and improve efficiency of communication with the public, it has decided to prepare and publish quarterly inflation reports as its main channel of communication. This report will provide information on the main developments in the economy that affect the MPC's decisions and the activities of the National Bank of Serbia.

Inflation report covers information on the current and expected inflation movements and provides analysis of underlying macroeconomic developments, reasoning behind the MPC's decisions and an assessment of efficiency of the monetary policy implemented during the previous quarter. Also integral to this report is inflation projection for at least four quarters ahead, assumptions on which such projection is based and an analysis of the basic risks to achieving target inflation.

The information contained in this report will enable the public to have better understanding of the monetary policy implemented by the central bank and its commitment to achieving target inflation. Moreover, it will play a role in containing inflationary expectations and maintaining price stability, which is the main task of the NBS.

The May Inflation Report was adopted by the Monetary Policy Committee in its meeting of 15 May 2008.

Earlier issues of the Inflation Report are available on the NBS website (http://www.nbs.yu).

Monetary Policy Committee of the National Bank of Serbia:

Radovan Jelašić, *Governor*
Ana Gligorijević, *Vice-Governor*
Diana Dragutinović, *Vice-Governor*
Mira Erić-Jović, *Vice-Governor*

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I. Overview

Quarterly core inflation rate in Q1 2008 slowed down from the second half of 2007 as the surge in food prices subsided and seasonal factors came into play. By contrast, year-on-year rate of growth in core inflation continued rising and, after quite a while, exceeded the upper bound of the targeted range.

Table I.0.1
Key macroeconomic indicators

	2007	2008		
	Dec	Jan	Feb	Mar
Retail prices (y-o-y growth, in %)	10.1	10.7	11.3	11.8
Core inflation (y-o-y growth, in %)	5.4	5.6	6.5	7.0
Belibor (90 days, monthly average, annual level)	10.3	10.5	11.3	14.1
M3 (y-o-y growth, in %)[1)]	44.1	51.9	47.9	43.9
GDP (y-o-y growth)[1)]	6.9	…	…	7.1
Consolidated fiscal result (% of GDP)[1)]				
Ministry of Finance methodology	-6.8	…	…	1.4
IMF methodology	-7.6	…	…	0.5
Balance of goods and services (% GDP)[1)]	-22.7	…	…	-24.3

[1)] Quarterly data.

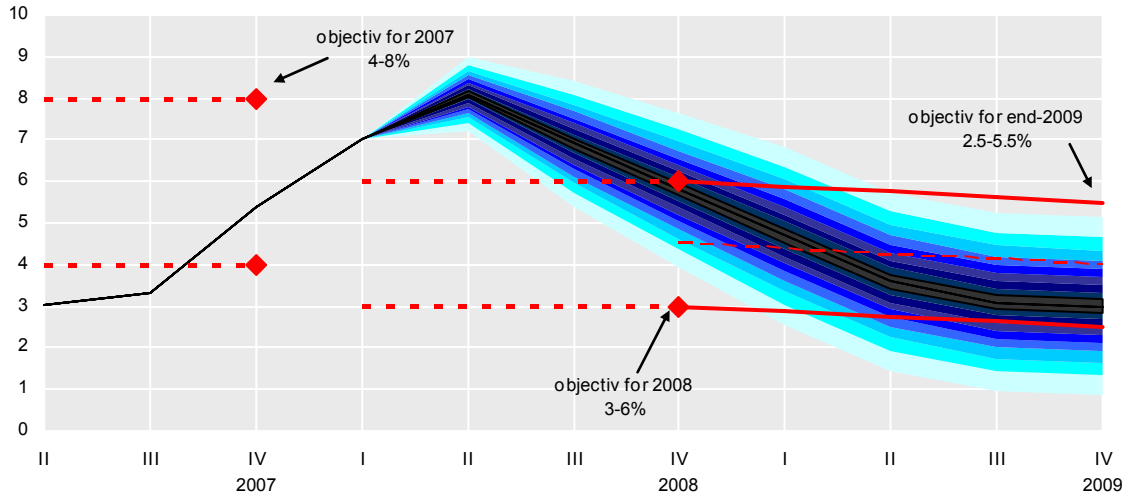
Inflationary effect of most of the relevant factors intensified in the period under review: inflation expectations increased, world oil prices reached new historical highs, imported inflation recorded the highest quarterly growth rate in the past two and a half years, output gap crossed into the positive zone, and appreciation gap of the real exchange rate narrowed as a consequence of the nominal depreciation of the dinar.

Domestic money and capital markets were rather volatile in Q1. Both economic (effects of global financial crisis) and non-economic factors (Kosovo's declaration of independence and calling of early parliamentary elections) exerted their strong influence. As a result, the risk premium rose, and the dinar depreciated in nominal terms.

Still, economic activity picked up in Q1, most notably in the processing industry and the production and distribution of electricity. Consequently, output gap moved into the positive zone which is likely to bring about further inflationary pressures in the coming period. However, another positive development is that the increase in productivity in the sector of tradeable goods was not accompanied by higher real growth in wages. But the composition of GDP spending worsened as the share of personal consumption increased at the expense of government and private investment.

Quarterly core inflation is expected to gather momentum in the second quarter as a result of the announced increase in food prices, cost effects of rising energy prices, lag effects of the nominal depreciation of the dinar, stronger inflation expectations and positive output gap. Year-on-year core

Core inflation projection
(y-o-y rates, in %)



inflation will continue to move further away from the upper bound of the targeted range, until it reaches around 8.1% by mid-year, when it is likely to head down. Year-end core inflation is expected to level off just shy of the upper bound of the targeted range, although there is a risk it might overshoot it. Central projection for core and headline inflation in 2008 is placed at 5.8% (3.9–7.7%) and 8.6%, respectively. The latest projection is 1.1 percentage points higher than in January due to increased political risk and strengthening of the inflationary effects of a number of factors.

The risks underlying our current inflation projection are very high. Hence, the National Bank of Serbia's Monetary Policy Committee holds that upward revision of the key policy rate in the coming period is more likely than its downward revision or none at all (the rate currently stands at 15.25%). The monetary policy stance needs to be tightened in order to rein in inflationary pressures and to achieve this year's inflation objective. Should, however, the above risks materialize, a much tighter monetary grip would be needed in order to meet the 2008 inflation objective, which could, in turn, have a negative effect on economic growth and the achievement of inflation objective for 2009. In view of all of the above, future monetary policy measures will be increasingly focused on meeting inflation objective set for 2009.

II. Inflation Developments

As the boom in food prices juddered to a halt, core inflation declined from a quarter earlier to 1.5% in Q1 2008. Year-on-year core inflation (7.0%) was below the targeted range, and is likely to rise to around 8.1% in Q2.

Q1 retail price growth of 2.8% was mainly due to movements in regulated prices (1.6 pp). Year-on-year, retail price growth measured 11.8% in Q1 and is expected to decline to around 11.0% by end-Q2.

Q1 core inflation of 1.5%[1] was lower than recorded in either of the prior two quarters (2.2%) and was in line with our expectations reported in the previous issue of Inflation Report. Lower core inflation growth was primarily due to smaller growth in food prices, and, though to a lesser extent, was also seasonally induced. On the other hand, increase in energy prices and higher inflation expectations had stronger inflationary effects. Besides, nominal depreciation of the dinar resulted in the narrowing of the appreciation gap and easing of its disinflationary effects.

Table II.0.1

Indicators of price growth

(growth rates in %)

	XII 2005 / XII 2004	XII 2006 / XII 2005	XII 2007 / XII 2006	III 2008 / III 2007
Retail prices	17.7	6.6	10.1	11.8
Core inflation	14.5	5.9	5.4	7.0
Consumer prices	...	...	11.0	13.6
Cost of living	17.1	6.0	11.9	14.6
Prices of goods	16.3	6.1	13.0	16.5
Prices of services	22.3	5.2	5.2	3.1
Industrial producer prices	15.4	7.3	9.8	12.8
Agricultural producer prices	11.8	7.3	27.2	32.1[1)]

[1)] February on february.

With the waning of the agricultural shock effects, the contribution of processed food products to core inflation growth declined from 1.4 pp in Q4 2007 to 0.6 pp in Q1 2008. On the other hand, non-food core inflation[2] growth, set in motion from mid-2007[3], continued to 1.4% in Q1 and provided a 0.9 pp contribution to core inflation. Within this group of products and services, growth in prices of beverages, transport services and construction material contributed 0.7 pp to the increase in core inflation. Growth in non-food core inflation was fuelled by the nominal depreciation of the dinar, which induced a surge in imported inflation, as well as by higher inflation expectations and the cost effects stemming from unrelenting growth in energy prices.

Chart II.0.1

Movements in prices

(quarterly growth, in %)

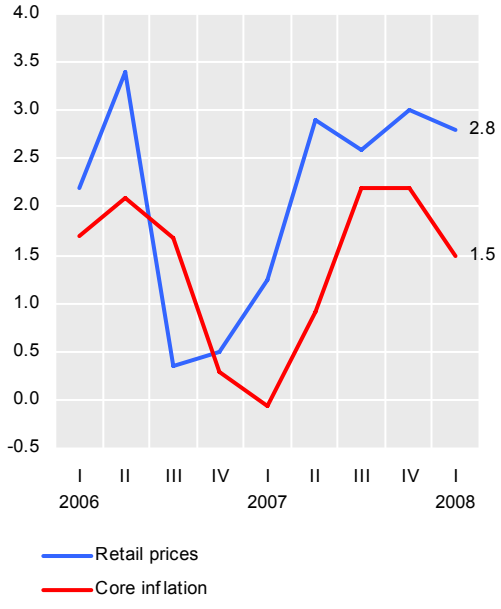
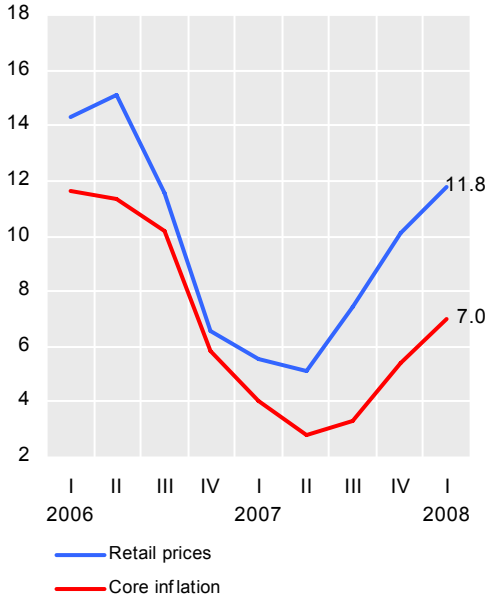


Chart II.0.2

Movements in prices

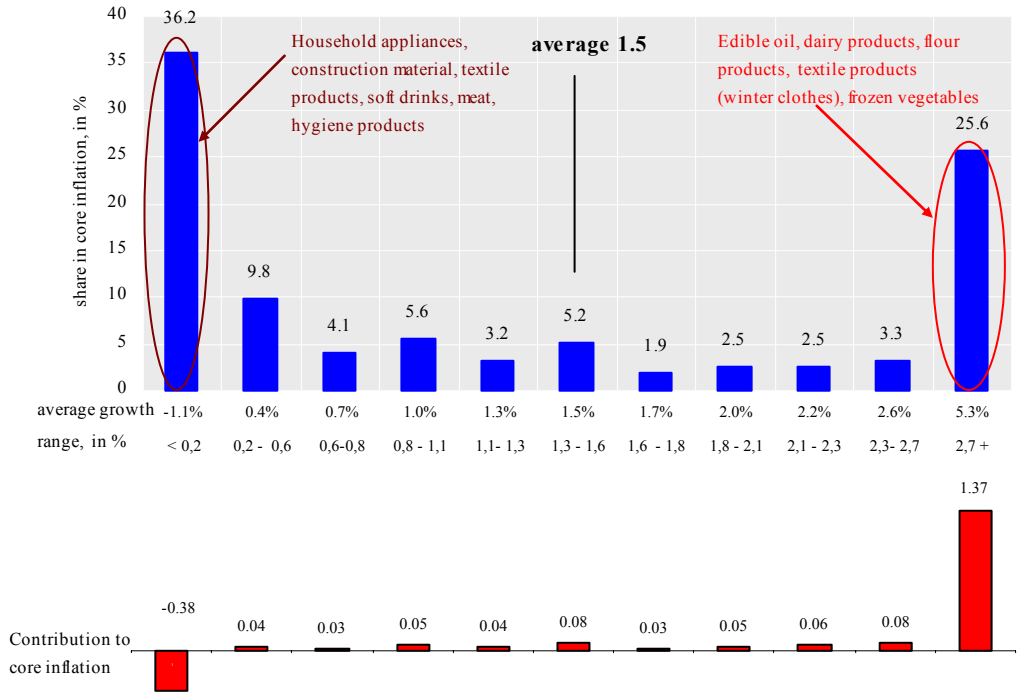
(y-o-y growth, in %)



[1] Monthly breakdown: January 0.3, February 0.6, March 0.6.
[2] Core inflation excluding prices of food products.
[3] Quarterly breakdown: 0.8% in Q3 and 1.2% in Q4 2007.

Chart II.0.3.

Distribution of price growth for products included in core inflation in Q1 2008



Although core inflation slowed down quarter-on-quarter, year-on-year it continued rising and came out at 7.0%.

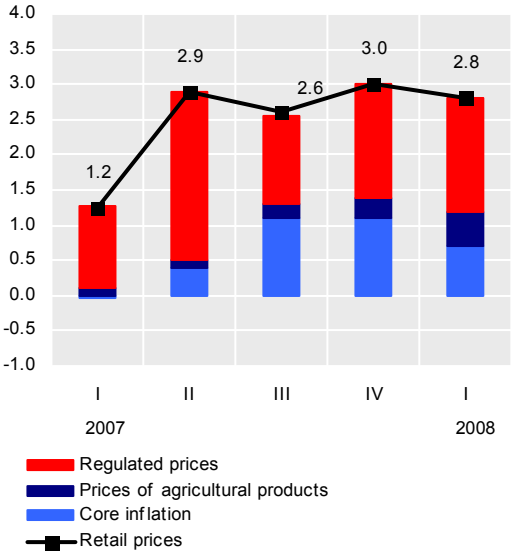
Main contribution to the 2.8%[4] retail price growth in Q1 came from regulated prices (1.6 pp), while market-determined prices and prices of agricultural products contributed 0.7 pp and 0.5 pp, respectively. Regulated prices recorded a 3.3% growth, just as in the previous quarter, while prices of agricultural products climbed by 12.8%, which is much more than in the same period a year earlier (2.9%).

From the beginning of the year, retail prices of oil derivatives underwent four upward and one downward revision. In Q1, prices of oil derivatives recorded their highest quarterly growth rates (10%) since 2005 (17% in Q3 2005). Note that in both Q1 2008 and Q3 2005, the registered growth included the rise in excise duties resulting from their adjustment with price growth.

Substantial increase in energy prices (oil and electricity) will have indirect effects on core inflation in the coming period.

Chart II.0.4

Contribution to retail price growth
(in percentage points)



[4] Monthly breakdown: January 0.9, February 0.7, March 1.2.

Table II.0.2

Retail price growth by component
(by quarter, in %)

	2007				2008
	Q1	Q2	Q3	Q4	Q1
Retail prices	1.2	2.9	2.6	3.0	2.8
Core inflation	-0.1	0.9	2.2	2.2	1.5
Prices of agricultural products	2.9	3.0	6.6	9.4	12.8
Regulated prices	2.6	5.1	2.7	3.3	3.3
Electricity	0.0	15.0	0.0	0.0	3.5
Petroleum products	-1.3	7.2	3.5	7.1	10.0
Utilities	7.7	0.7	0.9	0.6	0.4
Social welfare services	0.6	13.9	9.4	0.8	0.8
Transport services (regulated)	0.0	0.7	4.5	0.0	2.2
Postal and telecommunications services	1.2	-0.1	-1.7	0.0	0.0
Bread and flour	1.7	0.1	17.9	9.7	9.0
Milk	3.2	0.8	12.2	20.1	0.3
Cigarettes	11.8	5.6	0.4	7.9	0.0
Medications	0.3	3.9	1.6	0.5	0.4
Other	2.3	0.0	0.6	0.9	0.3

Table II.0.3

Contribution to retail price growth
(by quarter, in percentage points)

	2007				2008
	Q1	Q2	Q3	Q4	Q1
Retail prices	1.2	2.9	2.6	3.0	2.8
Core inflation	0.0	0.4	1.1	1.1	0.7
Prices of agricultural products	0.1	0.1	0.2	0.3	0.5
Regulated prices	1.2	2.4	1.3	1.6	1.6
Electricity	0.0	1.1	0.0	0.0	0.3
Petroleum products	-0.1	0.6	0.3	0.6	0.9
Utilities	0.6	0.1	0.1	0.1	0.0
Social welfare services	0.0	0.2	0.2	0.0	0.0
Transport services (regulated)	0.0	0.0	0.2	0.0	0.1
Postal and telecommunications services	0.1	0.0	-0.1	0.0	0.0
Bread and flour	0.0	0.0	0.4	0.2	0.2
Milk	0.0	0.0	0.1	0.3	0.0
Cigarettes	0.4	0.2	0.0	0.3	0.0
Medications	0.0	0.1	0.0	0.0	0.0
Other	0.1	0.0	0.0	0.0	0.0

Consumer Price Index

Measured by CPI, core inflation rose by 1.6%[5], which is less than in either of the previous two quarters (3.8% in Q3 and 1.8% in Q4 2007). Growth in food prices slowed down, as well as in prices of non-food products and services (1.1% vs. 1.4% a quarter earlier). Discrepancy between movements in CPI and RPI non-food core inflation is due not only to the methodological differences relating to the coverage of products and services, but also to the method of calculating retail and consumer price indices.

Upward pressures on core inflation came from the rise in energy prices and inflation expectations, as well as from the narrowing of the real exchange rate appreciation gap resulting from the nominal depreciation of the dinar.

Year-on year CPI core inflation continued its upward trend begun in Q2 2007 and reached 8.2% at end-Q1 2008.

Consumer price growth (3.0%), lower than a quarter earlier (3.2%), was equally due to movements in regulated prices and prices of agricultural products (1.1 pp each). Market-determined prices also provided an appreciable contribution to consumer price growth (0.9 pp).

The 3.0% growth in regulated prices resulted directly from the increase in prices of electricity, oil derivatives, bread and flour. Prices of agricultural products rose by 14.9%, far outpacing their growth in the same period a year earlier.

Year-on-year headline inflation is higher when measured by CPI (13.6%) than by RPI, as is each of the three components of price growth: regulated prices (15.5%), market-determined prices (8.2%), and prices of agricultural products (52.7%).

Chart II.0.5

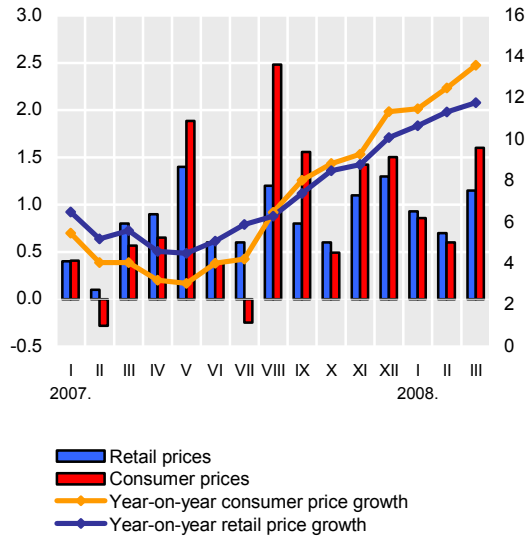
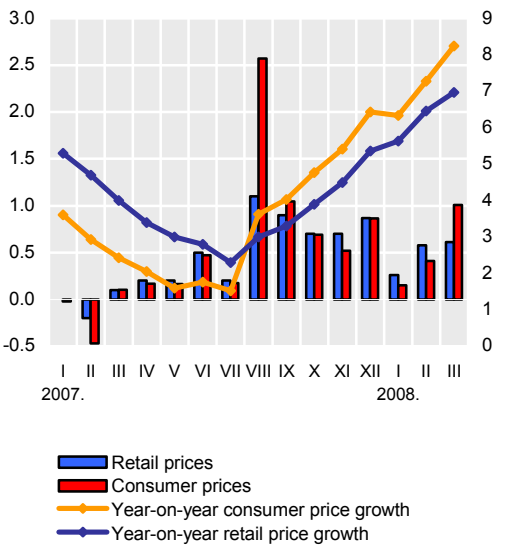


Chart II.0.6



[5] Monthly breakdown: January 0.2, February 0.4, March 1.0.

Inflation Outlook for Q2 2008

Some of the factors most likely to affect inflation movements in the second quarter of 2008 are the acute hike in world energy and food prices which are putting further strain on domestic prices, rising inflation in the euro zone and neighbouring countries, political uncertainties surrounding the parliamentary and local elections and higher inflation expectations.

According to our estimates, regulated and market-determined prices will give an equal share to the increase in headline inflation in Q2, while prices of agricultural products will provide a significantly lower contribution.

Table II.0.4

Major revisions of regulated prices expected in Q2 2008

	Growth rate (in %)	Contributions to retail price growth (p.p.)
Petroleum products	3.3	0.3
Bread and flour	10.8	0.3
Medications	5.5	0.1
Cigarettes	1.5	0.1

Growth in regulated prices is expected to be lower than in Q1 and to range between 2.0 and 2.5% (contribution of 0.9–1.2 pp). Prices of oil derivatives are likely to go up by around 3.3% (contribution of 0.3 pp). In the above estimates, account is taken of the short-term April cuts in oil prices, followed by the weakening of the dollar, as well as of the currently record high prices of Ural oil in the world market.

As for regulated prices, an increase is expected in prices of bread and flour (by around 10.8%), due to higher prices of cereals (0.2 pp contribution), and a rise in prices of cigarettes and medicaments (each contributing 0.1 pp). In view of the coming parliamentary and local elections, no major revisions in prices under government and local authorities' control are likely.

In the second quarter of 2008, core inflation will be most affected by the following factors:

1) high inflation expectations;

2) increase in prices of oil derivatives and spill over effects of the Q1 increase in electricity prices;

3) increase in prices of processed food products;

4) appreciation gap of the real exchange rate which continues to produce disinflationary pressures, though weakened by current depreciation pressures; and

5) Q1 nominal depreciation of the dinar, inducing a rise in import prices.

Hence, Q2 core inflation is expected to be higher than in Q1 and to range between 1.7 and 2.2%. Year-on-year, it will continue up and settle between 7.8 and 8.3% by the end of Q2.

Prices of agricultural products are expected to go up by 4–8%, contributing around 0.2–0.4 pp to total retail price growth. Despite the usual seasonal rise in such prices in Q2, it is likely that this time around such increase will not occur as the implementation of modern agrotechnical measures and mild winter have ensured a more balanced supply of agricultural products throughout the year.

Based on the above outlook for regulated prices, prices of agricultural products and market-determined prices, our estimate for Q2 retail price growth is 2.0-2.4% quarter-on-quarter and 10.8-11.2% year-on-year.

World Bank Recommendations regarding Policy Interventions to Moderate the Effects of Rising Food Prices

Concerns over oil prices and climate change have prompted governments to take a more proactive stance towards encouraging production and use of bio-fuels.[1] This has led to increased demand for bio-fuel raw materials, such as wheat, soy, maize and palm oil. Almost all of the increase in maize production from 2004 to 2007 was used for production of bio-fuels in the U.S.A.

The increase in food prices is not a temporary phenomenon, and is likely to persist in 2008 and 2009. However, its pass-through did not translate into an immediate and proportionate rise in domestic retail price levels, due to various factors such as weakening of the dollar and national price stabilization policies.

While some households benefit from higher prices, others are hurt by them, depending on whether they are net producers or consumers of food staples. In general, poor people in urban areas are those most affected by food price growth.

To mitigate the effects of rising food prices, the World Bank recommends three main types of policy interventions:

1) **Increased social benefits** to ease the effect on the most vulnerable groups. Examples include cash or non-cash assistance (food stamps, etc.). The advantage of this type of intervention is that it does not jeopardize domestic food production. Still, the efficiency of targeted social benefits largely depends on the overall level of country development, administrative complexities and the fiscal costs it entails.

2) **Short-term administrative measures** to lower domestic food prices. The best option within these measures is to reduce tariffs and other taxes on key staples. Many countries imposed tariffs on food imports with a view to encouraging both domestic production and revenue. In times of sharply increasing prices, reduction in tariffs and taxes can provide some relief to consumers, albeit at a fiscal cost. The revenue loss from reducing tariffs can be significant and the fiscal implications of combining such reduction with additional social protection expenditures may call for the reallocation of expenditures. Export bans proved to be a less efficient measure. Several grain-exporting countries raised their export duties, but this has had a limited impact on domestic price levels and, at the same time, a significant negative effect on domestic production.

3) **Measures to stimulate medium-term food supply growth.** Current situation in the market of agricultural products also presents an opportunity to stimulate foodgrain production and enhance the contribution of agriculture to medium-term growth. Higher grain prices can help reverse a generally declining trend in government and private sector investment in agriculture. In 1980, 30 percent of annual World Bank lending went to agricultural projects, but this declined to 12 percent in 2007. In the 1980s and 1990s, low and stable prices of food brought about a decline in investments in agriculture. This year, however, loans for agricultural projects are expected to increase substantially – in Africa alone, the Bank has recently committed itself to doubling lending for agriculture.

Many of the above policy measures have significant fiscal implications. The capacity to restructure public expenditure and create room for supplementary social benefits differs from country to country. In general, government policy options are likely to be better accepted and understood if accompanied by a transparent and effective communications strategy with respect to causes of high food prices and accompanying policy measures.

One of the key recommendations of the World Bank is to avoid export bans as they can disrupt future investments in agriculture, particularly in view of the forecast further rise in food prices, and can also have significant negative effects, especially for import-dependent countries.

[1] For instance, the E.U. has set a goal of 5.75 percent of motor fuel use from bio-fuels by 2010.

[2] Source: Rising Food Prices: Policy Options and World Banks Response, World Bank.

III. Inflation Determinants

1. Monetary Conditions

As the appreciation gap of the real exchange rate contracted and the real key policy rate declined, monetary policy eased in Q1 2008 on a quarter earlier. The key policy rate rose above its neutral level only after an upward revision by 300 basis points.

The analysis of current monetary conditions shows that the monetary policy eased from a quarter earlier, as the appreciation gap of the real exchange rate shrank and the key policy rate in real terms declined further below its neutral level. Disinflationary pressures resulting from the appreciation gap of the real exchange rate persisted but were moderated by the nominal depreciation of the dinar. By contrast to the impact of the real exchange rate gap, the real key policy rate component had an inflationary effect in Q1 due to rising inflation expectations.

Chart III.0.1

Real interest rate on repo operations and its trend

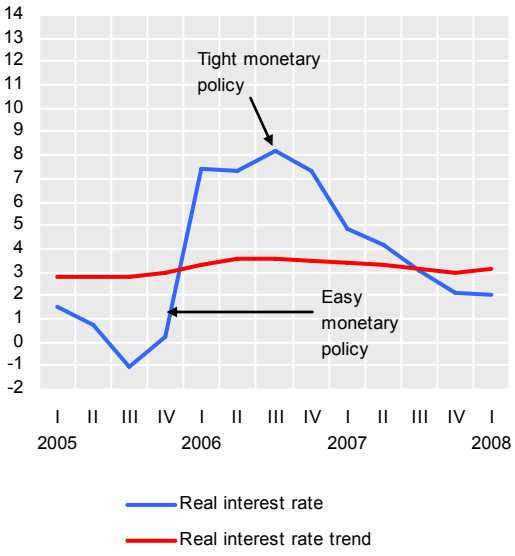
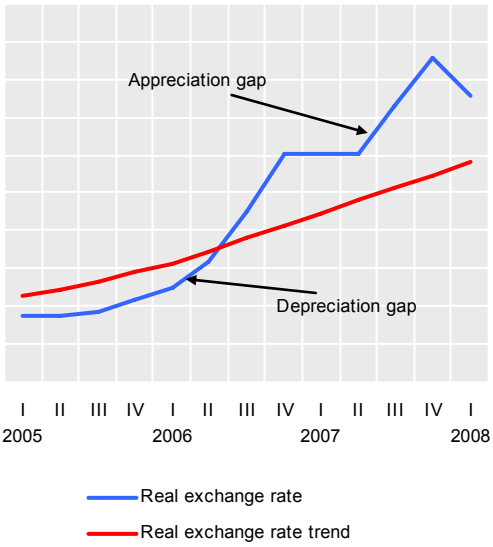


Chart III.0.2

Real exchange rate and its trend



Throughout the first quarter, inflationary pressures steadily gained momentum on the back of rising inflation expectations, indirect effects of oil price growth in world markets, looser fiscal policy stance in late 2007 and depreciation pressures resulting from political instability and increased risk premium. This prompted the Monetary Policy Committee to raise the key policy rate on three occasions: by 150 basis points in February and by 300 basis points in mid-March, when the MPC judged that the very objective for 2008 was at risk and that the key policy rate of 11.5% was not competitive (in addition to being negative in real terms) in an environment of political instability and rising risk premiums.

Despite the 450-basis point increase, the key policy rate declined in real terms[6] on a quarter earlier by 11 basis points on average due to rising inflation expectations. However, as, according to the Gallup survey, March headline inflation expectations of the financial sector equal 10.8% p.a., the key policy rate is currently running above its neutral level.

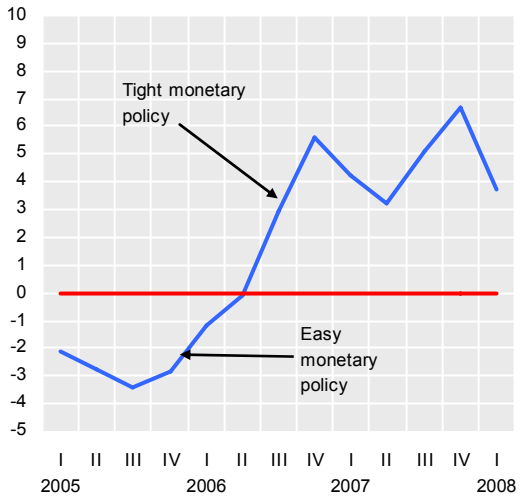
[6] Calculated with reference to actual inflation outturns as well as inflation expectations.

The real monetary conditions index, as a combined indicator of the effect of the real exchange rate gap and interest rate on price stability and/or aggregate demand, also points to easing of the monetary policy stance in Q1 2008.[7]

Prudential and administrative measures indirectly affecting the effectiveness of the monetary policy were only sparingly used during the preceding quarter. Late in March, a set of prudential measures was enacted to increase competitiveness of dinar savings and introduce changes in the bank balance sheet structure. These measures will come into effect in the second quarter and are not expected to produce significant monetary effects. The only measure likely to produce appreciation pressures in the period ahead is the one requiring banks to hold in dinars 10% of their calculated foreign currency required reserves as of the maintenance period beginning on 17 May.

Chart III.0.3

Monetary Conditions Index (MCI)



As the influence of monetary policy on output and inflation normally depends on accumulated effects of past monetary conditions, and the current conditions shape the future impact, it is expected that the currently open appreciation gap will continue to produce additional, though smaller, disinflationary effects. However, future movements in the nominal exchange rate and its potential effect on inflation are much less clear and are more difficult to estimate amid political instability in the country and the deepening crisis in world financial markets. Rising inflation expectations represent yet another major factor likely to affect the future path of the monetary policy.

[7] The following equation was used in constructing the monetary conditions index:
$MCI_t = w_r(r_t - r_{trend}) + w_z(z_t - z_{trend})$, where r_t is the real key policy rate and z_t is the real exchange rate. The following weights were used for the real key policy rate and the real exchange rate: $w_r = 0.2$, $w_z = 0.8$.

Interest Rates

In response to mounting inflationary pressures, the NBS raised its key policy rate several times in Q1, which reflected on the rise in money market interest rates. On the other hand, movements in the capital market were largely under the influence of growing instabilities in the international and domestic economy.

To tamp down inflationary pressures, the National Bank of Serbia raised the key policy rate three times in Q1. After two revisions by 75 basis points, the key policy rate was raised by 300 basis points to 14.5% p.a. by the end of March.

Interest rate on six-month NBS securities sold in outright auctions also picked up. It was increased in each of the three auctions organized in the course of Q1. In the March auction, the rate reached 16.7% p.a. which is by as much as 7 pp higher than in the December auction. As the rate is market-determined, the fact that its increase exceeded the increase in the key policy rate is indicative of further growth in inflation expectations of banks, i.e. expectations that interest rates will continue to rise.

Upward revision of the key policy rate by a total of 450 basis points in Q1 resulted in an increase of real yields on repo securities.

Chart III.1.1
NBS repo interest rate
(weighted average, in percent per annum)

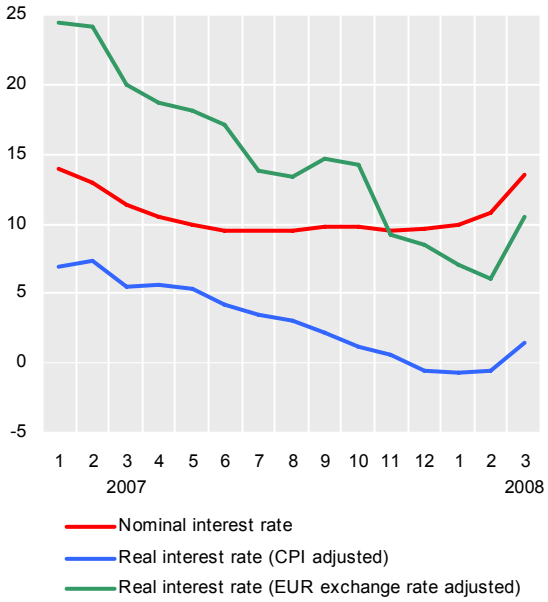
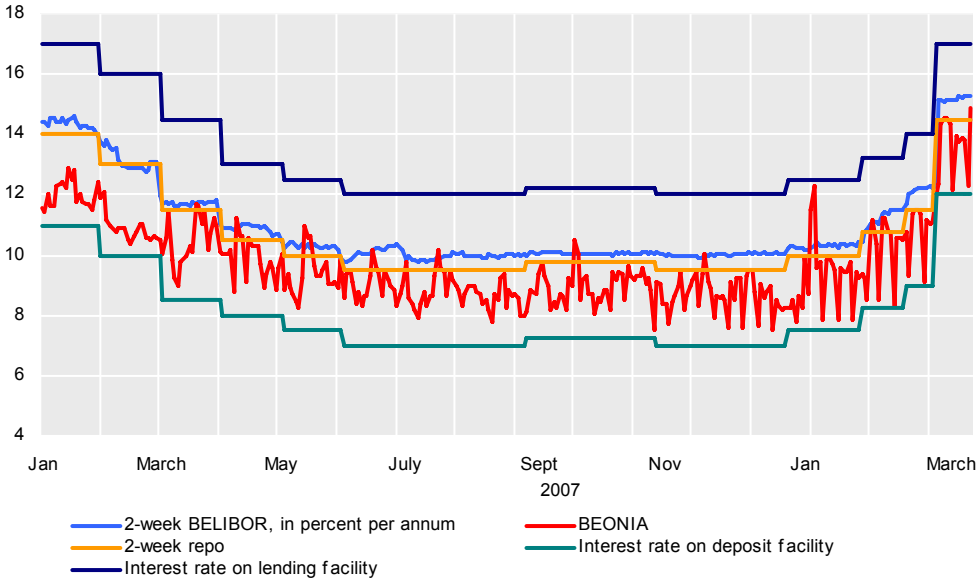


Chart III.1.2
Interest rate movements
(daily data, annual level, in %)



Source: National Bank of Serbia and Reuters.

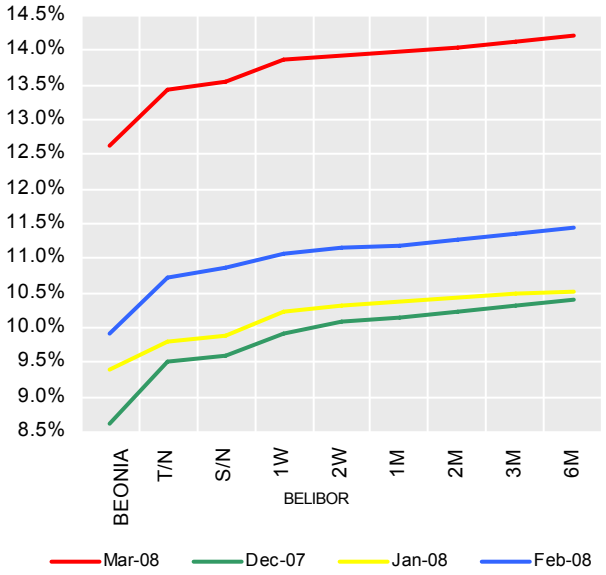
In March, the key policy rate was, after quite a while, higher than the level of (annual) inflation which usually motivates commercial banks to invest more in NBS securities. In addition to this, the difference between the NBS key policy rate and the ECB and FED's[8] policy rates increased. The above factors must have contributed to the around RSD 8 billion increase in the net stock of securities used by the NBS in its implementation of open market operations. On the last day of March, net stock of these securities was around RSD 229.3 billion, which is by 5.3% higher than at end-Q4 2007. However, there is no way of telling whether such trends will continue as the risks, both domestic and international, are mounting.

The rise in the key policy rate also reflected on the increase in money market interest rates which have shown increasing volatility in recent months amid growing uncertainties in the money market.

Chart III.1.3

Interbank money market yield curve in 2007

(monthly average, annual data)



Source: National Bank of Serbia and Reuters.

Belibor interest rate averaged between 11.35% for the shortest maturity (T/N) and 12.10% for the longest maturity (six-months). Compared to end-Q4, Belibor recorded an increase for all maturities, the highest for the shortest (T/N and S/N), and the smallest for the longest maturity. Owing to such movements, the yield curve extended to a higher level than a quarter earlier. At the same time, its slope was milder mainly due to the January movements in the money market when banks financed investment in lending and repo securities with short-term funds borrowed in the local financial market, which led to a relatively strong increase in interest rates charged.

Chart III.1.4

NBS key policy rate and commercial bank interest rates

(weighted average, per annum, in %)

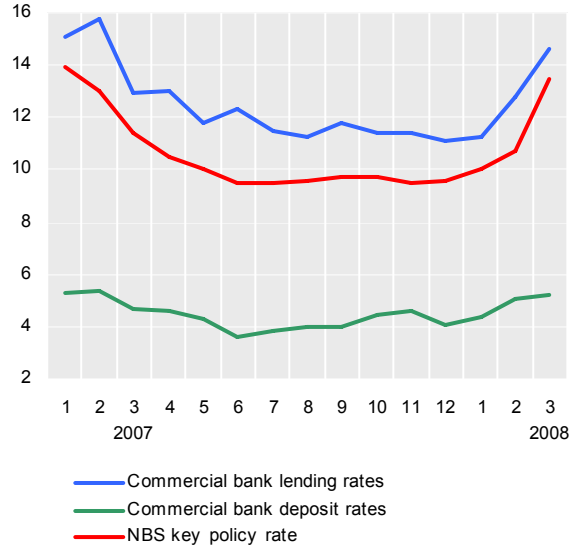
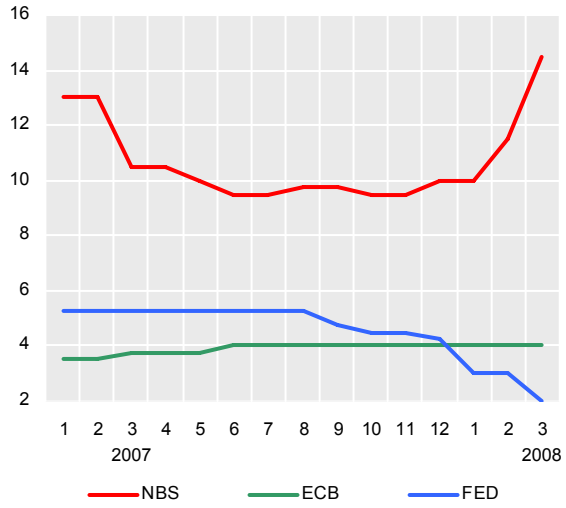


Chart III.1.5

NBS, ECB and FED interest rates

(end of month, in percent per annum)



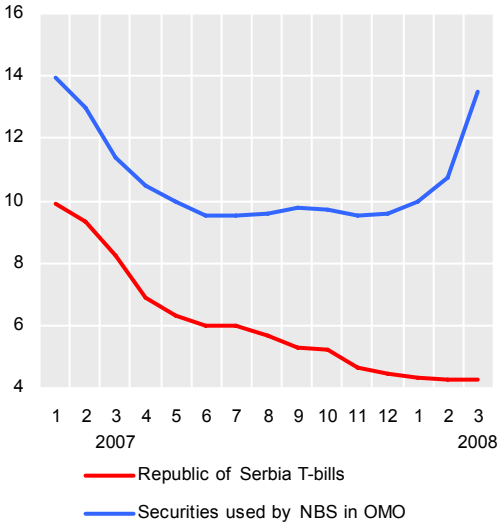
Source: NBS, ECB *Monthly Bulletin* and *Federal Reserve Bulletin*.

[8] The ECB rate, which currently stands at 4%, was last revised in June 2007, while the Federal Reserve discount rate has a declining tendency and equals 2.25% p.a. as of 18 March.

From the beginning of February interest rates for longer maturities recorded a somewhat stronger growth, making the money market yield curve slope up slightly. This signals a rise in the inflation expectations of banks, also confirmed by the results of the inflation expectations survey. **Interest rate Beonia** was on the rise throughout the first quarter. It averaged 12.62% in March, up by 4 percentage points on December 2007.

Bank lending rates also rose in line with the increase in the key policy rate. From the beginning of the year, they picked up by 3.46 pp reaching 14.59% p.a. on average in March. Bank deposit rates increased less (1.12 pp) averaging to 5.2% p.a. at the end of March. On average, banks earned 9.39% on the interest margin or 2.34 pp more than at end-2007.

Chart III.1.6
Weighted average interest rates on securities
(in percent per annum)



Source: NBS and RS Ministry of Finance.

Yields on the treasury bills of the Ministry of Finance continued to decline. Five auctions were organized in Q1. In the first, January auction, the yield rate was 4.45%, and in the last, March auction, it came to 4.40%. The sale of government treasury bills accounted for the withdrawal of around RSD 3.1 billion, which is a rather modest amount compared to the amount withdrawn through the sale of NBS repo securities.

Belgrade Stock Exchange

Continued effects of the world financial crisis and the rising domestic market risks brought negative movements in the Belgrade Stock Exchange to a culmination. Insufficient supply of liquidity, which has long been one of the burning issues at the BSE, declined further. Although declining from end-Q2 2007, in February and March this year liquidity dipped to its several-year low.

There is no dilemma whether the drop in liquidity precipitated the decline in both BSE stock indices, considering the fact that in a liquidity dry-up, relatively small changes on the demand or supply side may suddenly push prices further up to heighten the already present instability. Prompted by the effects of the global financial crisis, which Serbia could not escape either, and by concerns over the current political and economic risks in the country, foreign investors are more and more inclined to sell their portfolios, bringing the share prices to rather low levels[9]. In several instances, such actions caused panic among small domestic investors, additionally contributing to the decline in share prices.

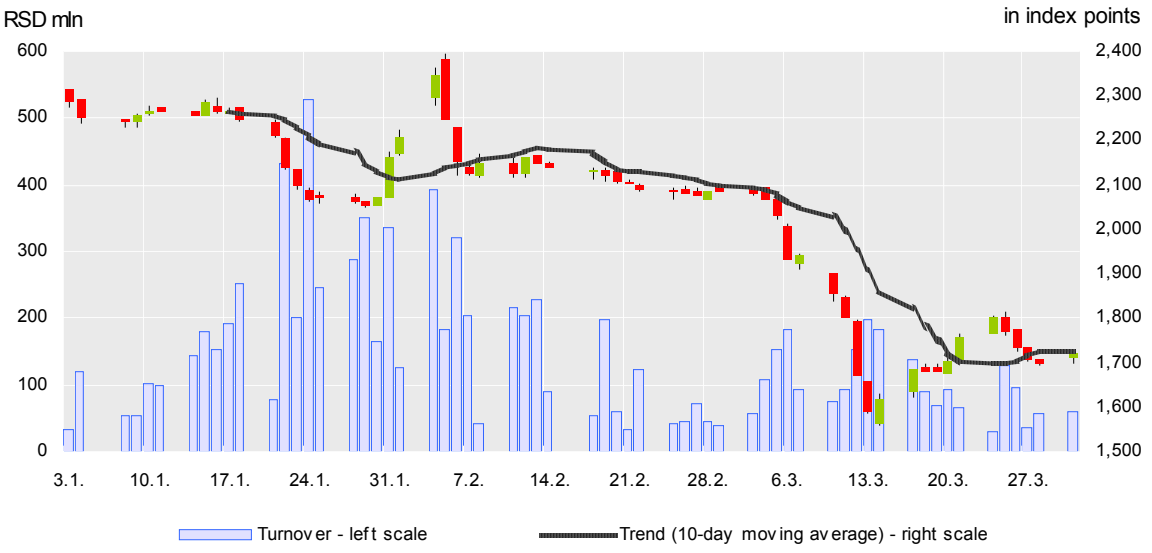
The prices of shares included in the baskets of both BSE indices recorded a dramatic decline in the first quarter. **Belex15,** index of the most liquid shares, plunged by 25.86% reaching at end-March its early 2007 value of 1,718.79 index points. **Belexline** recorded a somewhat milder decline of 19.92% to 3,067.75 index points as its basket includes mostly illiquid shares.

Falling share prices induced a nearly 13% decrease in the stock market capitalization from the beginning of the year. The decline in market capitalization was mainly driven by the continuously traded shares, whose prices dropped the most.

[9] Average market P/E ratio for companies listed in the continuous market (shows how much a unit of the company's profit costs) is currently at its several-year low (42.8).

Chart III.1.7

BELEX15 index in 2008



Source: Belgrade Stock Exchange.

Decrease in market capitalization was followed by a sharp downturn in trading levels. The Q1 volume of trade (RSD 17.4 billion) was by more than 50% lower than a quarter earlier. The value of individual transactions went down in parallel with the decline in trading volumes, most notably in the continuous trading sector which was probably due to a panic retreat by smaller investors from the capital market.

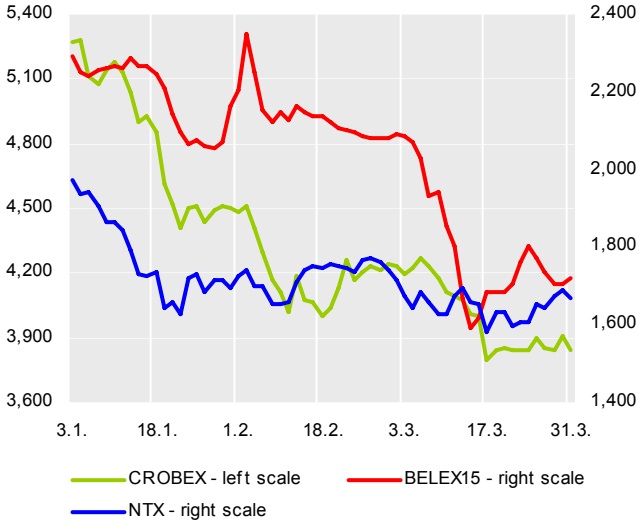
Movements in the BSE market of bonds issued against frozen foreign currency savings showed no major deviation from movements in the stock market. The volume of trade in bonds fell by 56% from a quarter earlier to around RSD 850 million. Despite the fact that they have lowest yields, A2016 series bonds accounted for the major portion of trade (14.6%). The A2008 series bonds were also traded, which is logical considering that they fall due by the end of May this year. Increased negative slope of the foreign currency savings bonds came about as a result of privatizations that were completed in the period under review by using FFS bonds of longer maturities, as well as of expectations regarding the level of the exchange rate since these bonds are denominated in euros. Namely, investors' expectations of depreciation could spark demand for bond series of longer maturities which protect the portfolio from the effects of the exchange rate depreciation. Higher demand for bond series of longer maturities leads to an increase in their price and consequently, to a decline in their yields.

Q1 trends in the local stock exchange market fell in line with those prevailing in the stock exchanges in the region. Indices of the most liquid shares in the Sofia and Zagreb stock exchange markets recorded an even sharper drop than Belex15 (by 29.01% and 26.61%, respectively), while the decline in the corresponding index in the Ljubljana stock exchange was negligibly smaller (23.68%). This only confirms that negative movements in the domestic capital markets are primarily attributable to the effects of the world financial crisis, and only to a smaller extent, to political instability in the country.

Chart III.1.8

BELEX15, CROBEX and NTX index in 2008

(in index points)



Source: Belgrade Stock Exchange, Zagreb Stock Exchange, Bloomberg.

Exchange Rate

The dinar depreciated by an average of 4.6% against the euro in Q1 2008. Both the exchange rate and the forex market trading volumes were strongly affected by the political circumstances in the period under review. Following an upward revision of the key policy rate, the dinar appreciated in late March and April.

In Q1 2008, the dinar depreciated against the euro by 4.6% relative to a quarter earlier. The dinar/euro exchange rate fluctuated between RSD/EUR 79.96 and 83.83. These fluctuations were particularly pronounced in January, but lessened over the next two months. At the same time, the exchange rate band narrowed down. In March, the exchange rate stabilized relative to prior months, with daily fluctuations averaging at only 0.2%, while certain appreciation pressures emerged around the middle of the month.

Although the national currency normally loses strength around the beginning of the year, it was the political factors that stood behind the depreciation of the dinar in February and March this year in a climate of uncertainty over the outcome of presidential elections and political instability following Kosovo's declaration of independence.

During the period under review, the European Central Bank kept its policy rate unchanged while the FED lowered its policy rate three times (by a total of 2 percentage points). Hence the U.S. dollar continued to depreciate against the euro and shot past USD/EUR 1.50 late in February. In nominal terms, the dinar depreciated against the U.S. dollar, though less than against the euro – by 1.4%.

End-of-period data show that the exchange rate of the dinar depreciated by 3.7% against the euro and appreciated by 3.1% against the U.S. dollar. As these two currencies make up the basket for calculating the effective exchange rate, the nominal effective exchange rate of the dinar weakened by 1.7% at the end of the period.

As a result of the weakening of the nominal effective exchange rate and

Chart III.1.9.

Movements in the RSD/EUR exchange rate

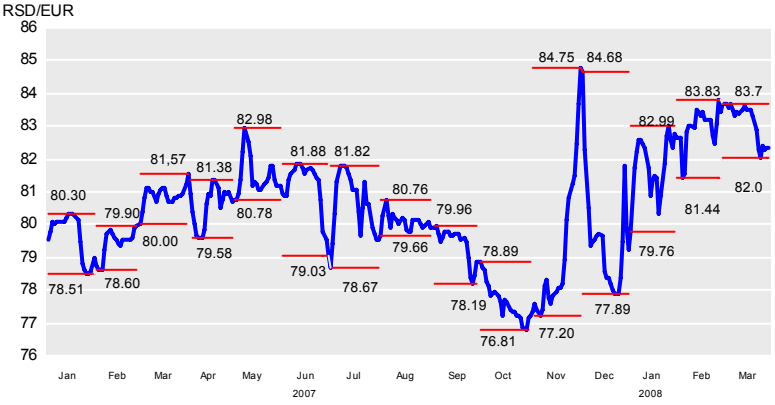
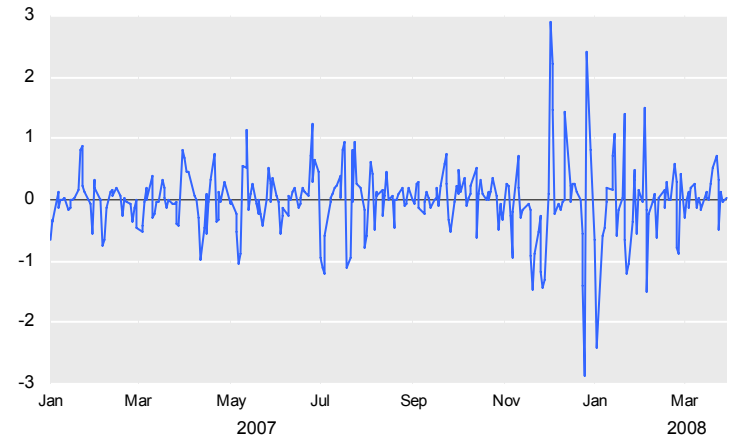


Chart III.1.10

Daily changes in RSD/EUR exchange rate[1)]

(in %)

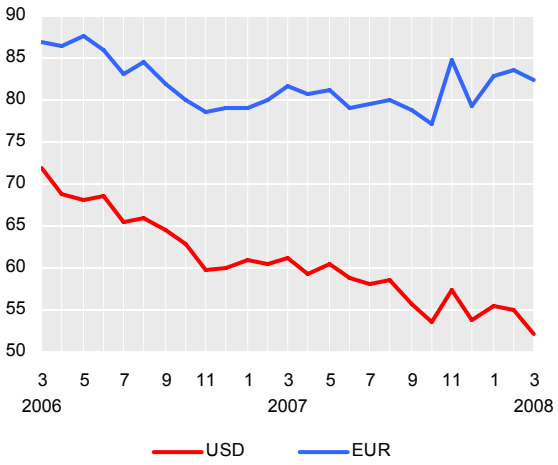


[1)] Negative rates indicate depreciation and positive rates appreciation of the dinar.

Chart III.1.11

Nominal exchange rate of the dinar

(in dinars, end of period)



faster growth in domestic relative to foreign prices, the dinar depreciated by 0.1% in real terms in Q1 2008 (by 1.9% against the euro and by 4.2% against the U.S. dollar).

In Q1 2008, total foreign exchange trading volumes in the interbank foreign exchange market came to around EUR 6 billion, down by approximately 20% from a quarter earlier. Political instability made the participants in the interbank foreign exchange market reluctant to keep their foreign currency positions open and the foreign exchange trading volumes plummeted. The average daily activity in the IFEM declined from EUR 186.1 million in January to just EUR 28.7 million in March 2008 (with more than a half of total Q1 trading taking place in the course of January).

Table III.1.1.

Composition of trade in the IFEM
(total trade) EUR

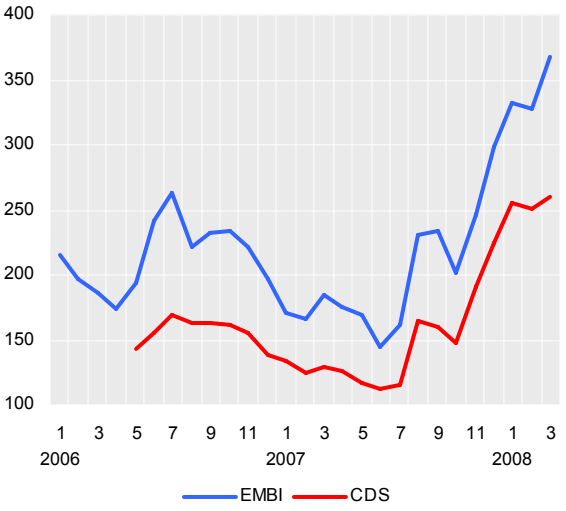
	January	February	March	Q1 2008
IFEM	**3,721,067,647**	**1,604,992,638**	**603,403,788**	**5,929,464,073**
NBS - Banks	57,000,000	129,000,000	105,000,000	291,000,000
Bank - bank	3,664,067,647	1,475,992,638	498,403,788	5,638,464,073

(in % of total trade)

	January	February	March	Q1 2008
IFEM	**100.00**	**100.00**	**100.00**	**100.00**
NBS - Banks	1.53	8.04	17.40	4.91
Bank - bank	98.47	91.96	82.60	95.09

Notwithstanding the above, the NBS did not change its course and continued to sell in the IFEM a portion of foreign exchange purchased from authorized dealers. In February, however, it decided to offer increased amounts for sale in the market in order to encourage trading and boost liquidity levels. As a result, in the first three months of the year, the NBS sold a daily average of EUR 4.8 million. Given the decline in the IFEM trading volumes, the amounts sold by the NBS in Q1 came to an average of around 5 percent of trading totals. In February, the amounts sold by the National Bank in the foreign exchange market exceeded its purchases from authorized dealers.

Chart III.1.12
Risk premium indicator - EMBI and CDS
(monthly averages, in basis points)



Source: JP Morgan and Bloomberg.

The EMBI[10] index, up since mid-2007, continued rising. At end-Q1, the yield on the Serbian sovereign bonds traded in the Luxembourg Stock Exchange exceeded the yield on US Treasuries by around 390 basis points. Moreover, in the first quarter of 2008, the EMBI index rose to its record level since it was first set up for Serbia (at the end of April 2005). Such movements in the EMBI index were for the most part the result of the general liquidity crisis affecting global markets and are indicative of a decline in investors' propensity to invest in Serbia, which could give further impetus to the depreciation pressures in the period ahead.

After a notable rise in Q4 2007, the risk premium, as measured by the five-year CSD spread, stabilized early this year at around 250 basis points.[11]

[10] Emerging Markets Bond Index.
[11] The CDS spread is a more relevant indicator of the risk premium than the EMBI index, as it has a direct bearing on the level of interest rates at which banks borrow abroad.

Credit Default Swap

Credit default swap (CDS) is a type of credit derivative product which resembles an insurance policy and provides the buyer with protection against specific risks. Most often, corporate bond investors buy credit default swaps to hedge or insure against default on a debt obligation by the issuer of the corporate bond. As with insurance policies, investors pay a premium to the protection seller depending on the size of estimated risk, and when a credit event is triggered by the defaulted corporate bond, credit default swap is activated to settle debt obligation.

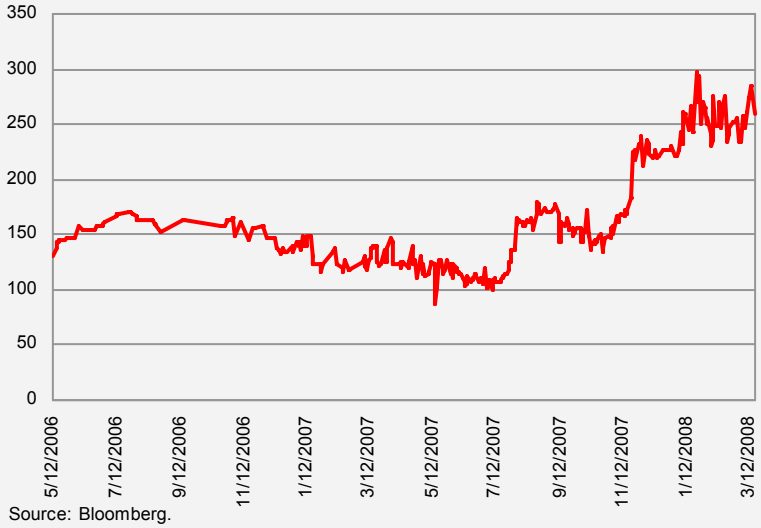
The market for credit default swaps was formed in 1994 by banks led by JP Morgan investment bank. The CDS market contributed significantly not only to the lowering of risk regarding investment in bonds, but also to a more efficient investment portfolio management. The CDS market is generally divided into three sectors: corporates, bank credits and emerging market sovereigns.

Similarly to CDS for corporate bonds, CDS for emerging market sovereigns protects against default by bond issuers from emerging markets. The amount of premium payable by the bank to the protection seller (e.g. insurance company) is proportionate to the level of default risk for a specific country and is measured through CDS spread. Hence, CDS spreads are considered a market indicator of country risk. CDS spreads also depend on the global financial market developments, and show a tendency to rise amid instability, as is currently the case.

According to the Uninews analysis (weekly magazine issued by the Italian bank Unicredito), Turkey, Ukraine, Kazakhstan and Serbia have the highest CDS spreads and of all Eastern European countries are the most risky investment-wise. It is important to note, however, that in the course of March 2008 only CDS spread for Turkey deteriorated significantly, while those for other countries remained unchanged.

Measuring of CDS spread for Serbia began on 12 May 2006, when it traded at 131 basis points. In the second half of 2006 and first half of 2007, CDS spread for Serbia was relatively stable, undergoing only minor oscillations and never exceeding 170 basis points. Interestingly enough, it was at its lowest (between 100 and 115 basis points) on the eve of financial crisis in the USA sub-prime mortgage market in June and the first half of July 2007. Stronger growth in CDS spread for Serbia was recorded in July 2007, while the level of 200 basis points was surpassed in November when the ripple effects of the world financial crisis reached Serbia. The rise in CDS spread was most pronounced in early 2008 – in late January CDS spread hit a record high of 296 basis points. According to the latest available data, CDS spread for Serbia measured 259 basis points on 17 March 2008. No doubt, such a high level is sustained by the political situation in Serbia and uncertain prospects regarding the European integration processes.

Five-year CDS for Serbia in USD
(daily changes, in basis points)



Source: Bloomberg.

It is expected that the country risk for Serbia and other East European countries expressed through CDS spread will be very sensitive to movements in the international and domestic markets in the several months to come.

2. Import Prices

By contrast to the previous two quarters, imported inflation recorded robust growth in Q1 2008. However, price growth in the EU and USA, together with the weakening of the dinar, led to no major surge in domestic core inflation, primarily due to the appreciation gap of the real exchange rate. World prices of oil and all other commodities are at their historical highs.

Imported inflation recorded vigorous growth of 16.8% (per annum average[11]) in Q1 as a result of 13.4% depreciation of the nominal effective exchange rate of the dinar[12] (per annum average) and 3.0% inflation in the EU and USA[13] (per annum average). Such a robust growth in imported inflation and high nominal depreciation of the nominal effective exchange rate of the dinar has not been recorded for the past two and a half years. Resumption of positive growth in imported inflation was to some degree expected in Q1 due to the strengthening of depreciation pressures in late 2007.

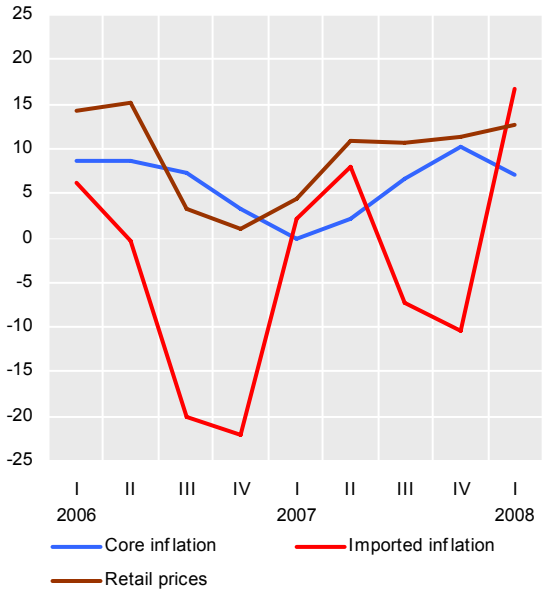
Nevertheless, owing to the appreciation gap of the real exchange rate, growth in imported inflation did not lead to a major surge in headline and core inflation.

Current movements of the exchange rate and the prevailing appreciation pressures point to the likelihood of a decline in imported inflation in Q2.

Chart III.2.1

Core and imported inflation

(average annualized quarterly growth rates)



Sourse: NBS and Eurostat.

Prices of Oil and Commodities

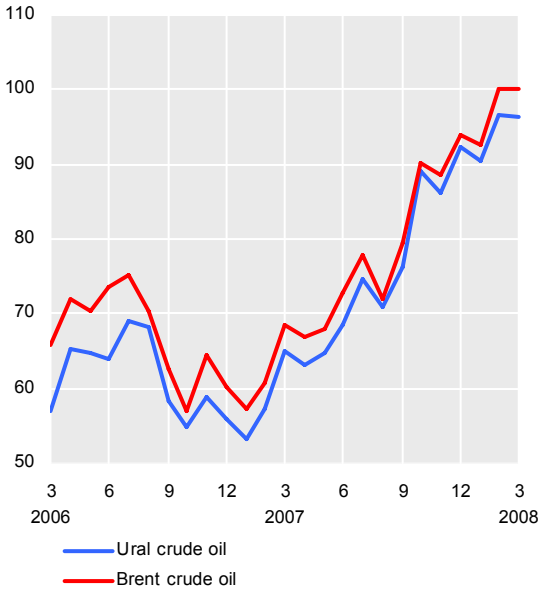
Oil prices stabilized between USD 85 and 90 per barrel in the second half of January and early February. It seemed that the market fundamentals had outweighed geopolitical and speculative factors and that the forecast dampening of oil demand in the USA would help sustain the prices at their current level. Events took another turn, though. After a mild pick up in the second half of February, the prices of Brent and Ural oil reached new historical highs of USD 108 and USD 104 per barrel, respectively. They retreated slightly in the first half of April, resulting in downward revision of the prices of oil derivatives, but only to surge to new highs in the second half of the month, with Brent rising to USD 116 and Ural oil to USD 112 per barrel.

OPEC heads of state claim such growth is driven mainly by speculation and argue that their output levels are satisfactory, pointing even to an oil surplus in the market. Hence, OPEC has no intention of increasing its output to calm runaway oil prices. Admittedly, OPEC countries have no interest in so doing as their profits from

Chart III.2.2

Oil prices

(in US dollars)



Source: Reuters.

[11] Annualized ratio of averages for two consecutive quarters.
[12] EUR 70%, USD 30%.
[13] Weighted average inflation figures for the EU and USA (70:30 weights) were used in the calculation of world inflation.

the sale of oil in 2008 are estimated at over USD 1,000 billion. The estimate was released by the Energy Ministry of the United States in early April together with the information on the unexpected drop in oil inventories, which caused yet another price hike.

Deutsche Bank economists cite several other reasons for sky-high oil: increased demand from China and India, lack of investment in exploration and production, geopolitical risks in oil-producing countries such as Nigeria and Iraq, and weakening of the greenback.

Nobody can predict further oil price movements with certainty. Let us remind ourselves that the price of oil stood at USD 50 per barrel in January 2007 and was considered high at the time. The latest forecast, as stated in the IMF's World Economic Outlook, is that despite global economic slowdown the average price of oil in 2008 and 2009 will be USD 95 per barrel.

Prices of all other commodities are also at their historical highs. The price of copper, for instance, closed at USD 8,820 per ton in early March, thereby surpassing the May 2006 record of USD 8,800. From mid-December 2007, when it stood at USD 6,330 per ton, the price of copper rose by nearly 40%. The sudden jump in prices was driven by speculative purchases, which means that investors disregarded forecasts of slower world economic growth.

Excessive growth has been recorded for prices of all types of cereals. From the beginning of the year, the prices of corn and rice rose by 35% and 50%, respectively. Similarly, the price of wheat climbed by as much as 77% in the course of 2007 alone. The main catalysts of agflation are believed to be buoyant demand from developing countries, insufficient investment in agricultural production and depleted stock levels.

In Q1 2008, the price of gold broke through the psychological barrier of USD 1,000 per troy ounce to hit new all-time peak amid rising world inflation and global financial crisis. In such an environment, buying gold has become the most profitable investment. Its price is currently below the record high and stands at around USD 920.

Asymmetry of the Exchange Rate Pass-through to Domestic Prices

In previous analyses[1], we have attempted to assess the effect of changes in the exchange rate and import prices to domestic prices, as well as to compare its intensity and duration across the countries of the region. In this study, however, we focus on the effect of the exchange rate and import prices on changes in domestic prices in periods of appreciation as opposed to periods of depreciation. This is an attempt to answer why the intensity of the exchange rate pass-through effect differs in the two periods.

Based on (VAR) methodology used in earlier studies, 3-month cumulative pass-through effect of the nominal effective exchange rate on prices declined from 0.30 to 0.14[2]. The effect of changes in the exchange rate on domestic prices is felt for about a year (when the pass-through effect equals 0.16), although it is felt most strongly in the first three months.[3]

We also assessed the intensity of the exchange rate pass-through effect at times of appreciation as opposed to periods of depreciation using the ADL methodology (results of the analysis are shown in table below).[4] Comparison of the results obtained for pass-through effect in appreciation (or depreciation) periods with the base model suggests that the short-term pass-through effect of the nominal effective exchange rate on prices is around 14 pp higher in depreciation periods and around 14 pp lower in appreciation periods. Similarly, long-term exchange rate pass-through effect on prices is around 50 pp higher in depreciation periods and around 38 pp lower during appreciation periods.

***Pass-through* effect of the nominal exchange rate on prices**

	Pass-through effect	Appreciation period	Depreciation period
Short-term	0.18	0.04	0.32
Long-term	0.49	0.11	0.89

The fact that the estimated pass-through effect is higher in periods of depreciation of domestic currency comes as no surprise as prices, at times of depreciation, move in line with the movements of the exchange rate due to a high share of imported goods in the index basket. On the other hand, at times of appreciation, prices display downward rigidity and do not follow the movements of the exchange rate to the same extent as at times of depreciation.

[1] *Economic Review*, July 2006; NBS papers.

[2] Data used in the analysis refer to January 2001–December 2007, while data used in our previous analyses included data ending with June 2006.

[3] Other studies relating to Serbia also established that the effect lasts for about a year and is most strongly felt in the first three months.

[4] We used the following equation as our base model: $\Delta\pi_t = \alpha + \beta(\Delta e_t + \Delta\pi_t^*) + \sum_{i=1}^{k} \gamma_i \Delta\pi_{t-i} + \varepsilon_t$; and then, to account for the effect of asymmetry, introduced another equation: $\Delta\pi_t = \alpha + \beta(\Delta e_t + \Delta\pi_t^*) + \sum_{i=1}^{k} \gamma_i \Delta\pi_{t-i} + \delta D_t(\Delta e_t + \Delta\pi_t^*) + \varepsilon_t$, where D equals 1 if the dinar appreciates and 0 if the dinar depreciates. Therefore, the short-term pass-through effect of the exchange rate equals $\beta+\delta$ in dinar appreciation periods and β in dinar depreciation periods.

[5] Similar results were obtained when we analysed core prices and prices of tradeable goods: pass-through effect is always higher in the period of depreciation of domestic currency.

[6] Results obtained by using ADL (*autoregressive distributed lag*) and VAR (*recursive vector autoregression*) methodology, as well as by using data of different frequency (monthly and quarterly) are consistent.

3. Balance of Payments

The external position of Serbia, in terms of its current account deficit and the debt service ratio, deteriorated in the first quarter of the year. Composition of capital inflows improved as foreign direct investment gained ground relative to borrowing as a source of current account deficit financing.

Current Account

Serbia's current account deficit remained high as a result of a high trade deficit, continuing strong growth in exports and imports and increased repayment of interest and principal on foreign debt.

In Q1 2008, the current account deficit came to USD 1,754.3 million, up by 46.6% on Q1 2007. The ratio of the current account deficit to GDP rose by 1.6 structural points (from 14.4% to 16%).

Table III.3.1

Balance of payments of the Republic of Serbia

(in USD mln)

	Q1 2007	Q1 2008	Indices
Current account	-1,196.8	-1,754.3	146.6
Capital account, investments and credits	1,029.7	1,485.6	144.3
Currency and deposits, assets	2.2	418.2	...
Currency and deposits, liabilities	109.2	-23.7	...
Errors and omissions, net	-244.8	-78.9	32.2
Overall balance	-300.4	46.9	...

Relative to Q1 2007, the trade deficit widened by 40.9% as a consequence of strong growth in exports (38%) and imports (39%). The share of the deficit on trade in goods and services in GDP climbed from 24.0% to 24.3%, as did the share of exports (from 30% to 32.3%) and imports of goods and services (from 54% to 56.5%).

As a consequence of rising interest payments, the deficit on the income account increased by 0.3 structural points of GDP (from 0.9 to 1.2 percentage points).

The share in GDP of the surplus on current transfers declined by 0.9 structural points (from 10.4 to 9.5). The portion of the trade deficit covered by the surplus on current transfers declined (from 43.5% to 39.1%), which indicates that receipts in respect of remittances were not sufficient to cover the widening current account deficit.

Capital and Financial Account

In Q1, the capital account ran a surplus of 0.1% of GDP, compared to a deficit of 5.1% of GDP in Q1 2007.

The surplus on the financial account declined by 1.9% in dollar terms, while its share in GDP dropped from 22.4% to 16.7%.

Table III.3.2

Current account items in % of GDP

	Q1 2007	Q1 2008
Current account	-14.4	-16.0
Capital account, investments and credits	12.4	13.6
Currency and deposits, assets	0.0	3.8
Currency and deposits, liabilities	1.3	-0.2
Errors and ommissions, net	-3.0	-0.7
Overall balance	-3.6	0.4

In order for the dynamics of foreign currency financial flows to be properly understood, it is important to highlight last year's investment into Serbia of USD 425 million or 5% of the quarterly GDP, the proceeds of which were, on the same day, invested in purchasing financial assets abroad.[14] If this transaction had not taken place, the capital account would have recorded a surplus of 0.1% of GDP in each of the two years, while the surplus on the financial account would have dropped to 16.7%.

If changes in NBS foreign exchange reserves, foreign exchange assets of commercial banks and the above transaction from the financial account are excluded, capital inflow into Serbia increased from USD 1,029.7 million to USD 1,485.6 million, while its share in quarterly GDP rose from 12.4% in Q1 2007 to 13.6% in Q1 2008.

[14] Investment of USD 424 million by Mobilcom, Austria in its Belgrade affiliation. Of this amount, USD 422 million was spent on purchasing a license in Austria (disclosed in the capital account).

The share in GDP of the surplus on direct investments declined from 10.5 to 10.0 structural points, although the surplus increased by 25.2% in dollar terms. Excluding the above transaction worth USD 425 million, the share of the surplus on direct investment in quarterly GDP increased from 5.5% to 10.0% and the surplus rose by 144.5% in dollar terms.

Table III.3.3

Credit flows by sector

(in USD mln)

	Q1 2007	Q1 2008
Government		
Disbursements	82.2	33.9
Repayments	-60.1	-32.5
Net borrowing	22.0	1.4
Banks		
Disbursements	447.6	137.2
Repayments	-693.5	-695.6
Net borrowing	-245.9	-558.4
Other sectors		
Disbursements	1,231.4	2,080.2
Repayments	-162.9	-757.0
Net borrowing	1,068.5	1,323.1

The item 'Portfolio investment' recorded a sharp reversal from a surplus of 4.3% of GDP in Q1 2007 to a deficit of 0.6% of GDP in Q1 2008. By contrast to Q1 2007, which was marked by increased portfolio investment in investment funds and capital increase of banks (by USD 353.6 million) the first quarter of 2008 saw outgoing investment of USD 65.5 million due to an increase in political instability.

The surplus on other investment (credits) rose by 3.6 structural points from 4.1% to 7.7% of GDP. Net disbursement of long- and short-term foreign credits declined notably, as did the level of bank deposits abroad. As repayments of foreign credits by banks and the public sector well exceeded fresh disbursements of such credits, their foreign debt declined. Net long- and short-term borrowing by the private sector increased only moderately on Q1 2007.

Foreign assets (assets under item 'Other investment'), which rose by USD 427.5 million in the first quarter of the prior year, declined by USD 104.9 million in the same period this year. By contrast to a deficit of 5.2% of GDP recorded in Q1 2007, the first quarter of 2008 saw a surplus of 1% of GDP.

Despite high growth in exports, trade credits declined from USD 446.6 to USD 315.6 million. On the other hand, in the first quarter of 2007, banks drew down their cash and deposit balances by USD 2.2 million, against USD 417.2 million in Q1 2008.

In Q1 2008, liabilities under item 'Other investment' increased by USD 742.4 million, compared to a rise by USD 764.0 million in the same period a year earlier. The share of the surplus in GDP declined from 9.2 to 6.8 structural points. Excluding changes in foreign exchange reserves and bank deposits, net borrowing declined from USD 844.6 million to USD 766.1 million, while its share in quarterly GDP dropped from 10.2% to 7%.

Total credit disbursements (including net short-term credit lines) rose from USD 1,761.2 million in Q1 2007 to USD 2,251.3 million in Q1 2008. Their share in the quarterly GDP declined from 21.2% to 20.6%. Total credit repayments increased from USD 916.5 million to USD 1,485.1 million, while their share in quarterly GDP rose from 11.1% to 13.3%.

Net borrowing by the government and the NBS decreased from USD 22 million to USD 1.4 million, as new credit disbursements declined (from USD 82.2 million to USD 33.9 million) and repayments subsided (from USD 60.1 million to USD 32.5 million).

Net repayment by banks increased from USD 245.9 million to USD 558.4 million, as borrowing declined (from USD 447.6 million to USD 137.2 million) and repayment amounts rose mildly (from USD 693.5 million to USD 695.6 million).

Net borrowing by other sectors increased from USD 1,068.5 million to USD 1,323.1 million. Credit disbursements increased from USD 1,231.4 million to USD 2,080.2 million, while repayments rose from USD 162.9 million to USD 757 million.

Total foreign debt servicing (repayments of interest and principal) increased from USD 1,112.8 million to USD 1,791.7 million, with its share in the quarterly GDP increasing from 13.4% to 16.4%.

The ratio of foreign debt servicing to exports of goods and services increased from 44.7% in Q1 2007 to 50.7% in Q1 2008.

The ratio of foreign debt servicing to the aggregate value of exports and inflow of current transfers increased from 32.6% to 38.5%.

Drawing down of cash and deposit balances by banks in Q1 2008 contributed USD 394.4 million to the current account deficit financing, as compared to USD 111.4 in Q1 2007.

The overall balance of payments (change in foreign exchange reserves) recorded a surplus of USD 46.9 million in Q1 2008 (0.4% of GDP), compared to a deficit of USD 300.4 million in Q1 2007 (3.6% of GDP).

At end-Q1, **foreign exchange reserves of the National Bank of Serbia** reached USD 15,084.1 million (EUR 9,552.5 million), which is 6.1% up on a quarter earlier. Foreign exchange reserves currently cover 8 months of imports of goods and services.

The main contribution to growth in NBS foreign exchange reserves came from the item 'Other' (contribution of 7.2 pp), due primarily to receipts in respect of foreign securities and exchange rate changes, as well as from net purchase of foreign exchange in respect of NBS exchange transactions (contribution of 1.3 pp) and in respect of temporary payment transactions with Kosovo and Metohija (0.4 pp).

The main outflows from NBS foreign exchange reserves during Q1 included payments in respect of National Bank's participation in the IFEM (contribution of 3.0 pp to the decline in foreign exchange reserves) and redemption of bonds issued against frozen foreign currency savings deposits and economic development loan (0.1 pp).

At end-Q4, overall foreign exchange reserves of the Republic of Serbia reached USD 16,583.6 million (EUR 10,502.1 million), of which USD 1,499.5 million (EUR 949.6 million) were foreign exchange reserves of authorized banks.

Table III.3.4

Contribution to NBS foreign exchange reserves

(in percentage points)

	2007				2008
	I	II	III	IV	I
NBS foreign exchange reserves (growth in %)	**-1.3**	**5.2**	**9.1**	**5.6**	**6.1**
Foreign exchange market	-2.2	3.8	2.7	2.8	-1.3
Exchange transactions	*2.7*	*4.4*	*2.9*	*3.0*	*1.3*
NBS's foreign currency net-sale in the IFEM	*-5.3*	*-1.1*	*-0.7*	*-0.7*	*-3.0*
Temporary payment transactions1)	*0.4*	*0.5*	*0.5*	*0.6*	*0.4*
Reserve requirement on foreign currency deposits and credits, and new foreign currency savings deposits	1.5	1.5	1.2	-1.9	0.0
Foreign credits to government	0.4	0.2	0.3	0.2	0.1
Grants	0.2	0.1	0.2	0.2	0.1
Frozen foreign currency savings deposits and Economic Development Loan	-0.1	-1.8	-0.7	-0.2	-0.1
Other[2)]	-1.2	1.4	5.5	4.4	7.2

[1)] Payment transactions with Montenegro (until 26 June) and Kosovo and Metohija.

[2)] Includes privatization receipts, IMF credit, etc.

Table III.3.5

Net foreign exchange transactions of the NBS with an effect on the monetary base

(in millions)

	Forex market[1)]	Direct transact-ions[2)]	Exchange offices[1)]	Total net foreign exchange transactions
		January		
EUR	-54.0	165.3	63.3	174.5
RSD	-4,428.6	13,585.4	5,072.1	14,228.9
		February		
EUR	-125.0	33.2	39.6	-52.2
RSD	-10,374.9	2,716.0	3,388.5	-4,270.4
		March		
EUR	-105.0	23.0	20.6	-61.4
RSD	-8,727.6	1,827.0	1,669.5	-5,231.1
		Q1 2008		
EUR	-284.0	221.5	123.5	60.9
RSD	-23,531.1	18,128.4	10,130.1	4,727.4

[1)] Includes net inflow/outflow of foreign currency in respect of purchase/sale of foreign currency by the NBS in the interbank foreign exchange market and in respect of exchange transactions.

[2)] Includes net foreign exchange transactions with the government, state authorities, temporary payment transactions with Kosovo and Metohija and other net foreign exchange transactions (e.g. revenue and expenditure of the NBS in respect of transactions with foreign exchange securities, etc.)

In Q1 2008, only EUR 60.9 million of reserve money was created against net foreign exchange transactions of the NBS. Contributors to reserve money growth were direct foreign exchange transactions and foreign exchange purchases in respect of NBS exchange transactions (EUR 221.4 million and EUR 123.5 million, respectively), while National Bank's participation in the interbank foreign exchange market resulted in a decline in reserve money by EUR 284.0 million. Within direct foreign exchange transactions of the National Bank of Serbia, a total of EUR 73.2 million was purchased from the government, while foreign exchange receipts generated through other direct transactions and temporary payment transactions with Kosovo and Metohija increased the reserve money by EUR 109.7 million and EUR 38.5 million, respectively.

Monetary Policy Effects on Trade Balance

A number of Serbian economists have for some time been arguing that the main cause of high foreign trade deficit is real appreciation of the dinar/euro exchange rate and were blaming it on the National Bank of Serbia. They claim that depreciation of the dinar (as low down as RSD/EUR 120!) would cheapen Serbian exports, make imported goods more expensive and, consequently, lead to a significant improvement of trade balance.

IMF mission from November 2007, however, thought the main factors behind the foreign trade deficit were public spending (high imports) and slow-moving structural reforms (low exports). In such circumstances, the NBS may choose to conduct a neutral or loose monetary policy and let the effects spill over into inflation (as in 2004 and 2005); or opt for a restrictive monetary policy which, backed by real appreciation of the domestic currency, would sustain price stability, but would also result in a deteriorating trade balance. The IMF mission assessed that the NBS was right to opt for a restrictive policy as any "attempts to inflate away the loss of competitiveness, which has its roots in excessive wage increases, slow structural reforms, and relatively loose fiscal policies, would damage the credibility of monetary policy while providing no sustained relief for exports".[1]

However, the introduction of the (informal) inflation targeting regime has put an end to all dilemmas – the principal objective of the NBS is to maintain the stability of prices within a targeted range. In order to avoid any adverse effects on output, the NBS had initially set its inflation objectives at a higher level and within a wider band than is customary in most inflation targeting countries.

But the question arises as to how far-reaching is the impact of monetary policy on exports and imports? There is no denying that the real exchange rate affects imports and exports. It is equally indisputable that monetary policy affects the real exchange rate and, consequently, the trade balance. However, the following facts need to be taken into account when assessing the impact of monetary policy on trade balance:

- Monetary policy can not affect the long-term trend of the real exchange rate, but only the size of short-term fluctuations around the trend (appreciation/depreciation gap);
- Long-term export and import trends, therefore, are not determined by monetary policy measures, but by fundamental factors such as productivity, structural reforms, foreign direct investment, public spending;
- The impact of monetary policy is, hence, limited to fluctuations of exports and imports around the long-term trend. The National Bank of Serbia can only influence foreign trade to the extent that it can influence the fluctuations of the real exchange rate and output around their trends.

In order to illustrate these links between the monetary policy and trade, we conducted a reduced form correlation analysis involving the import/export, output and the real exchange rate gaps.

Empirical Results

The analysis was performed on gaps, i.e. deviations from the long-term trend, of quarterly series from Q1 2001 until Q4 2007. Import and export series were VAT adjusted and deflated by EU prices (in the absence of import and export price statistics). Positive values of the real effective exchange rate gap indicate the appreciation gap and vice versa.

The results of the analysis point to a connection between the real exchange rate gap and the gap on exports of goods and services. The appreciation gap is associated with a negative export gap and vice versa. The estimated elasticity coefficient is statistically significant and equals -0.46, which means that the real exchange rate appreciation of 1 per cent is associated with a real export decline of 0.46%.

[1] Concluding Statement of the IMF mission, 6 November 2007.

No correlation was found between the real exchange rate gap and the total imports gap. The estimated elasticity coefficient is close to zero (0.12) and is not statistically significant, which can be explained by the fact that the bulk of imports (around 80%) refers to capital and intermediate goods whose import demand is largely dependent on the production needs of the economy and much less on the real exchange rate.

This becomes obvious when we look at imported consumer goods, on the one hand, and imported capital and intermediate goods, on the other. If imports of capital and intermediate goods are regressed to the output gap, instead of to the real exchange rate, we get a statistically significant coefficient of 2.31. This substantiates the above assertion that imports of this group of products depend primarily on the level of output.

The relationship between imports and the real exchange rate becomes apparent when, rather than looking at total imports, we focus on imports of consumer goods only. Chart 4 clearly depicts the correlation between the real exchange rate gap and imports of consumer goods. The estimated elasticity coefficient is 1.28. Note, however, that imports of consumer goods account for only around 20% of total imports. Assuming that imports of capital and intermediate goods are entirely non-elastic to the real exchange rate, the elasticity coefficient of total imports would come to around 0.25.

What the above findings seem to indicate is that, through the real exchange rate gap, monetary policy does have an impact on the imports of consumer goods and (overall) exports. This impact, however, can only be short-term in character. To achieve a sustainable, long-term and balanced foreign trade position, it is necessary to implement structural reforms that will allow the Serbian economy to catch up with the trends prevailing in the global market (in the case of exports) and to conduct a responsible fiscal policy which would not entail such high level of monetary policy restrictiveness (in the case of imports).

Chart 4
Correlation between the real effective dinar exchange rate gap and imports of consumer goods (in %)

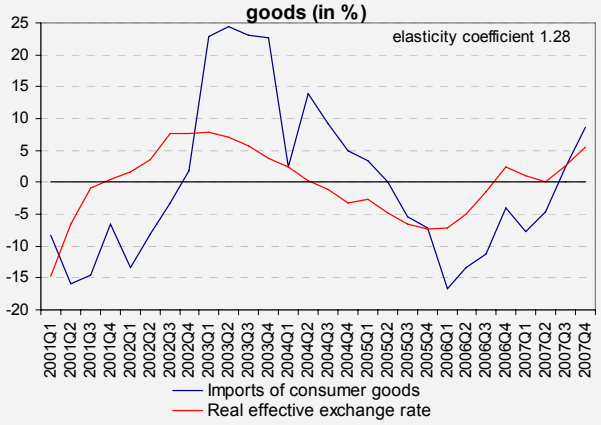


Chart 2
Correlation between the real effective dinar exchange rate gap and imports of goods and services (in %)

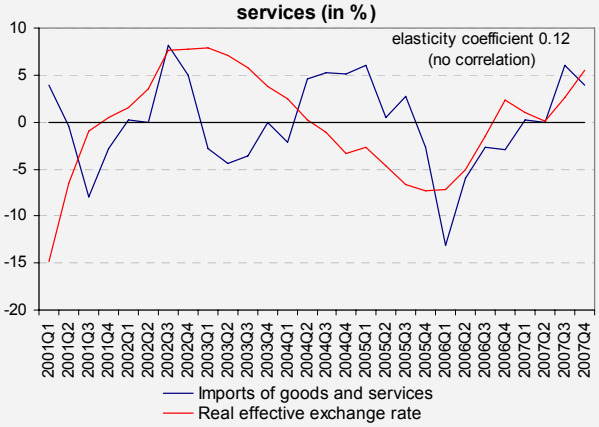


Chart 1
Correlation between the real effective dinar exchange rate gap and exports of goods and services (in%)

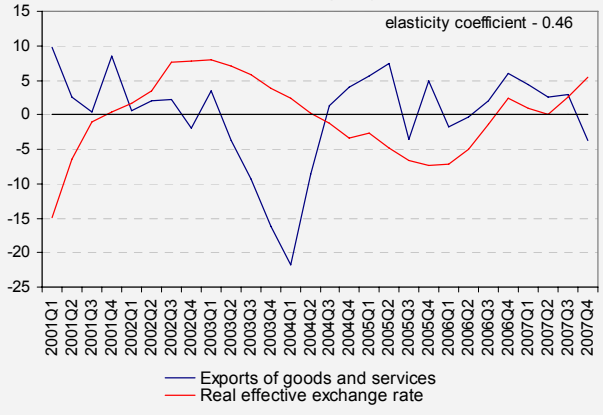
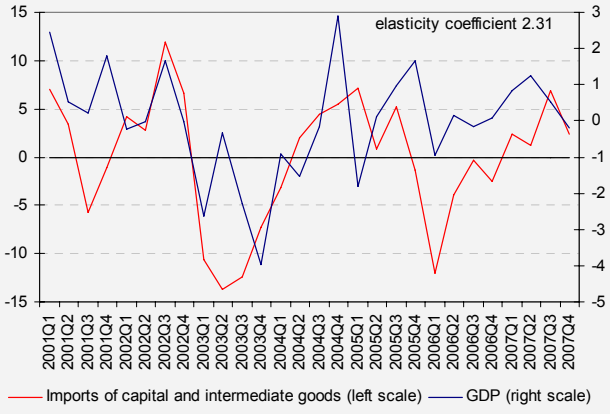


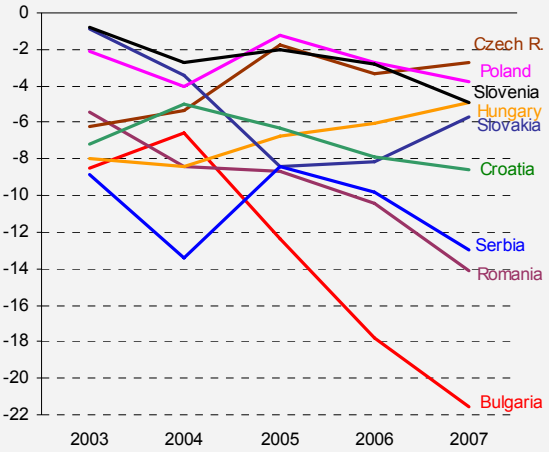
Chart 3
Correlation between GDP gap and imports of capital and intermediate goods (in %)



Current Account Deficit in Serbia and Other Countries

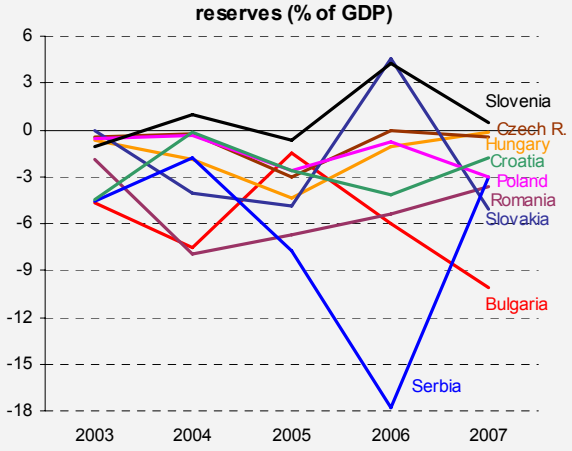
A deficit on the current account is typical for economies in transition as they tend to import foreign savings to finance their investment. In 2007, Serbia's current account deficit reached over EUR 3.9 billion or 13.0% of GDP[1]. The current account deficit, however, did not increase only in Serbia but also in other transition economies from the reviewed group (with the exception of Hungary, the Czech Republic and Slovakia), with deficit levels varying widely: from 2.7% (the Czech Republic) to 21.5% of GDP (Bulgaria). Pursuant to the mechanism of current account adjustment, the currency of a country with a deficit tends to depreciate and, vice versa, the currency of a country with a surplus tends to appreciate. However, the exchange rate of the dinar (and of the national currencies of other transition economies) was not depreciated to allow for adjustment of external imbalances, because capital inflow was high enough not only to cover the deficit but even to exceed it. As a result, Serbia's foreign exchange reserves increased in 2007 by 3% of GDP, while their growth in the 2003-2007 period averaged 7.0% of GDP. This represents the strongest increase in reserves in the reviewed group of countries (followed by Bulgaria and Romania with 5.9% and 5.1%, respectively, while all other countries recorded average foreign exchange reserves growth of below 2% of GDP.

Current account deficit (% of GDP)



Source: EUROSTAT and central banks' web sites.

Changes in central banks' foreign exchange reserves (% of GDP)



Note: The minus sign indicates increase in fx reserves and vice versa.
Source: EUROSTAT and central banks' web sites.

It is the inflow of capital (foreign direct investment and borrowing) that made it possible for the transition economies to record current account deficits for several years in a row. Fast economic growth and accession to the EU have in recent years contributed to a stable current account position of some of these countries. What mattered most was to use capital inflows for production purposes, as higher exports, i.e. a more balanced trade position, ultimately lead to a sustainable external balance.

Movements in the current account deficit are affected by slow-changing structural factors. Hence, capital inflow into Serbia is necessary in order to continue structural reforms, improve market flexibility and upgrade business climate and governance, all with a view to strengthening exports. At the same time, current account deficit financing by borrowing abroad raises foreign debt and interest payable on such debt. Higher interest payments deepen the deficit on the income account, and, consequently, the current account deficit. This leads to fresh borrowing abroad, i.e. the cycle is repeated, but foreign debt, interest payable and the deficit increase with each new cycle. Therefore, inflow of capital through foreign direct investment is essential to the sustainable external position of Serbia.

[1] For the purposes of comparability with the reviewed group of countries which have harmonized their balance of payments with BPM5, a portion of estimated remittances in Serbia's balance of payments has been transferred from the financial to the current account.

4. Monetary Flows

Q1 2008 was marked by a seasonal decline in reserve money and monetary aggregates M1 and M2, as well as by restrained growth in lending. Lending activity did not add to demand-side inflationary pressures, as the curb on lending in February and March induced widening of the negative gap between the level of real credits and their trend.

Monetary Aggregates

During the first quarter, reserve money was created through the foreign exchange channel and withdrawn through the dinar channel. Movements in reserve money and monetary aggregates varied from month to month, displaying no clear trend.

Reserve money declined notably in January, as the government deposited substantial funds with the National Bank of Serbia and commercial banks intensified their purchases of repo securities. In February, however, the movements were reversed: the government began drawing on its dinar deposits with the National Bank, while the proceeds from the redeemed NBS repo securities were not reinvested in new securities, triggering a rise in reserve money. Movements in March were similar to those in January: reserve money declined, as the slowdown in the implementation of projects (spending) by the caretaker government led to an increase in dinar government deposits with the NBS, while NBS' decision to raise the key policy rate by 300 basis points encouraged banks to withdraw funds from their excess deposit accounts and invest in repo securities instead. As regards the foreign exchange channel, depreciation pressures prevailing in January and February contributed to reserve money creation. In February and March, the National Bank intensified selling in the foreign exchange market, assuming the role of the net seller[15], which led to the withdrawal of reserve money and a decline in foreign exchange reserves.

By contrast to reserve money, the dinar money supply has been on a constant decline since the start of the year as a consequence of spending of dinar deposits of non-monetary sectors (enterprises and households). Instability in the foreign exchange market and depreciation pressures were the most likely cause for the conversion from dinars to foreign currency.

Chart III.4.1

Reserve money creation

(cumulative changes in million dinars)

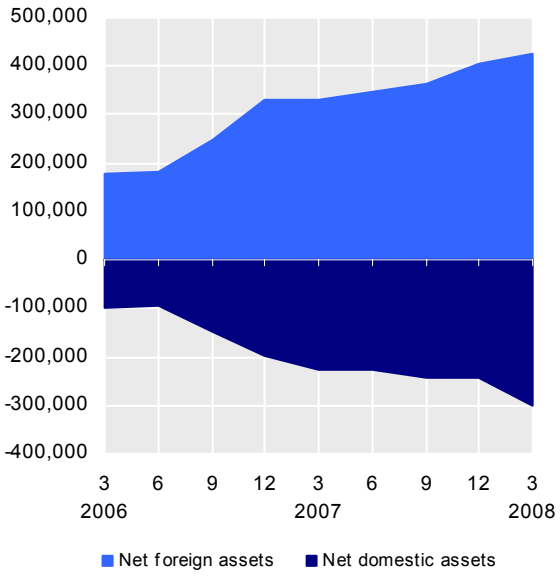
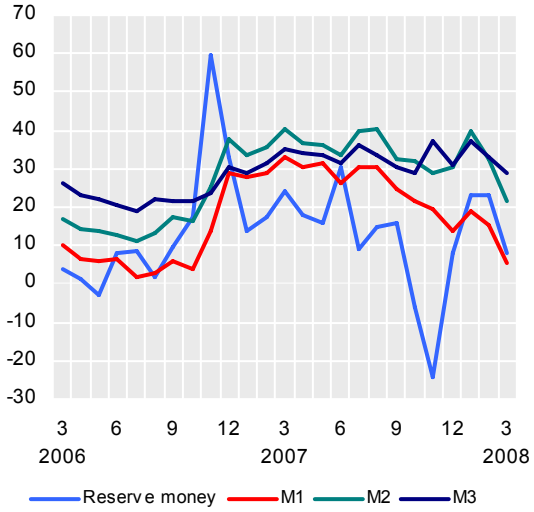


Chart III.4.2

Movements in monetary aggregates deflated by retail prices

(y-o-y growth rates, in %)



[15] In Q1, a total of EUR 123.5 million was purchased from exchange dealers and EUR 284 million sold in the foreign exchange market.

As a result, of all elements of money supply, it was the foreign currency deposits that recorded the strongest growth (of around 14%). Late in March, the share of foreign currency deposits in the broadest monetary aggregate M3 reached around 64%, which led to a rise in lending.

Household foreign currency savings reached around EUR 5 billion, accounting for 45% of money supply M3. Money supply M3 was created against net foreign exchange transactions of the banking sector (around five percentage points), primarily as a result of dinar depreciation, while the main contribution to its withdrawal came from a more restrictive fiscal policy stance resulting from seasonally higher revenues (in respect of VAT in January and profit tax in March). At 7.8 percentage points, the contribution of lending to enterprises and households remained unchanged from the preceding two quarters.

In the quarter under review, a number of banks increased their capital. This led to a decline in the level of deposits that banks were required to allocate with the National Bank on account of non-compliance with the ratio of gross household lending to core capital (from RSD 4.5 billion in December to RSD 1.6 billion in March). Net foreign currency position of banks improved on end-2007, as banks' reserves declined less than their external borrowing levels.

As a significant slowdown or even decline in money supply is typical for the first quarter of each year, it is difficult to estimate the inflationary pressures likely to be generated by this source in the period ahead. However, as year-on-year growth rates of monetary aggregates have remained unchanged from March of the prior year, we expect no significant variation in the trend, i.e. neither a significant strengthening nor a significant weakening of inflationary pressures stemming from this source.

Table III.4.1

Contribution of selected assets to reserve money growth rate[1)]

(in percentage points)

	2007				2008
	Q1	Q2	Q3	Q4	Q1
Net foreign assets	0.0	17.3	13.6	31.7	13.9
Net domestic assets	-23.2	1.6	-13.8	-1.2	-35.9
Domestic credit	-35.7	-11.3	-15.9	-2.3	-30.5
Net claims on government	-23.7	-25.1	9.6	24.7	-17.7
Net claims on banks	-12.2	14.3	-26.4	-27.5	-6.2
Net claims on other sectors	0.3	-0.5	0.9	0.5	-6.6
Other assets (net)	12.5	12.9	2.1	1.1	-5.4
Reserve money	-23.2	18.9	-0.2	30.5	-22.0

[1)] Excluding foreign currency government deposits with the NBS.

Table III.4.2

Contribution of selected assets to M3 growth rate[1)]

(in percentage points)

	2007				2008
	Q1	Q2	Q3	Q4	Q1
Net foreign assets	3.5	3.2	2.9	9.0	4.8
Net domestic assets	1.3	2.1	9.7	7.7	-0.6
Domestic credit	3.1	5.6	8.3	12.1	4.3
Net claims on government	-5.1	-3.8	1.2	4.4	-3.5
Credit to other sectors	8.8	9.9	7.2	7.7	7.8
Households	4.3	3.6	4.5	2.6	2.9
Enterprises, in dinars	4.3	6.8	3.1	4.8	4.6
Enterprises, in foreign currency	0.2	-0.5	-0.4	-0.1	0.1
Other	0.0	0	0	0	0.1
Redeemed frozen foreign currency savings bonds	-0.6	-0.5	-0.1	0	0
Short-term dinar government credit to banks	0	0	0	0	0
Other assets, net	-1.8	-3.4	1.4	-4.4	-4.9
Money supply (M3)	4.7	5.3	12.6	16.7	4.2

[1)] Excluding foreign currency government deposits with the NBS.

Table III.4.3

Growth rates of monetary aggregates

(in percent)

	2007				2008	Share in M3
	I	II	III	IV	I	(March)
M3	4.3	5.3	12.3	16.7	4.2	100.0
Foreign currency deposits	7.3	10.2	10.9	10.3	14.1	63.7
M2	-4.5	9.8	15.1	26.8	-9.6	36.3
Time and savings deposits	2.9	18.1	33.6	38.3	-4.3	13.7
M1	-7.1	6.6	7.9	21.2	-12.5	22.6
Demand deposits	-3.1	5.6	12.0	23.0	-14.4	15.0
Currency in circulation	-14.3	8.5	0.5	17.7	-8.7	7.6

Bank Lending

Though at a slightly slower pace, banks' lending continued rising in Q1. Breakdown by month reveals diverging movements. After a notable rise in January, it slackened somewhat in February and March. And although such slowdown was seasonally expected, in part it was also due to the effect of the euro exchange rate on the stock of bank lending, given the end-March appreciation of the dinar relative to end-January. During the first three months of 2008, lending to enterprises and households thus increased by around RSD 73 billion. Another indicator of a slowdown was the year-on-year growth in lending of 38% (24% in real terms) at end-March compared to 39% at end-Q4 2007.

A comparison with the same period a year earlier shows that the level of newly approved household loans remained practically unchanged, while new lending to enterprises recorded stronger growth.

Foreign currency deposits of domestic non-banking sectors were the most important source of growth in bank lending in the quarter under review and their increase exceeded the decline in dinar deposits. Banks further financed their lending activity by core capital increases, but refrained from fresh foreign borrowing for this purpose. The share of domestic sources of finance shot past 51% of the balance sheet total, of which foreign currency deposits accounted for around 35%.

By contrast to H2 2007, when republic and government authorities as well as local governments gradually reduced their debt to commercial banks, in Q1 their borrowing intensified in order to finance the running of the campaign for presidential elections held in late January/early February and the preparations for the impending parliamentary and local elections. Bank claims on public enterprises increased in January, and remained at this level during February and March.

Increased borrowing by enterprises is reflective of their optimistic expectations of future macroeconomic developments. Short-term credits of the enterprise sector recorded faster growth relative to end-December and were most probably used for foreign debt repayment and purchase of raw and intermediate materials. Long-term credits recorded a steady increase and were used primarily to finance long-term capital investments (in equipment). As bank claims on enterprises in respect of issued securities increased, it may be concluded that the number of enterprises facing liquidity problems rose relative to year end. Enterprises not only intensified their borrowing from domestic banks, but also continued cross-border borrowing, albeit at a slower pace.

Chart III.4.3

Year-on-year growth in credit to enterprises and households

(in %)

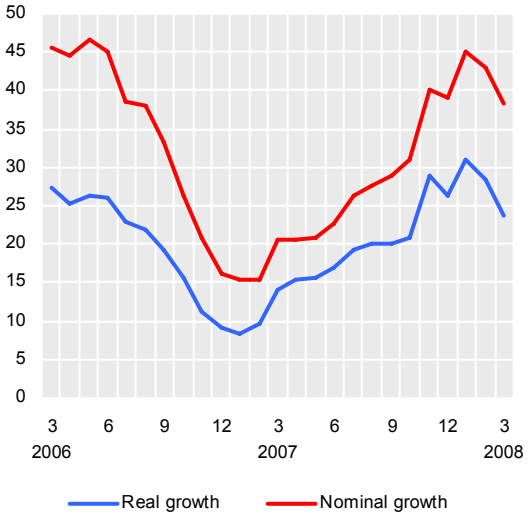
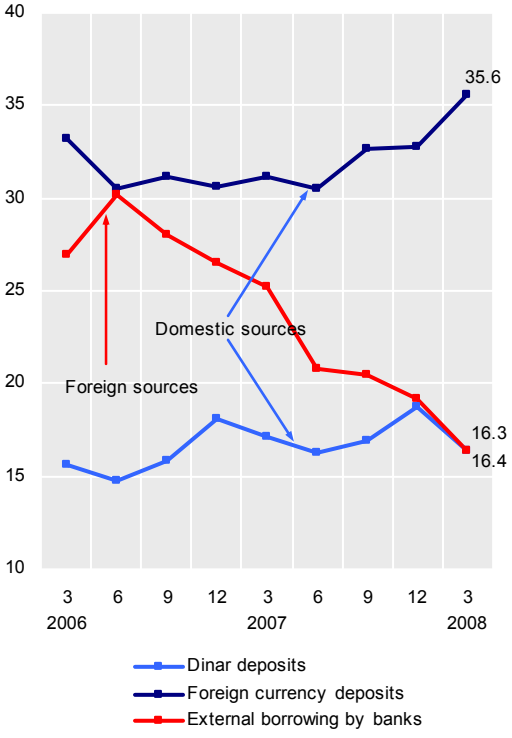


Chart III.4.4

Sources of bank lending growth

(% of balance sheet total of banks)

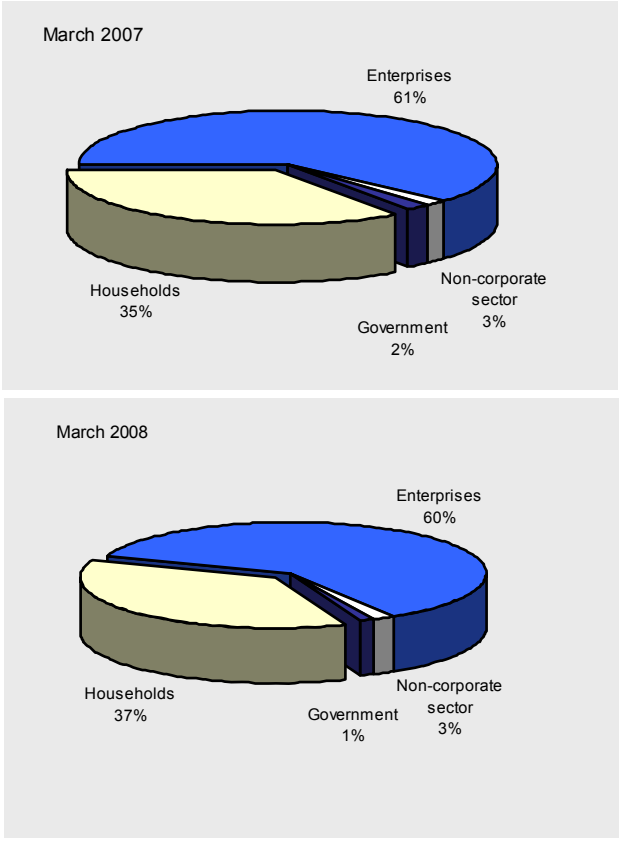


In March, the annual growth rate of household lending dropped to 44%. The highest growth by RSD 16 billion was recorded for housing loans. Credit card loans and use of current account overdrafts also increased, while consumer credits rose only marginally. Since the bulk of the credit growth referred to housing loans, household demand generated by this source seems to have slowed down in Q1, creating no additional inflationary pressures.

The share of domestic credit in GDP rose by 1 percentage point to around 36%, which is notably less than in other economies in transition (with the exception of Romania). Hence, the current credit expansion in Serbia can be attributed more to the catching up process than to a credit boom. If, however, direct enterprise borrowing abroad of USD 13.4 billion is taken into account, the share of total credit in GDP is estimated at 60%, which is again below the average for economies in transition.

Chart III.4.5

Bank credit by sector



The slackening of lending activity in February and March led to a widening of the negative gap between the level of real credits and their trend, which indicates that lending activity did not contribute to the strengthening of demand-side inflationary pressures. As the output gap in Q1 was positive, it can be concluded that the increase in demand-side inflationary pressures was primarily due to other factors.

Table III.4.4

Gross lending to natural persons (in RSD million)

	30/6/2007	30/09/2007	30/12/2007	31/03/2008
Cash loans	95,056	104,351	102,675	101,932
Credit cards	23,712	26,517	31,647	34,460
Current account overdraft	13,640	14,649	14,802	16,154
Consumer loans	20,546	22,737	23,590	25,243
Agricultural activity	6,289	7,015	7,688	8,663
Performance of other activities	707	743	526	139
Housing construction	63,673	75,507	90,012	106,441
Other	14,192	12,042	9,854	10,837
Total	237,816	263,561	280,794	303,869

Petrodollars and Bank Lending to Emerging Markets[1]

"Petrodollar recycling" is a phenomenon dating back to the 1970s. When oil prices rose sharply in late 1973, the oil-exporting countries were faced with a windfall in export receipts. A large portion of those receipts were deposited with banks in industrial countries, which in turn, engaged in onlending to emerging economies, especially in Latin America. When the oil boom subsided in the early 1980s, credit flows reversed sharply, triggering the Latin American debt crisis.

Similar trends in bank lending to Central and East European countries were recorded in recent years. Like Latin American countries in the late 1970s, Central and East European countries saw a nearly 6% current account deficit in the past four years. Though less abundant than in the 1970s, the flow of bank deposits from oil-exporting countries is not at all negligible. From 2001 to 2006, oil-exporting countries' deposits in industrial countries went up, but their share in total financial outflow (27%) was lower than in the period 1973–1979 (44%).

The estimates are that banks in industrial countries onlend to emerging economies nearly half of the oil-exporting countries' deposits, 80% of which originates from Russia, Nigeria and Libya.

Since 2001, around half of total lending to emerging economies was chanelled to Central and Eastern Europe – the region which shows the largest share of credit growth in GDP.

Current environment of high commodity prices that have given rise to large external surpluses in oil-exporting countries, especially in low- and middle-income countries, seems particularly conducive for bank lending to emerging economies. However, a sharp drop in commodity prices, or increased domestic demand in commodity-exporting countries, could create substantial risks for emerging economies that depend heavily on credit inflows to finance their current account deficits. Even if commodity exporters' surpluses persist, bank lending could still experience a sharp turnaround if banks realize, as they did during the Asian and Russian crises, that further lending to emerging economies is not particularly viable.

[1] According to the IMF's World Economic Outlook, April 2008, p. 89-92.

5. Supply and Demand

Supply and Sources of Growth

Economic activity picked up in early 2008, partly as a result of the completed overhaul in US Steel. The output gap moved into the positive zone, but without causing any significant inflationary pressures.

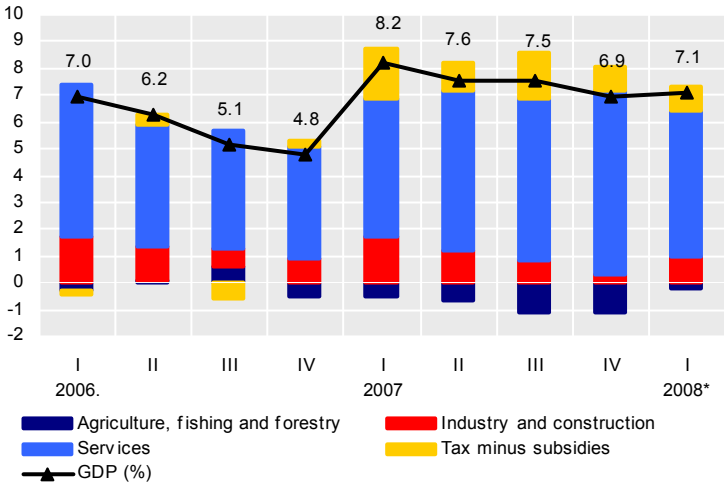
Fourth Quarter of 2007

In its latest report, the Serbian Bureau of Statistics revised GDP figures for the prior year. The new data indicate that the slowdown trend established in the first three quarters of 2007 continued into Q4 2007, in confirmation of our expectations presented in the February *Inflation Report.* However, our estimate of the real year-on-year GDP growth (6.2%) was lower than presented in the SBS report (6.9%), as we underestimated growth in transport. Measured by non-agricultural value added, economy grew by 10.0% in Q4, having accelerated by 0.5 pp on a quarter earlier.

According to seasonally adjusted data, in Q4 the quarterly GDP growth rate remained broadly unchanged from a quarter earlier (3.3%[16]), while growth in non-agricultural value added[17] slackened (2.5% compared to 5.8% in Q3).

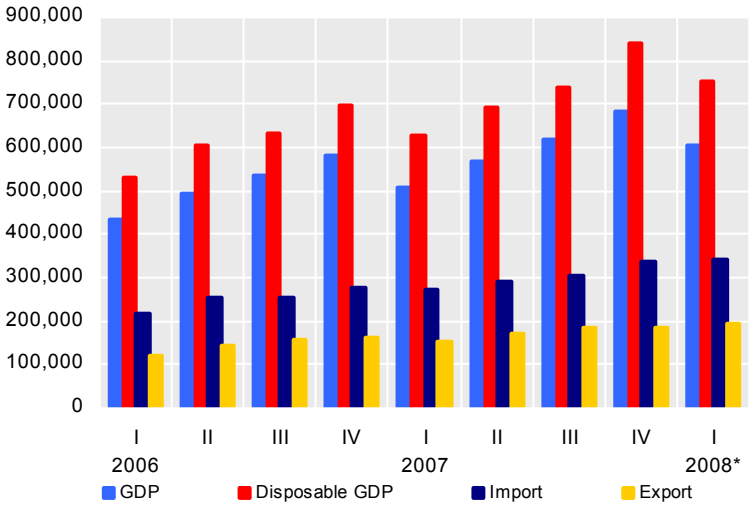
Gross value added contributed 6.1 pp to year-on-year GDP growth in Q4, while taxes (minus subsidies) contributed 0.9 pp. In the composition of gross value added, the largest contribution to year-on-year GDP growth came from the services sector, including in particular: transport (3.2 pp), retail and wholesale trade (1.9 pp) and financial intermediation (1.3 pp). The high year-on-year growth in services could not, however, make up for a sharp decline in material production which induced a slowdown in GDP growth. Namely, in Q4, industrial production hit its lowest point in the past two years (year-on-year growth of only 0.4%), which was expected in view of the autumn overhaul

Chart III.5.1
Contribution to y-o-y GDP growth
(in percentage points)



* Estimate of NBS.

Chart III.5.2
GDP – estimates by quarter
(in RSD mln)



* Estimate of NBS.

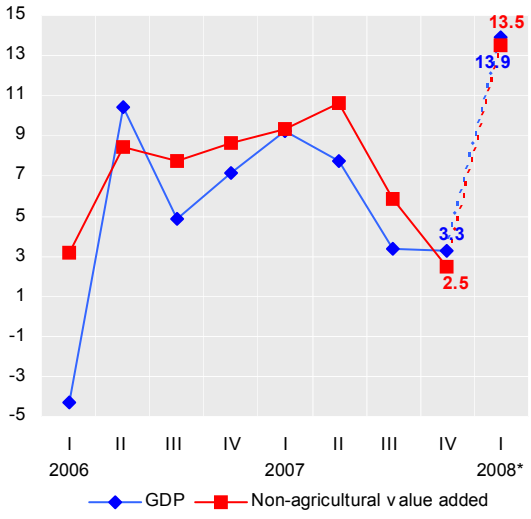
[16] Per annum.
[17] Non-agricultural value added (GDP excluding agriculture and taxes less subsidies) is used in analyses, as the dynamics of this particular aggregate correlate best with the dynamics of the monetary conditions index.

in US Steel. Basic metals production is estimated to have contributed negatively to industrial production growth (around 2.4 pp) and to growth in non-agricultural value added (0.5 pp). Construction activity also slackened, partly due to adverse weather conditions. In addition, agricultural production slumped by 9%, providing a negative contribution of 1.1 pp to GDP growth.

Chart III.5.3

Growth in economic activity indicators

(seasonally adjusted quarterly growth rates, at annual level)

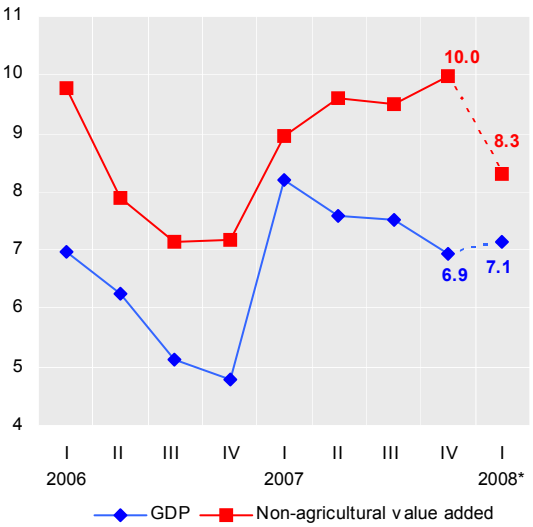


* Estimate of NBS.

Chart III.5.4

Growth in economic activity indicators

(year-on-year growth rates)



* Estimate of NBS.

First Quarter of 2008

Available statistics by sector show an acceleration of real GDP growth in Q1, placing its year-on-year growth rate at around 7.1%. According to the seasonally adjusted data on quarterly growth rates, the acceleration of the real GDP is even more pronounced. Although non-agricultural value added slowed down slightly (8.3%), according to seasonally adjusted data, it recorded significant growth (13.5% in Q1 2008 compared to 2.5% in Q4 2007).

Year-on-year growth in **industrial production** (6.0%) picked up at the start of 2008, with improvement recorded in all branches of industry. The strongest growth was noted for the production and distribution of electricity (12% compared to 4% in a quarter earlier). After recording negative year-on-year growth rates in the final two months of 2007, in Q1 2008 the processing industry grew by 4.4%. Within the processing industry, production of basic metals reached a high year-on-year growth rate of 8.6% as the overhaul in US Steel was completed and its facilities became fully operational again. The production of basic metals is assessed to have contributed as much as 2.2pp to quarterly growth in non-agricultural value added. The decline in the production of non-metal minerals, in place since May last year, continued in Q1 2008.

Broken down by purpose, production growth was recorded for all groups of products, with the exception of consumer durables which have been declining since November last year.

Construction activity subsided in Q1, as reflected in its main indicators: production of non-metal minerals and government investment spending.

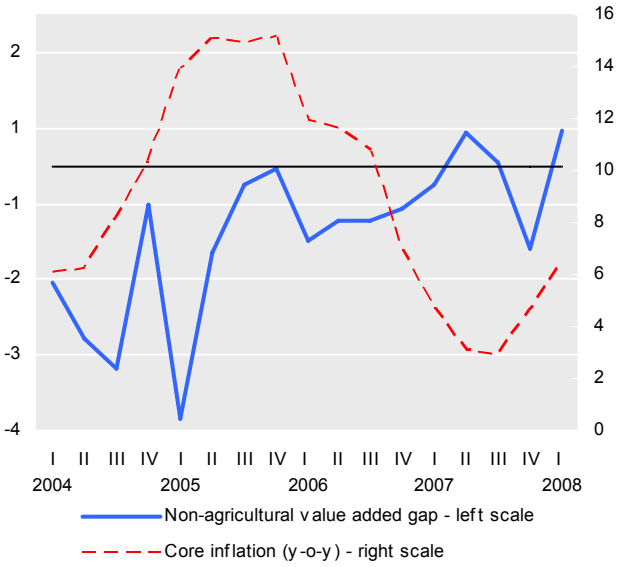
Though slowed down, the **retail trade industry** continues growing at high rates (8.6% in Q1).

Agricultural production is expected to rebound, due to more favourable weather conditions and an increase in the land area under crops.

By contrast to the prior period, output gap, calculated by reference to value added for non-agricultural products, remained above its long-term trend since the start of the year. This is indicative of demand-side inflationary pressures, which, however, were not too significant. In the period ahead, the gap is expected to remain within the positive zone despite the restrictive monetary policy stance, as an increase in wages has been announced for the public sector.

Chart III.5.5

Output gap and core inflation



Based on our estimates of real GDP and price growth, the first-quarter nominal GDP could rise to around RSD 603 billion, up by around 19.2% on Q1 2007.

According to balance of payments data, the disposable GDP would in such case stand at around RSD 750 billion (124.3% of GDP), with exports and imports of goods and services accounting for 32.2% and 56.5% of GDP, respectively. Year-on-year growth in aggregate demand would hence come to around 19.5% or approximately 0.9 pp less than a quarter earlier.

Indicators of Household Spending

Increased household spending was the main source of growth in aggregate demand in Q1 2008. Quarterly breakdown shows that the year-on-year nominal growth rate of household spending reached its two year record level. Relative to the preceding quarter, an increase was also recorded in real terms, despite a surge in inflation.

Based on selected indicators, the real year-on-year growth in household demand is estimated at 9.2% in Q1 2008. It rose on the preceding quarter by 5.5 pp despite a step up in inflation.

The main sources of growth in consumer demand in Q1 were as follows:

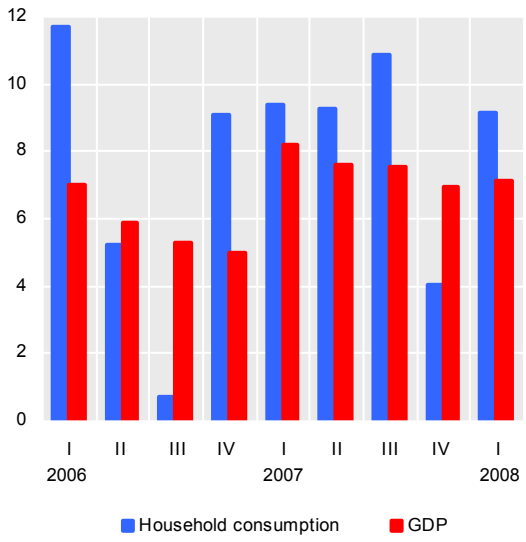
Wages

The ratio of net wages from the statistical sample to estimated GDP was 14.1%, 0.2 structural points lower than in the comparable period a year earlier. Assuming that employees not included in the sample earned on average as much as those included in the sample, the ratio of net wages to estimated GDP was 39.2%, or 1.5 structural points more than in the same period a year earlier.

Chart III.5.6

Household demand and GDP

(y-o-y real growth rates, in %)



Social transfers

Social transfers accounted for 14.7% of estimated GDP, which is 2.3 structural points less than in the same period in 2007.

Remittances and exchange offices

Registered remittances and net inflow from exchange transactions accounted for 6.5% of estimated GDP, 0.7 structural points less than in Q1 2007.

Credits

Borrowing provided households with an additional source of financing consumption expenditures and amounted to 2.5% of estimated GDP, down by 2.7 structural points from the same period a year earlier.

At the same time, household savings rose by 2.4% of estimated GDP, which is 4.8 structural points less than in Q1 2007.

Household revenue, less increase in savings and plus increase in credits, increased its share in GDP by 0.5 structural points to 60.5%. Taking this into account, as well as retail price growth which pushed nominal GDP up, it may be concluded that household demand fuelled inflationary pressures in the first quarter of 2008.

Public Consumption

Calculated by the IMF methodology, Q1 2008 saw a budget surplus of RSD 3.2 billion. Budgetary flows had an effect equivalent to a withdrawal of RSD 7.1 billion.

Total consolidated revenue of the budget of the Republic of Serbia, excluding grants, reached 262.6 billion in Q1 2008 (up by 19.2% in nominal and 7.1% in real terms on the same period a year earlier), while total consolidated expenditure came to RSD 259.4 billion (up by 19.0% in nominal and 6.9% in real terms on the same period a year earlier), resulting in a Q1 budget surplus of RSD 3.2 billion. The ratio of budget surplus to GDP equalled 0.5%.

The effect of public spending on aggregate demand was negative and equivalent to a withdrawal of RSD 7.1 billion. The resulting difference to the above budget surplus is accounted for by repayment of domestic government debt and high interest payments on foreign debt.

The share of budgetary revenue in GDP rose to its several-year high of 43.5%, while the share of budgetary expenditure in GDP (43.0%) was lower only in comparison to the levels recorded in the fourth quarter of either 2007 or 2006. The decline in the share of public expenditure in GDP, announced by the Government memoranda on economic and fiscal policies, has still not materialized.

On the revenue side, the strongest year-on-year growth was recorded for customs revenue (22.9% in nominal and 10.4% in real terms) and tax on profit (22.8% in nominal and 10.5% in real terms). Other categories of revenue increased in line with the growth in GDP and inflation. As there were no changes in tax policy, the above growth in revenue may be attributed to steady growth in exports and increased profitability of economic entities.

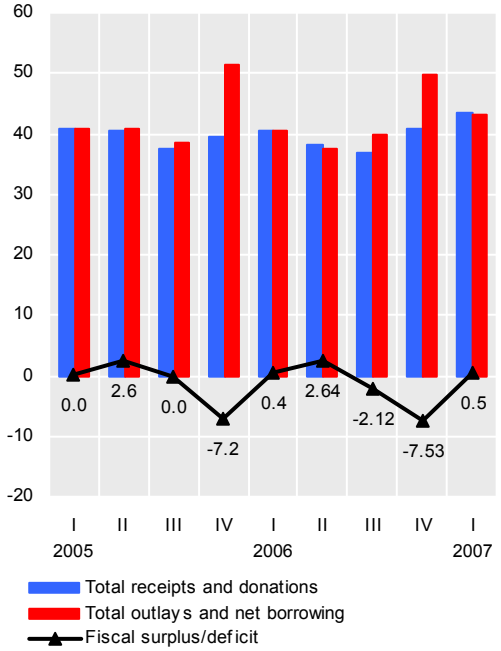
The increase in revenue came hand in hand with the increase in expenditure. Outlays in respect of wages rose by 20.3% in nominal terms (8.1% in real terms) relative to the same period a year earlier, outlays for subsidies climbed by 40.4% (26.1% in real terms), and social benefit payments by 22.3 (9.8% in real terms). Items 'debt repayment' and 'capital expenditure' declined by 35.6% and 40.9% in nominal terms, respectively.

We may therefore conclude that the current rise in transfers to households will continue in the period ahead as a new round of wage increases in the public sector has been approved. Note that the budgetary outlays for subsidies are even showing an accelerated growth trend and, if the momentum in capital expenditures gains

Chart III.5.7

Public revenue and expenditures (IMF methodology)

(as % of GDP)

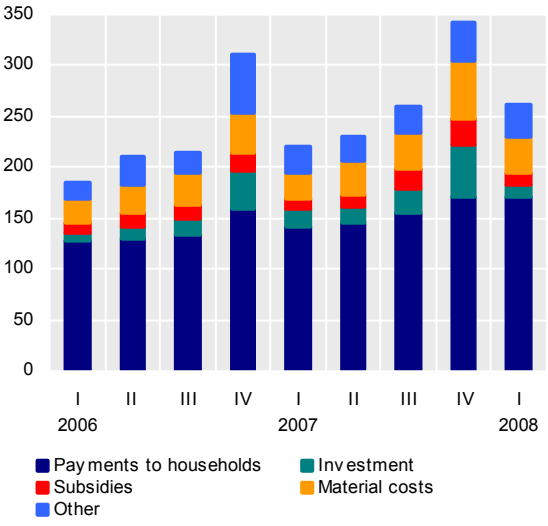


Source: Recalculated based on data provided by the RS Ministry of Finance.

Chart III.5.8

Structure of public expenditures

(in RSD bln)



Source: Recalculated based on data provided by the RS Ministry of Finance.

further pace in later months, as has been the case so far, we will, no doubt, face another year of high deficit financing of the budget. Still, in the next quarter, we expect a mildly tighter fiscal grip and a budget surplus, while the second half of the year is likely to see relaxation in the fiscal policy stance.

Table III.5.1

Fiscal balance

(by quarter, in RSD billion)

	2006				2007				2008	Indices	Indices, real
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q1 2008 / Q1 2007	Q1 2008 / Q1 2007
I. Consolidated revenues and grants	183.23	209.01	209.26	239.19	220.36	232.94	240.56	281.85	262.76	119.2	**107.1**
o/w grants	0.54	0.39	0.31	0.21	0.13	0.27	0.35	0.42	0.16	127.7	**114.8**
II. Consolidated expenditures and debt repayments	184.27	210.37	214.67	309.90	219.91	230.14	259.82	343.11	261.19	118.8	**106.7**
foreign debt repayment	1.27	1.25	1.61	12.49	1.32	0.47	2.07	0.81	1.30	98.8	**88.7**
frozen foreign currency savings repayment	0.48	14.03	4.09	1.12	0.59	13.19	3.75	8.94	0.50	84.9	**76.2**
debt pre-payment	0.00	0.00	0.00	13.80	0.00	0.00	0.00	0.00	0.00	100.0	**100.0**
III. Consolidated revenues without grants	182.68	208.62	208.95	238.98	220.23	232.67	240.21	281.43	262.60	119.2	**107.1**
IV. Consolidated expenditures and debt repayments (excluding foreign debt repayments, pre payments and FFCD repayments)	182.52	195.09	208.97	282.49	218.01	216.48	254.00	333.37	259.39	119.0	**106.9**
Fiscal balance - IMF methodology (III - IV)	**0.16**	**13.53**	**-0.02**	**-43.51**	**2.23**	**16.19**	**-13.79**	**-51.93**	**3.21**	**144.0**	**129.4**
GDP	432.74	495.96	534.04	579.31	506.30	568.87	620.02	681.27	603.51	119.2	**107.1**
Fiscal balance - IMF methodology in % of GDP	**0.04**	**2.73**	**0.00**	**-7.51**	**0.44**	**2.85**	**-2.22**	**-7.62**	**0.53**	**120.8**	**108.5**

Source: Calculation based on RS Ministry of Finance data.

Table III.5.2

Consolidated public expenditure

(by quarter, in RSD billion)

	2006				2007				2007	Indices	Indices real
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q1 2008 / Q1 2007	Q1 2008 / Q1 2007
Total expenditure and debt repayment[1)]	**184.2**	**210.4**	**214.7**	**309.9**	**220.0**	**230.1**	**259.9**	**342.1**	**261.2**	**118.7**	**106.7**
Outlays to households:	**127.9**	**129.7**	**134.6**	**158.4**	**150.5**	**156.4**	**167.1**	**183.6**	**182.8**	**121.4**	**109.1**
Net wages	43.9	43.7	45.1	57.8	53.1	57.5	59.4	69.7	63.9	120.3	**108.1**
Employee contributions	7.5	7.9	8.2	9.8	9.4	10.5	10.8	12.3	11.3	119.6	**107.5**
Social transfers	76.5	78.2	81.4	90.8	88.0	88.4	96.9	101.6	107.6	122.3	**109.8**
Pensions and unemployment benefits	60.7	62.9	65.6	69.8	70.2	72.0	74.6	79.4	84.8	120.8	**108.5**
Social benefits	13.1	12.7	13.1	17.9	15.1	13.7	19.4	18.3	19.1	127.1	**114.2**
Other transfers to households	2.6	2.5	2.8	3.1	2.7	2.7	2.8	3.9	3.6	132.9	**119.4**
Subsidies	**10.1**	**13.4**	**13.1**	**19.0**	**9.5**	**11.8**	**20.0**	**26.5**	**13.4**	140.6	**126.4**
Material expenses	**23.4**	**26.6**	**30.4**	**39.6**	**27.1**	**32.8**	**36.4**	**56.6**	**34.3**	126.6	**113.7**
Investment	**8.1**	**12.7**	**15.6**	**37.6**	**17.9**	**15.3**	**22.2**	**50.6**	**10.6**	59.1	**53.1**
Interest expenses	**5.7**	**4.9**	**5.8**	**18.2**	**5.8**	**3.1**	**4.2**	**2.9**	**5.3**	91.9	**82.6**
Debt repayment	**1.8**	**15.3**	**9.7**	**26.5**	**10.9**	**13.8**	**5.8**	**14.2**	**7.0**	64.4	**57.9**
Payments in respect of frozen f/c savings and pension arrears	0.5	14.0	8.1	14.0	9.6	13.3	3.8	13.4	5.7	59.7	**53.6**
Foreign debt repayment	1.3	1.2	1.6	12.5	1.3	0.5	2.1	0.8	1.3	98.8	**88.7**
Repayment of outstanding internal debt	**0.0**	**0.0**	**0.0**	**0.0**	**4.5**	**0.4**	**3.1**	**-1,5[3)]**	**4.4**	**98.3**	**88.3**
Other[2)]	**14.7**	**15.6**	**13.7**	**20.4**	**7.7**	**7.4**	**14.9**	**20.0**	**19.0**	**247.1**	**222.0**

[1)] The sum does not include employee contributions and repayment of outstanding internal debt.

[2)] Item Other includes: transfers to Kosovo and Metohija, net borrowing and other current expenses.

[3)] Cancellation of debt repayment towards the NBS (RSD 2.6 billion), shown in Q1 2007.

Source: Calculation based on RS Ministry of Finance data.

Indicators of Investment Spending

Majority of available indicators for Q1 show a significant slowdown in investment activity.

The main indicator of investment in fixed capital, medium- and long-term foreign borrowing by enterprises slowed down significantly from a quarter earlier (107%) and showed a 19.9% year-on-year growth in Q1. Growth in long-term domestic bank credits to enterprises and households also eased relative to the preceding quarter (by 3.3 pp and 7.8 pp, respectively).

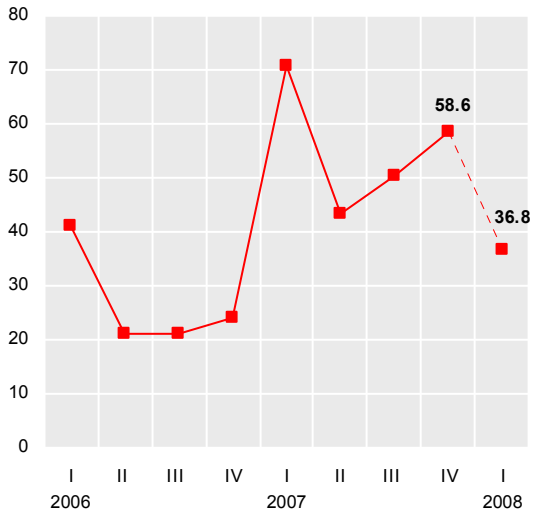
Decline in enterprise borrowing fed through into lower imports of capital goods (36.8% in Q1 vs. 58.6% in Q4 2007), resulting in the contraction of the capital goods trade deficit (27.4% in Q1 vs. 49.3% in Q4 2007) and confirming slackened investment growth in Q1 2008.

On the other hand, production of capital goods stepped up (6.5%) in volume terms. However, this did not reflect entirely on growth in investment as stocks of capital goods declined less than a quarter earlier.

Chart III.5.9

Growth in imports of capital goods

(year-on-year growth rates)



State contribution to investment was negative as the caretaker government merely performed rudimentary duties of the state, leading to a slowdown in implementation of its investment projects. In Q1, government investment spending declined by 40.8% year-on-year, or by 75.4 pp from a quarter earlier.

Table III.5.3

Investment indicators

	2006				2007				2008
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Real indicators									
Imports of intermediate goods, in USD million	912.3	1,164.3	1,266.4	1,421.0	1,359.8	1,658.7	1,761.9	1,905.0	1,808.4
Exports of intermediate goods, in USD million	636.6	806.3	913.5	955.7	965.1	1,123.6	1,172.1	1,147.1	1,284.5
Imports of capital goods, USD million	551.5	776.6	806.0	929.9	943.1	1,114.2	1,223.3	1,474.9	1,290.3
Exports of capital goods, USD million	130.3	163.2	183.0	214.7	223.6	280.7	287.6	407.2	375.2
Financial indicators									
Short-term credits to enterprises, RSD billion	201.7	214.0	203.2	188.1	200.4	229.7	232.2	251.2	278.7
Medium- and long-term external borrowing by enterprises (net), in USD million	255.7	317.7	637.4	660.2	597.1	739.3*	894.8	1,366.6	716.0
Long-term credits to households, RSD billion	121.5	138.6	152.0	163.7	187.7	206.6	234.0	253.3	275.8
Long-term credits to enterprises, RSD billion	162.8	172.3	177.9	174.0	189.4	198.3	217.7	230.3	244.4
Government investment spending, RSD billion	8.1	12.7	15.6	37.6	17.9	15.3	22.2	50.6	10.6

* As the USD 806 million credit approved to Telekom Srbije a.d. by Citygroup in June was intended for purchase of Telekom Republike Srpske and did not induce a rise in investment activity in the country, it has been excluded from the calculation of long-term external borrowing by enterprises.

Table III.5.4
Investment indicators

	Q1 2007 / Q1 2006	Q2 2007 / Q2 2006	Q3 2007 / Q3 2006	Q4 2007 / Q4 2006	Q1 2008 / Q1 2007
Real indicators					
Physical volume of industrial production of capital goods	-2.2	-0.9	15.9	3.3	6.5
Imports of intermediate goods	49.1	42.5	39.1	34.1	33.0
Exports of intermediate goods	51.6	39.4	28.3	20.0	33.1
Stocks of intermediate goods, y-o-y indices	0.8	-1.6	2.1	-1.8	-2.9
Imports of capital goods	70.8	43.5	51.8	58.6	36.8
Exports of capital goods	71.6	72.0	57.2	89.7	67.8
Stocks of capital goods	-4.5	-8.8	-11.7	-11.8	-3.4
Financial indicators					
Short-term credits to enterprises	-0.6	7.3	14.3	33.5	39.1
Medium- and long-term external borrowing by enterprises (net)	133.5	149.1	40.4	107.0	19.9
Long-term credits to households	54.5	49.0	54.0	54.7	46.9
Long-term credits to enterprises	16.3	15.1	22.4	32.3	29.0
Government investment spending	121.1	20.2	42.4	34.6	-40.8

6. Labour Market Flows

A stepping up of economic activity did not generate higher employment nor lead to higher wages. In fact, a major slowdown in the year-on-year net wage growth was recorded in both nominal and real terms and was primarily due to wage movements in the non-public sector. As growth in productivity outpaced growth in real gross wages in the industrial sector, unit labour costs declined.

Wages

Q1 2008 saw a major slowdown in both nominal and real wage growth. Year-on-year nominal net wage growth declined by 6.6 pp relative to the preceding quarter down to its three-year low of 19.5%. In real terms, the increase came to 5.2%, or 7.8 pp less than a quarter earlier.

Overall developments in wages were mainly driven by wage movements in the non-public sector. The most notable slowdown in wage growth was recorded in financial mediation and real estate business (by 17.9 and 18.8 pp lower than a quarter earlier, respectively), which also witnessed a slackened pace of activity. Along the same lines, slower pace of activity in transport and hotel industry was accompanied by slower wage growth. Weaker wage growth was also recorded for the processing industry (1.2 pp down on the preceding quarter) despite a mild pick up in the pace of activity. By contrast, construction industry and trade recorded an increase in wage growth on the preceding quarter (by 1.2 and 3.6 pp, respectively), while the pace of their activity slowed down mildly.

Chart III.6.1
Average net wages
(y-o-y growth, in %)

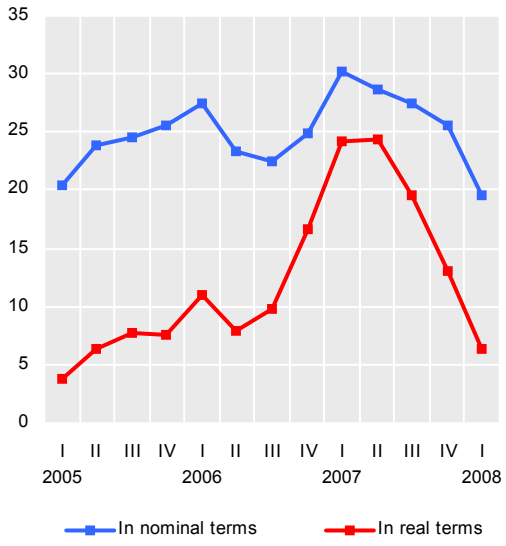
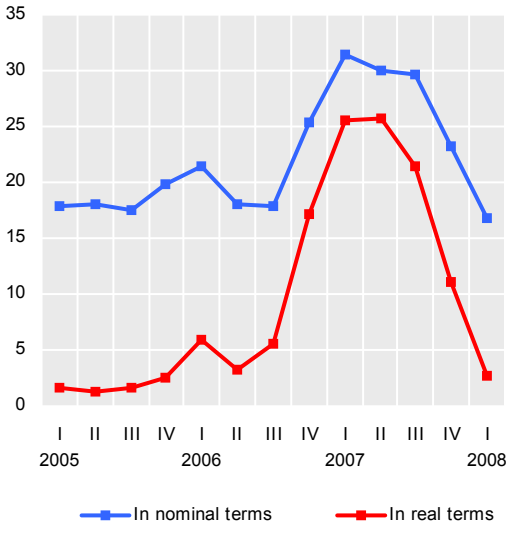


Chart III.6.2
Average net wages in the public sector
(y-o-y growth, in %)



Year-on-year growth in wages slowed down not only in the non-public, but in nearly all segments of the public sector, as well. Relative to the preceding quarter, net wage growth was lower by 6.5 pp in nominal and 8.3 pp in real terms. Still, wage growth rates in education and culture as well as health and social work remained high and above average. In Q1, the average net wage in the public sector equalled 34,423 dinars and exceeded the average net wage in Serbia of 30,007 dinars. The share of public sector wage bill is estimated at around 8.2% of GDP, which is an increase by 0.6 pp on a quarter earlier.

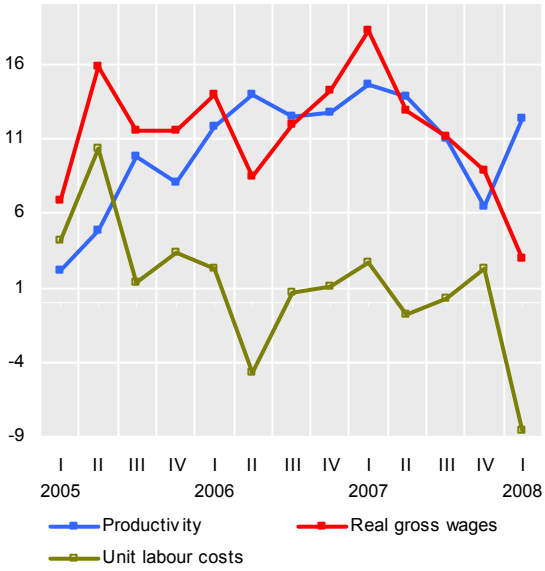
Although weaker than in 2007, inflationary pressures generated by growth in wages may yet gather momentum amid upcoming elections and public sector wage increases announced for April.

Recovery of the industrial production was accompanied by growth in productivity. As growth in real gross wages fell behind productivity gains, unit labour costs declined by 10.8 pp from the preceding quarter. Stepped up growth in the processing industry and decline in unit production costs will, no doubt, have a positive impact on the competitiveness of domestic economy.

Chart III.6.3.

Movements in productivity, real gross wages and unit labour costs in the industrial sector

(year-on-year growth, in %)



Employment

Q1 2008 saw negative trends in the labour market. Employment declined, most notably in the processing industry, construction and transport. Consequently, the estimated rate of unemployment increased. Productivity picked up, particularly in the sector of tradeable goods, as growth in vacancies fell behind economic growth.

Based on the available data, total employment in March 2008 is estimated at 2,488.8 thousand persons, 4.2 thousand down on December. As in the prior quarter, employment plummeted in the sector of tradeable goods, and rose in the sector of services (trade, financial mediation, real estate business, education and culture, healthcare and social work). Employment in trade sector rose despite a mild slowdown in activity.

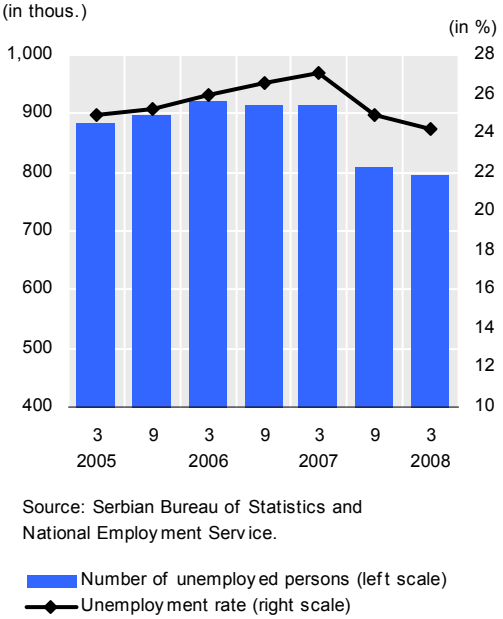
The sharpest drop in employment was recorded in the processing industry (down by around 7.2 thousand jobs), despite the pick up in performance, while employment in the construction industry and transport fell in line with their poor operating results.

Unemployment increased in Q1 and in March 2008 equalled 759.1 thousand persons, which is by 10 thousand or 1.2% more than at end-2007. The number of first-time job seekers went up, while the number of those seeking employment for longer than two years declined.

Chart III.6.4

Unemployment

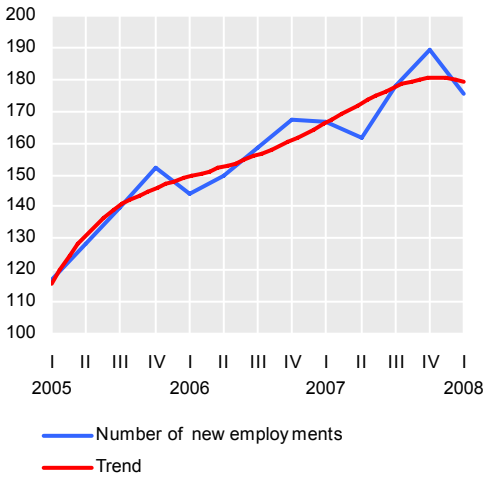
(in thous.)



Source: Serbian Bureau of Statistics and National Employment Service.

New employment rose 5.1% year-on-year to reach 175.3 thousand in Q1. Continued slowdown in new employment, which fell by 0.5 pp from a quarter earlier, reveals negative developments in the labour market. Of the new employment figure, 104.2 thousand is related to persons that changed jobs (59.5%) and 71.5 thousand (40.5%) to the decline in registered unemployment with the National Employment Service. The share of the former in total new employment rose on the preceding quarter and the number of vacancies increased as a result of a pick up in the economy.

Chart III.6.5
New employment
(in thousand)



Source: National Employment Service.

Slowdown in new employment and further increase in vacancies point to a widening mismatch between job vacancy numbers and data on new employment contracts. Presumably, this came about as a result of inadequate professional qualifications structure and labour skill patterns across the market, i.e. lack of certain types of qualified professionals. At the same time, growth in the number of terminated employment contracts slackened in the period under review.

The estimated rate of unemployment rose from 24.0% recorded at end-2007 to 24.2% as a result of higher unemployment, stagnation in new employment and decline in employment.

7. Inflation Expectations

Inflation expectations continued rising in the first quarter of 2008, and will, no doubt, be one of the main drivers of inflation growth in the coming period. Preliminary results of April surveys, however, point to a more moderate rise in inflation expectations.

Findings of the March survey, conducted by **TNS Medium Gallup**, point to continued upward trends in inflation expectations of all sectors, except for the sector of households.

Inflation expectations of the financial sector rose in the quarter under review by 1 pp per month on average. Though significantly higher than six months ago, March expectations of this sector came out below the actual inflation outturn.

March expectations of enterprises and trade unions regarding the 12-month outlook for inflation were 14%. There seems no doubt that high inflation expectations will be among the main generators of inflation in the coming period.

Table III.7.1

End-quarter inflation expectations over the next 12 months

	2007				2008
	I	II	III	IV	I
Enterprises	12.7	8.7	10.0	10.4	12.1
Financial sector	7.4	6.2	7.3	8.0	10.8
Trade unions	7.4	10.0	9.1	10.5	14.0
Households	12.7	14.0	16.4	14.7	14.0

Source: Survey (TNS Medium Gallup).

The **Reuters survey**, conducted in **April** on the sample of 16 bank dealers, showed that average expectations of core inflation outturn at end-2008 are higher (6.7%) than the declared monetary policy target (3-6%). Although core inflation expectations were on the rise from the beginning of the year, their moderation in April compared to March cannot go unnoticed. Excessive inflation expectations were most likely restrained by the decision of the National Bank of Serbia to raise the key policy rate by 300 basis points.

The Reuters survey also takes in expectations with regard to movements in the exchange rate and the key policy rate of the National Bank of Serbia.

Average expectations with respect to the level of the exchange rate stabilized for both May and December 2008. At end-May, the exchange rate is expected to stand at 81.1 RSD/EUR, which is above its current level, but, at the same time, significantly lower than reported in the March survey. Expectations of the year-end exchange rate levelled off at around 81.2 RSD/EUR.

Expectations regarding the level of the key policy rate at end-May average 14.8%. Five bank dealers expect that the key policy rate will rise above its current level (15.25%), while the remaining 11 expect it to decline below that level.

Bank dealers expect that the key policy rate will decline at end-June (14.8%) from its current level, and that there will be no need for further monetary policy tightening. Hence, anticipated year-end policy rate averages 13.3%.

Table III.7.2

Expectations of the banking sector[1)]

	Core inflation	Key policy rate			RSD/EUR	
	end 2008	end Apr	end May	end 2008	end May	end 2008
January 2008	5.9			10.5		81.1
February 2007	6.0	11.0		10.5		81.0
March 2008	6.6	15.6	15.7	13.4	82.8	81.7

[1)] Survey includes 16 banks.

Source: Survey (Reuters).

IV. Inflation Projection

Core inflation will run above the upper bound of the target range for most of the year 2008, but is expected to settle within the target range late in the year. However, the risk of overshooting the target set for the end of this year should not be fully ruled out. The central projection places core inflation at 5.8% (within the 3.9–7.7% range) and headline inflation at around 8.6%. This projection is consistent with a tight monetary policy stance throughout the period. The risks underlying the projections of both core and headline inflation are very high.

The medium-term inflation projection shows expected movements in inflation in the period ahead, the main factors behind such movements and the underlying risks. Core inflation projection is expressed as both a range and a central projection figure. This projection presupposes an active monetary policy which aims to keep core inflation within the target range and thus fulfil its principal role as defined by the current monetary policy framework.

Initial Conditions and Projection Assumptions

Although year-on-year **core inflation** has risen above the upper bound of the target range set for this year, its quarterly growth slowed down in Q1 2008 relative to the preceding two quarters (1.5% compared to 2.2%),[18] due mainly to a moderation of growth in food prices and, to a smaller extent, the effect of seasonal factors.[19]

In Q2, however, growth in core inflation is expected to regain momentum, due to yet another revision in food prices (oil, meat), cost effects of the rise in energy prices (electricity and petroleum products), high inflation expectations and lagged effects of the depreciation from the first quarter. In Q2, year-on-year core inflation is expected to depart further from the upper bound of the target range, and to reach close to 8.1% around mid-year (page 9).

The majority of nominal factors – high inflation expectations, continued growth in world prices of oil and other commodities – will create further inflationary effects in the period ahead. In addition, the dinar depreciated notably against the euro in Q1, which has led to the narrowing down of the real exchange rate appreciation gap.

Finally, the disinflationary effect of real factors, which in the prior period lent significant support to the anti-inflationary effort of monetary policy, is losing force. In addition to the already mentioned narrowing of the appreciation gap in Q1, the negative output gap crossed into the positive zone, where it is likely to remain considering the pre-electoral public sector wage increases.

In response to inflationary pressures, the MPC decided to notably raise the key policy rate in Q1. This led to the appreciation of the dinar in late March and April, renewed widening of the appreciation gap and slowdown in bank lending growth.

In addition, the current inflation projection assumes a decline in EU inflation, stabilization of oil prices in the rest of the year and a decline in the ECB policy rate. Non-core inflation, petroleum products excluded, ought to be somewhat lower than a year earlier, but higher than was assumed in the January projection. In the optimal case, the state budget deficit will match its last year's level.

[18] Despite the decline in the quarterly rate, the year-on-year rate, which normally reflects price increase in the preceding year, went up, as a result of lingering effects of the agricultural shock.
[19] Inflation is usually lower at the start than during the rest of the year.

Assumptions in the projection for 2008

External	
EU inflation	2.2%
End-year EU interest rate	3.75%
End-year Ural oil price per barrel (growth)	+15%
Internal	
GDP growth	6%
Regulated prices excluding petroleum products (growth in 2008)	9.5%
Prices of agricultural products (growth in 2008)	21%
Budget deficit (share in GDP)	–2%

Core Inflation Projection

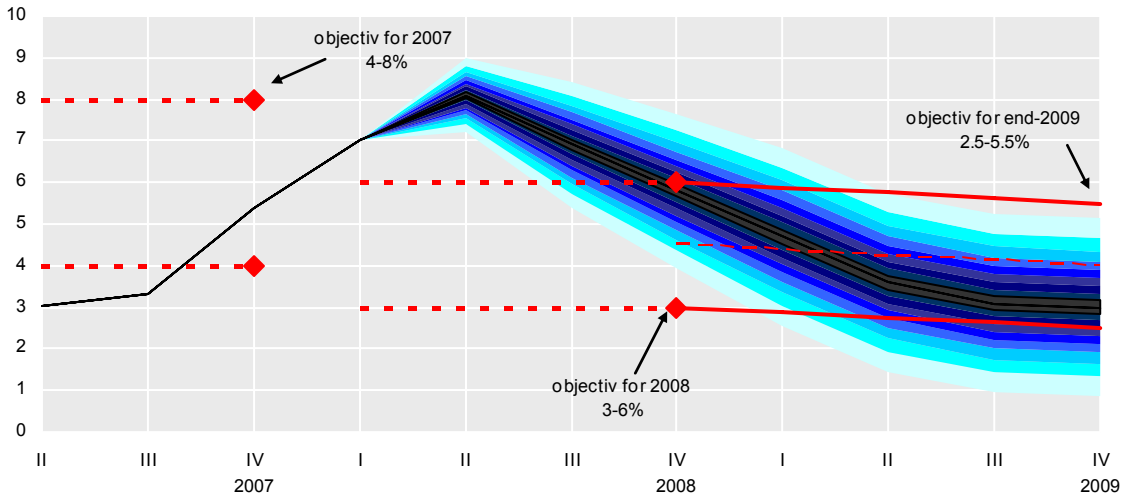
The central projection places core inflation for 2008 at 5.8%, within the 3.9 – 7.7% range.

After rising in Q2, core inflation (both quarterly and year-on-year) is expected to decline in the second half of the year, as food price growth slackens relative to Q2[20] and the cost effect of the electricity price hike wears off. Monetary policy will continue to be tight, leading to exchange rate appreciation (and widening of the appreciation gap) and a further slowdown in lending activity. Inflation expectations, likely to decline in the second half of the year as year-on-year headline inflation starts to subside, will represent yet another factor of disinflation.[21]

Chart IV.1.1

Core inflation projection

(y-o-y rates, in %)



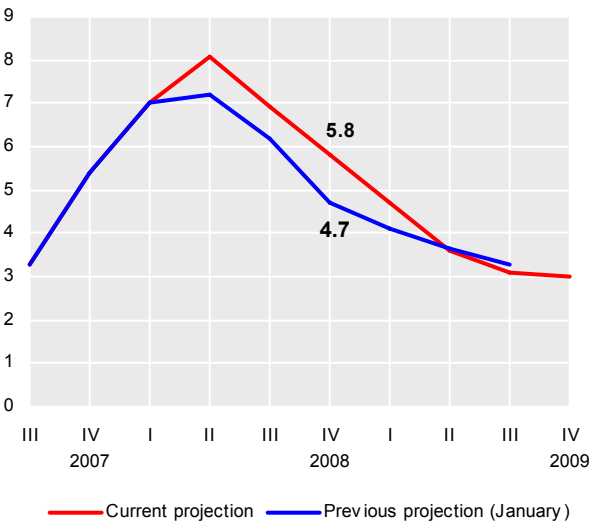
The fan chart depicts the probability of various core inflation outcomes in the next seven quarters. Central projection is within the darkest central band and the probability that core inflation would lie within it is 10%. Outturns of inflation are also expected to lie somewhere within the entire fan chart with probability of 90%. In other words, the probability that core inflation in the next seven quarters will lie outside the band in the chart is 10%.

The expected strong decline in year-on-year core inflation in the second half of the year will partly originate from the high base effect, i.e. high H2 2007 quarterly rates of core inflation. Overall, we expect core inflation for 2008 to fall slightly short of the upper extreme, but the risk remains that it may yet overshoot the upper bound of the target range. In any case, in H1 2009 core inflation ought to settle within the target range.

[20] The projection assumes a moderate rise in agricultural and processed food products in H2 2008.
[21] Inflation expectations are broadly consistent with movements in headline inflation.

The current projection is consistent with a tight monetary policy for the rest of the year, aiming to achieve the objectives set for both this and the next year.

Chart IV.1.2
Current and previous projection of core inflation
(y-o-y rates, in %)



Headline Inflation Projection

The central projection places retail price growth for 2008 at around 8.6%. It is based on the central projection of core inflation (5.8%), assuming a 10.5% increase in regulated prices (petroleum products included) and a 21% rise in prices of agricultural products. There are, however, significant risk factors that are beyond the National Bank's control which could pose a threat to the achievement of both headline and core inflation projections.

Risks to the Projection

The risks to the new projection are extremely high, both to the upside and to the downside. The most significant is the political risk, followed by the risks relating to prices of agricultural products and world oil prices.

The speed of setting up the new Government and the policy course it will take will bear strongly on exchange rate movements in the period ahead. Political uncertainties, coupled with a number of other factors, triggered a rise in risk premiums and generated strong depreciation pressures which weakened only after the NBS had tightened its grip on the monetary policy. In case of a prolonged standstill in foreign investment, the resulting longer-term depreciation pressures would spur on inflation. Otherwise, inflationary pressures arising from changes in the exchange rate would be much milder.

Prices of agricultural products are an important factor of inflation which is mostly beyond the National Bank's control. Adverse weather conditions last summer triggered a wave of price increases. Prices of agricultural products rose first, triggering a rise in prices of processed food products and, through heightened inflation expectations, an increase in prices of other products as well. Another year of drought would mean another round of price increases which, regardless of the measures to be taken by the National Bank, would push end-year core inflation above the upper bound of the target range. A good agricultural year, however, could mean lower prices of agricultural products and represent a welcome contribution to efforts to curb inflation.

High growth in world oil prices in 2007, giving rise to powerful inflationary pressures in the world at large, did not spare Serbia either. Forecasts of future oil price movements vary: some analysis argue that, as the oil price is excessively high at the moment, we can expect a decline in the period ahead, while the pessimists expect the growth trend to continue unabated.

Any significant deviation from the assumptions underlying the projection would lead to deviations of both core inflation and the monetary policy stance from their respective projections.

Comparison with the January Projection

The new inflation projection has been revised slightly upwards relative to the January projection published in the last *Inflation Report.* Although Q1 core inflation was consistent with the January projection, the unexpectedly high growth in world oil prices, prolonged political uncertainties and the pre-electoral increase in public sector wages induced an upward revision in the projection for the remaining months of the year. Thus, in the current projection, end-2008 core inflation is 1.1 percentage points higher

than specified in January. Higher inflationary pressures have also resulted in a more restrictive monetary policy stance than assumed in the January projection.

Key Policy Rate Outlook

Taking into account the current projection and all underlying risks, the Monetary Policy Committee of the National Bank of Serbia holds that the key policy rate is more likely to increase in the period ahead than to fall or remain at its present level (15.25%).

Further monetary tightening will be necessary in order to rein in inflation pressures stemming from high inflation expectations, public sector wage growth and rise in world oil prices, against a backdrop of substantial political uncertainty.

The key policy rate projection has been revised upwards from January primarily on account of rising inflationary pressures generated by world oil prices, extended political uncertainty and the April rise in public sector wages. There is also much more uncertainty regarding future MPC decisions than in January, which can largely be attributed to increased political risks.

In the period ahead, the decisions of the MPC will aim to achieve both current-year objective and the objective set for the next year. The MPC members are aware of the risk of overshooting the target range, but also of the fact that alleviation of this risk might require excessive restrictiveness which may endanger the next year's targets and cause unnecessary macroeconomic fluctuations. Therefore, MPC decisions in the period ahead will be increasingly focussed on the objectives set for 2009.

Table A

Indicators of external position of Serbia

	2001	2002	2003	2004	2005	2006	2007	Q1 2008
EXTERNAL LIQUIDITY INDICATORS (in %)								
Forex reserves/imports of goods and services								
(in months)	3.1	4.5	5.3	4.5	5.9	9.6	8.3	8.0
Forex reserves/short-term debt	114.1	223.5	336.3	424.9	385.9	717.3	729.7	892.0
Forex reserves /GDP	9.9	14.4	17.5	17.3	22.2	39.1	34.9	34.6
Debt repayment/GDP	0.8	1.3	2.0	3.8	4.5	6.6	9.8	18.0
Debt repayment/exports of goods and services	3.7	7.1	9.1	16.8	17.9	23.5	33.7	50.7
EXTERNAL SOLVENCY INDICATORS (in %)								
External debt/GDP	94.2	70.9	66.7	57.5	59.1	64.5	64.5	65.1
Short-term debt/GDP	8.7	6.4	5.2	4.1	5.8	5.4	4.8	3.9
External debt/exports of goods and services	456.9	379.2	343.0	253.6	234.2	228.1	222.5	220.2
FINANCIAL RISK EXPOSURE INDICATORS (in %)								
Forex reserves/M1	135.9	143.3	195.3	221.0	291.1	356.5	306.9	346.1
Forex reserves/reserve money	136.3	132.0	168.0	166.2	170.3	177.8	173.9	185.8
OPENNESS OF ECONOMY (EXPORTS + IMPORTS)/GDP	58.7	56.9	61.6	71.0	70.7	78.4	79.7	88.0
CREDIT RATING				November Standard & Poor's: B+	July Standard & Poor's and Fitch: BB-	February Standard & Poor's: BB- /positive; Fitch: BB- /stable	June Standard & Poor's: BB- /stable; Fitch: BB- /stable	
MEMORANDUM:							**(in USD million)**	
GDP (in USD million)	11,812	15,841	20,345	24,517	26,193	30,412	40,697	10,951
External debt	11,125	11,230	13,575	14,099	15,467	19,606	26,236	28,356
External debt servicing	91	211	397	935	1,183	2,021	3,977	1,972
Central bank foreign exchange reserves	1,169	2,280	3,550	4,245	5,843	11,888	14,216	15,084
Short-term debt	1,026	1,020	1,056	999	1,514	1,657	1,948	1,691
Current account balance	-285	-1,247	-1,420	-2,869	-2,224	-3,966	-6,889	-1,754

Methodological notes:

Foreign exchange reserves/imports of goods and services (in months) - ratio of foreign exchange reserves at end-period to average monthly imports of goods and services.

Foreign exchange reserves/short-term debt (in %) - ratio of foreign exchange reserves to short-term debt at end-period.

Foreign exchange reserves/GDP (in %) - ratio of foreign exchange reserves at end-period to GDP.

Debt repayment/GDP (in %) - ratio of debt repayment to GDP during period under review.

Debt repayment/exports (in %) - ratio of debt repayment to exports of goods and services during period under review.

Debt/GDP (in %) - ratio of outstanding debt at end-period to GDP.

Debt/exports (in %) - ratio of outstanding debt at end-period to annual value of exports of goods and services.

Foreign exchange reserves/M1 (in %) - ratio of foreign exchange reserves to money supply at end-period.

(Exports + imports)/GDP (in %) - ratio of value of exports and imports of goods and services to GDP during period under review.

Notes:

1. As of October 2006, the IMF publication "International Financial Statistics" features a page on monetary statistics of the Republic of Serbia. This required the NBS to bring its statistical reports in compliance with international statistical standards and methodology which apply to all IMF member countries. We have therefore adjusted the financial risk exposure indicator.

2. Trade with Montenegro is registered within relevant transactions as of 2003.

3. Foreign debt repayment does not include early debt repayment.

4. GDP for 2007 as estimated by the National Bank of Serbia.

Table B

Key macroeconomic indicators

	2001	2002	2003	2004	2005	2006	2007	Q1 2008
Real GDP growth (in %)	4.8	4.2	2.5	8.4	6.2	5.7	7.5	7,0[1]
Retail prices (in %, relative to the same month a year earlier)	40.7	14.8	7.8	13.7	17.7	6.6	10.1	11.8
Core inflation (in %, relative to the same month a year earlier)	20.5	4.4	6.1	11.0	14.5	5.9	5.4	7.0
NBS foreign exchange reserves (in USD million)	1,169.1	2,280.1	3,550.1	4,244.5	5,842.8	11,887.5	14,215.8	15,084.1
Exports (in USD million)[2]	2,435	2,961	4,358	5,559	6,606	8,763	11,798	3,532
- growth rate in % compared to a year earlier	17.9	21.6	47.2	27.6	18.8	32.7	34.6	41.7
Imports (in USD million)[2]	-4,499	-6,059	-8,177	-11,853	-11,902	-15,086	-20,647	-6,192
- growth rate in % compared to a year earlier	28.3	34.7	35.0	45.0	0.4	26.8	36.9	38.2
Current account balance[3] (in USD million)	-196	-1,267	-1,795	-3,281	-2,194	-2,986	-5,286	-1,754
as % of GDP	-1.7	-8.0	-8.8	-13.4	-8.4	-9.8	-13.0	-16.0
Unemployment, official data (in %)[4]	21,8	24,5	26,1	23,9	25.3	26.6	24.0	24.2
Unemployment according to the Survey (in %)[5]	12.2	13.3	14.6	18.5	20.8	20.9	18.1	/
Wages (average for the period, in EUR)	89.9	151.7	176.7	194.4	210.4	260.0	347.0	365.0
RS budget deficit/surplus (in % of GDP)[6]	-0.2	-4.3	-1.4	-0.1	1.5	1.4	1.3	...
Consolidated fiscal result (in % of GDP)								
- Ministry of Finance methodology	-0.5	-1.9	-2.0	0.9	1.2	-1.1	-1.4	1.4
- IMF methodology	0.0	-2.8	-2.6	0.6	0.7	-1.9	-2.0	0.5
RS public debt (external + internal, in % of GDP)[6]	106.5	73.7	67.9	53.7	46.2	38.8	30.5	...
RSD/USD exchange rate (average, in the period)	66.68	64.46	57.56	58.39	66.70	67.10	58.44	55.11
RSD/USD exchange rate (end of period)	67.67	58.98	54.64	57.94	72.22	59.98	53.73	52.13
RSD/EUR exchange rate (average, in the period)	59.78	60.68	65.05	72.57	82.92	84.16	79.98	82.65
RSD/EUR exchange rate (end of period)	59.71	61.52	68.31	78.89	85.50	79.00	79.24	82.31
Memorandum								
GDP (in USD million)	11,812	15,841	20,345	24,517	26,193	30,412	40,697	10.951[1]

[1] NBS estimate.

[2] Trade with Montenegro is registered within relevant transactions as of 2003.

[3] In accordance with BPM 5, a portion of estimated remittances was transferred from the financial account to the current account.

[4] Source: Serbian Bureau of Statistics; before 2003, unemployment rate was calculated based on the number of job seekers, while as of 2004 it is calculated based on the number of unemployed persons.

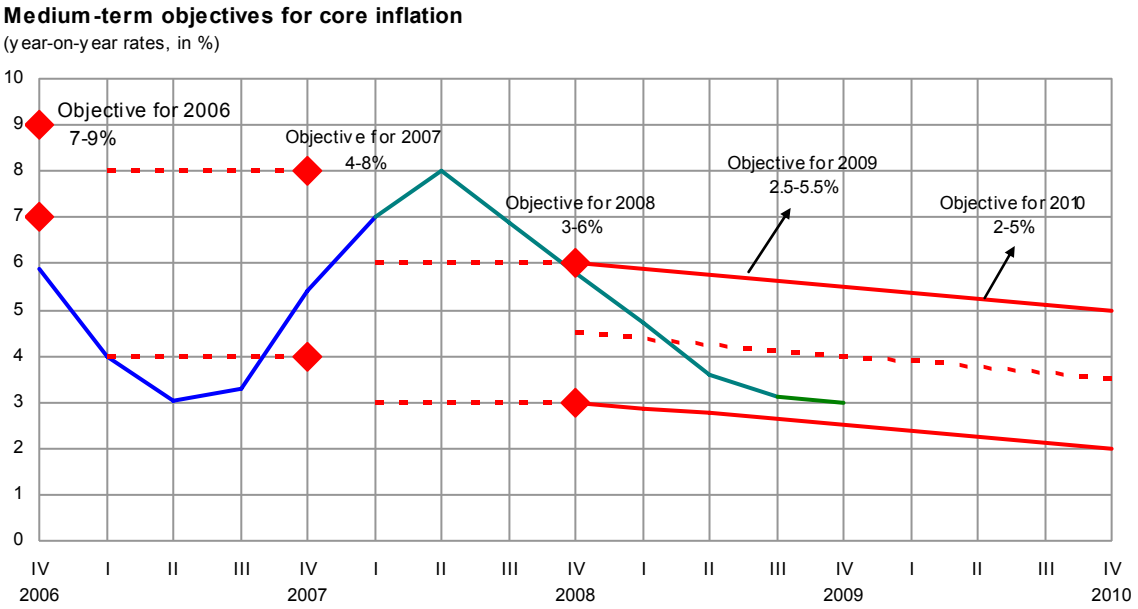
[5] Source: Labour Force Survey, Serbian Bureau of Statistics.

[6] Source: RS Ministry of Finance Bulletin.

Appendix 1. MEMORANDUM OF THE NATIONAL BANK OF SERBIA ON SETTING INFLATION OBJECTIVES FOR THE YEARS 2009 AND 2010

In line with the principal objective of the central bank to achieve and preserve price stability, as defined in the Law on the National Bank of Serbia, and with respect to the Monetary Policy Framework adopted in August 2006 in which the NBS aims at specific inflation objectives, the NBS Monetary Policy Committee (MPC) has set the core[22] inflation objectives for the years 2009 and 2010 as a linearly declining band of core RPI year-on-year inflation rates with the following parameters (see also the chart):

- 2009 starting level: a range of 3.0 % - 6.0 % with a midpoint of 4.5 %,
- 2009 end level: a range of 2.5 % - 5.5 % with a midpoint of 4.0 %,
- 2010 end level: a range of 2.0 % - 5.0 % with a midpoint of 3.5 %.



The Monetary Policy Committee reiterates the main principles of the New Monetary Policy Framework:

- The declared inflation objectives are the only numerical guidelines for the monetary policy of the NBS.
- The NBS achieves the inflation objectives by changing interest rate on its 2-week (2W) repo operations as its key policy interest rate and the main instrument. Other instruments, including foreign exchange interventions, have a supportive role only.
- The NBS pursues a soft-managed floating foreign exchange regime, retaining at the same time the right to intervene in the foreign exchange market in the event of excessive daily exchange rate fluctuations, threats to financial and price stability and risks to the adequacy of the level of its foreign exchange reserves;
- The Monetary Policy Committee of the NBS takes decisions on changes in the key policy rate at pre-announced dates based on economic and inflation outlook prepared by its staff.
- The MPC informs the public regularly on the progress in achievement of its objectives and steps to be taken in that respect in future.

[22] Core inflation is defined as retail price inflation under the influence of NBS instruments and refers to changes in the retail price index that are not caused by adjustments in regulated prices and tariffs or changes in prices of agricultural goods as specified in the appendix to the Memorandum of the NBS "On the Principles of the New Monetary Policy Framework" from 30 August 2006.

The MPC emphasizes the importance of setting inflation objectives well in advance. The MPC has decided to set the core inflation objectives for the year 2009 and beyond at this moment in order to help anchor inflation expectations and provide additional support to the creation of low-inflation environment.

The new inflation objectives will have an increasing bearing on current policy actions. The MPC assesses that its policy decisions (such as changes in the key policy rate) have the maximum impact on year-on-year inflation in between six and 18 months, which requires that a medium-term perspective of inflation objectives goes beyond 2008 and 2009.

The levels of the 2009-2010 objectives are gradually declining, which reflects a number of policy and macroeconomic considerations:

- The inflation objectives reflect the desire to achieve price stability by a gradual disinflation, without disrupting other macroeconomic processes in the economy. The success in reducing inflation in previous years has paved the way for lower inflation objectives and continued disinflation process.
- The trajectory of the 2009-2010 objectives gradually declines from the 2008 level to allow for smooth adjustments in relative prices expected to take place during the process of restructuring of the Serbian economy.
- The MPC has also taken into account the assessment of long-term macroeconomic trends so as to minimize the pressure on the nominal exchange rate and thereby reduce risks of possible adverse short-term implications for competitiveness of the economy.

There are several important changes to the format of inflation objectives compared to previous years. In summary, these changes should increase monetary policy transparency and help better anchor inflation expectations:

- **The objective is defined as a band with a midpoint.** The band indicates the MPC's comfort zone providing for the fact that there will be many small transitory shocks causing short-term volatility of inflation, but not requiring a monetary policy response. The midpoint reflects the MPC's preference for having inflation close to the center of the band.
- **The objective is continuous, i.e. the midpoint and bands are defined for every month of the year.** The continuity expresses the MPC's vigilance in watching inflation at all times, not only at a particular point in time. It also helps anchor monetary policy decisions in situations when a large shock pushes inflation temporarily away from the objective.
- **The objective is defined for several years ahead.** This represents the MPC's focus on providing a medium-term stability of inflation. It also reflects the MPC's assessment that the transmission of the monetary policy instruments to inflation is most effective in between six and 18 months.

The new format of inflation objectives puts additional pressure on the transparency of the NBS policies. In particular, there may be many situations in which large and unexpected macroeconomic shocks (such as those to agriculture or oil prices) will push inflation away from the target range. In these situations, it may not always be possible or desirable to bring inflation back to the objective immediately, given the lags in the transmission mechanism and concerns for the overall macroeconomic and financial stability. In such cases, the MPC will provide a clear explanation to the public about the reasons for missing the inflation objective, and actions and preferred time horizon for bringing inflation back to the objective.

The MPC reiterates its desire to work with the government of Serbia on defining headline (instead of core) inflation objectives in near future. It will also seek a broader consensus on the level of medium-term price stability and inflation targeting policies. Setting of the core inflation objective for the period of 2009-2010 should facilitate this process. Although the format of inflation objectives may be modified and a switch to CPI (instead of RPI) is also envisaged, the MPC will not relax its commitment to low inflation implied by the core inflation objectives for 2009-2010 declared in this memorandum.

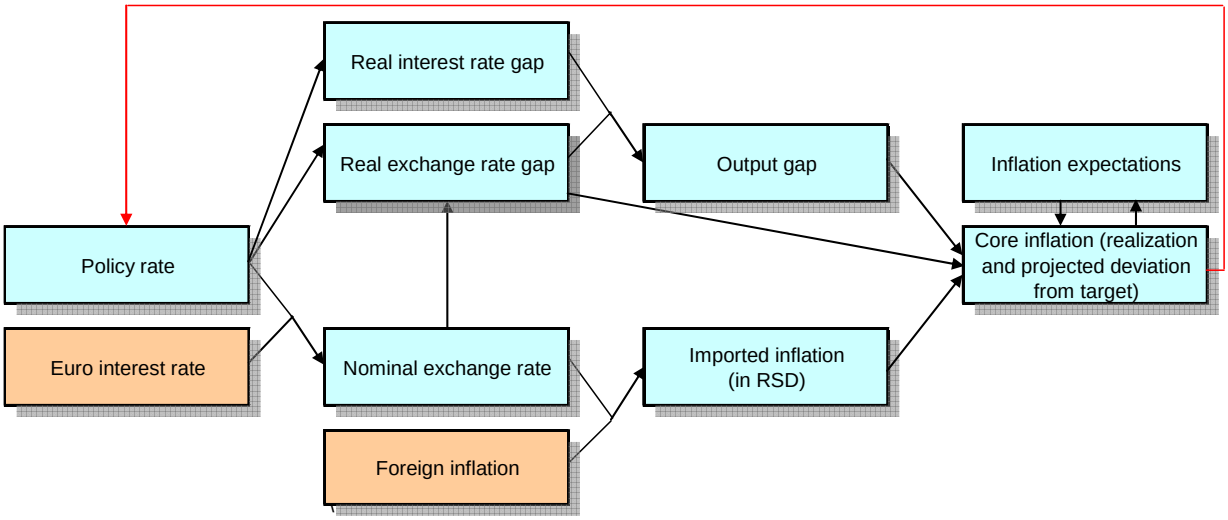
Appendix 2. Medium-term Core Inflation Projection Model

The core inflation projection is based on a quarterly model of the mechanism of monetary transmission through the key policy rate. The model also serves as a supporting instrument for projecting the key policy rate trajectory consistent with achieving the set inflation objective and is used in the process of monetary policy decision-making.

The centre of the model is the transmission mechanism of the key policy rate through the nominal channel (exchange rate) and the real channel (real exchange rate gap and output gap). Based on the expected (projected) deviation of core inflation from the objective set, the National Bank of Serbia adjusts the key policy rate, to affect inflation through both nominal and real channels.

Relative to the model presented in the Inflation Report for Q1 2007, this model is expanded to include the output gap, as a measure of demand influenced by monetary policy makers through the real exchange rate and the real interest rate.

Simplified pattern of the transmission mechanism in the medium-term core inflation projection model



The model consists of four basic equations – inflation equation, exchange rate equation, key policy rate equation and output gap equation – and a number of supporting equations and identities. The main equations are:

1) Core inflation

$$\textbf{core} = a_{11}\cdot\textbf{core(-1)} + a_{12}\cdot\textbf{infl expect} + (1-a_{11}-a_{12})\cdot(\textbf{imp infl} - \textbf{real ex rate trend}) + a_{13}\cdot\textbf{real ex rate gap(-1)} + a_{14}\cdot\textbf{output gap(-1)}$$

2) Exchange rate – uncovered interest rate parity

$$\textbf{ex rate} = \textbf{exp ex rate(+1)} + (-\textbf{int} + \textbf{euro int} + \textbf{prem})$$

3) Key policy rate

$$\textbf{int} = a_{31}\cdot\textbf{int(-1)} + (1-a_{31})\cdot[\textbf{neutr int} + a_{32}\cdot\textbf{expected infl deviation from target}]$$

4) Output gap –demand side

$$\textbf{output gap} = a_{41}\cdot\textbf{output gap(-1)} + a_{42}\cdot[a_{43}\cdot\textbf{real ex rate gap} + (1-a_{43})\cdot\textbf{real int gap}]$$

1) Inflation – Phillips' curve

This equation presents movements in core inflation with reference to lagged core inflation movements, inflation expectations, movements in import prices, real effective dinar exchange rate gap and output gap:

$$\textbf{core} = a_{11}\cdot\textbf{core(-1)} + a_{12}\cdot\textbf{infl exp} + (1-a_{11}-a_{12})\cdot\textbf{(imp infl – real ex rate trend)} + a_{13}\cdot\textbf{real ex rate gap(-1)} + a_{14}\cdot\textbf{output gap(-1)}$$

The equation comprises the following elements:

- **Inflation lag (core(-1))** reflects a degree of inertia in inflation movements. When significant changes to factors influencing core inflation occur, their effect on inflation is felt only after a time lag, due to inertia in the behaviour of business entities;
- **Inflation expectations (infl exp)** are the expectations of business entities regarding price movements in the period ahead and can have a major effect on actual inflation outturns. High inflation expectations can trigger a rise in inflation, even if no real factors act to prompt such a rise;
- **Imported inflation (imp infl)** depends on exchange rate and foreign inflation movements. As the exchange rate customarily fluctuates a great deal more than foreign inflation, its impact on movements in imported inflation are predominant;
- **Real exchange rate trend (real ex rate trend)** indicates the average long-term tendency in real exchange rate movements. In other words, it shows how much faster domestic prices will increase over the long term than foreign prices (expressed in the same currency). As productivity growth in Serbia is expected to be faster than abroad, domestic prices ought to rise more quickly than foreign prices, if expressed in the same currency (real appreciation);
- **Real exchange rate gap lag (real ex rate gap(-1)),** i.e. the deviation of the real exchange rate from its trend, represents a measure of excessive depreciation or appreciation. The real exchange rate serves as an approximation of the real marginal cost, i.e. the share of the cost (imported component) in income (domestic price). In case of the appreciation gap, this means that the marginal cost will be relatively low compared to what would be expected based on the long-term trend of the real exchange rate. This leaves scope for the marginal cost to increase in the period ahead through a slower increase in domestic relative to imported prices (exchange rate + foreign inflation) adjusted for the real exchange rate trend. In other words, the appreciation gap has a disinflationary effect. As the real exchange rate is at the same time a factor of demand for domestic products, i.e. the competitiveness of the domestic economy, if the appreciation gap remains open it may, over the longer run, bring about a slowdown in economic activity (see: output gap equation).
- **Output gap lag (output gap(-1))** is a measure of demand defined as the difference between the actual output and its equilibrium level (hereinafter: trend), i.e. such output level that can be achieved with the existing labour force, capital and productivity without placing upward pressure on prices. By contrast to the trend which is defined by long-term factors, the gap is determined by shorter-term factors such as, for instance, movement in wages, lending activity or monetary policy stance. A positive output gap indicates the presence of demand-side inflationary pressures and vice versa.

2) Exchange rate – uncovered interest rate parity

The uncovered interest rate parity (UIRP) equation shows that yields on two currencies, adjusted by the risk premium, have the tendency to even out. Assuming zero risk premium for the dinar and the euro, the dinar exchange rate is expected to depreciate by 11.25% against the euro over the next year, which is the level of depreciation needed to enable yields on these two currencies to level off as there is currently 11.25pp difference between the two relevant key policy rates (15.25% on dinars and 4% on euros). This calculation, however, disregards the fact that foreign exchange markets demand additional yield, the so-called risk premium, on currencies that carry a higher level of risk. The risk premium makes investment in dinars equally attractive as investment in euros. Therefore, in order to obtain the expected depreciation, we would need to adjust the difference between two interest rates by the risk premium:

expected depreciation = int – euro int – prem

As the expected depreciation equals the difference between the expected exchange rate in the period ahead **(exp ex rate(+1))** and the current exchange rate **(ex rate),** a rearrangement of the above equation gives the UIRP form used in the model:

ex rate = exp ex rate(+1) + (-int + euro int + prem),

which comprises the following elements:

- **Interest rates (int** and **euro int)**. In the model, we use the market counterparts of key policy rates in Serbia and the EU: two-week BELIBOR (for dinars) and one-week EURIBOR (for the euro).
- **Expected exchange rate** (**exp ex rate(+1)**) shows expectations of business entities regarding exchange rate movements in the period ahead.
- **Risk premium (prem)** depends primarily on the attitude of foreign investors.

3) Nominal interest rate – monetary policy reaction function

This equation defines the main elements on which decisions on the key policy rate level are based and is essential to economic stability. The monetary policy rule – deviation of the outlook for inflation from the target – is the key element behind the decision to change the key policy rate. When the outlook for inflation is below the target, monetary policy needs to be expansionary and the key policy rate kept below its neutral level. The opposite is true when the outlook for inflation is above the target. However, as, in order to avoid instability, monetary policy should not make any sudden leaps, the equation also includes the lagged policy rate to ensure stability in its movements:

$$\text{int} = a_{31}\cdot\text{int}(-1) + (1-a_{31})\cdot[\text{neutr int} + a_{32}\cdot\text{expected infl deviation from target}]$$

The equation comprises the following elements:

- **Policy rate lag (int (-1))** provides for a certain level of inertia, i.e. stability, in the key policy rate movements. The coefficient preceding the lagged policy rate ranges between 0 and 1. This coefficient indicates how likely it is that monetary authorities will make sudden changes to the key policy rate;
- **Neutral policy rate (neutr int)** represents the policy rate level that has a neutral impact on inflation. In other words, when the key policy rate is neutral, monetary policy is neither restrictive nor expansionary;
- **Monetary policy rule (expected inflation deviation from target)** defines the desired position of the key policy rate relative to the neutral rate. When forecast inflation is below the target, the key policy rate should be below its neutral level, and vice versa.

4) Output gap –demand side

Monetary policy makers affect fluctuations in demand for domestic products and services, i.e. output gap, through the real exchange rate and the real interest rate. The real appreciation of the exchange rate (relative to its trend) means a relative increase in prices of domestic relative to imported goods, leading to a drop in demand for the former. The opposite is true in case of real depreciation. An increase in the real interest rate (nominal interest rate minus inflation expectations) relative to its trend leads to an increase in savings and dampens demand for credits, inducing a slump in demand for goods and services. The equation shows that a restrictive monetary policy stance, i.e. appreciation gap of the real exchange rate and a positive real interest rate gap, results in a negative output gap and vice versa.

$$\text{output gap} = a_{41}\cdot\text{output gap}(-1) + a_{42}\cdot[a_{43}\cdot\text{real ex rate gap} + (1-a_{43})\cdot\text{real int gap}]$$

- **Output gap lag (output gap (-1))** defines inertia in output gap movements. Changes in the monetary policy stance do not reflect on the output gap right away, but rather gradually.
- **Real interest rate gap (real int gap)** represents the deviation of the real interest rate from its equilibrium level, which is most frequently defined as the interest rate level consistent with the equilibrium level of output and stable inflation. If the real interest rate is above its equilibrium level (positive gap), disinflation and a slowdown in output will ensue, and vice versa.

* * *

Projections of other relevant factors are either based on supporting model equations or adopted assumptions. In addition to the above four basic equations, the model also contains a significant number of supporting equations describing movements in factors such as inflation expectations, expected exchange rate, risk premium and trends in output, real exchange rate and the real key policy rate.

Assumptions of future movements in external factors – world oil prices, foreign inflation, ECB policy rate, USD/EUR exchange rate – are based on the expectations of reputed economists, while assumptions of movements in regulated prices (excluding petroleum products) and prices of agricultural products are made by the NBS with reference to government plans (state government and local governments) and staff assessments.

Based on different assumptions, several different scenarios are developed using this model. The scenario which is deemed most likely to materialize is then selected as the baseline scenario and its results are presented in the Inflation Report. Alternative scenarios serve to point to a possible course of action for monetary policy makers in the event less likely assumptions should materialize.

Appendix 3. Changes in Reserve Requirements and Prudential Measures Aimed at Curbing Credit Growth

A) Changes in Reserve Requirements

Chronological overview of changes in reserve requirements and prudential measures aimed at curbing credit growth is now available on the NBS website Publications – Inflation Report.

No.	Legal ref.	Base	Ratio	Interest on allocated required reserves	Initial calculation (dd/mm/yyyy)	Expected effects
1.	35/08	Dinar base – unchanged Foreign currency base – unchanged *10% of required reserves calculated in euros is allocated in dinars. All days in the prior calendar month are included in the calculation of average daily book balance in respect of the reserving base. All days in the maintenance period are included in the calculation of average daily balance of allocated required reserves. Banks calculate required reserves on the 17th day of the month, and reserve maintenance period lasts from the 18th of the month until the 17th of the following month. Interest is calculated and paid and/or charged in the currency in which required reserves are allocated. Interest on the average daily balance of allocated dinar required reserves is calculated and paid on the second business day following the expiration of the maintenance period.*	Unchanged Unchanged	Remunerated Unremunerated	17/05/2008	RSD 28.2 billion (10% of the dinar equivalent of required reserves calculated in euros) allocated to gyro-accounts

B) Prudential Measures Aimed at Curbing Credit Growth

No.	Legal ref.	Regulation	Description	Previously
1.	35/08	Decision on Reconciliation of Gross Household Lending against Share Capital of Banks	Pursuant to the amendments, gross household lending does not include household dinar loans with no foreign currency clause intended for direct investment in agricultural production and dinar loans with no foreign currency clause approved to entrepreneurs for direct investment in the production of goods or services within their line of business.	Effective as of 30 June 2008
2.	35/08	Decision on Capital Adequacy of Banks	Pursuant to the amendments, special reserves for estimated losses are excluded, as a deductible, from the calculation of foreign currency position.	Ceases to be valid as of 1 July 2008, when the Decision on Capital Adequacy of Banks ("RS Official Gazette" No. 129/07) enters into force
3.	35/08	Decision on the Classification of Bank Balance Sheet Assets and Off-Balance Sheet Items	Pursuant to the amendments, receivables to be classified in the worst category (E) are receivables on loans with paid in amount of deposit or downpayment of less than 30% (previously 20%) of the value of the loan, but excluding housing loans, dinar loans with no foreign currency clause and obligations under credit cards.	Ceases to be valid as of 1 July 2008, when the Decision on Bank Balance Sheet Assets and Off-Balance Sheet Items ("RS Official Gazette" No. 129/07) enters into force

List of Tables and Charts

Tables

Charts

Source of data: National Bank of Serbia and Serbian Bureau of Statistics, unless otherwise specified.

Meetings of the Monetary Policy Committee of the National Bank of Serbia and key policy rate changes in 2007 and 2008

Date	Key policy rate (annual level, in %)	Change (in basis points)
MPC meetings held		
2007		
10 January	14.00	0
29 January	13.00	-100
9 February	13.00	0
28 February	11.50	-150
13 March	11.50	0
28 March	10.50	-100
18 April	10.50	0
27 April	10.00	-50
15 May	10.00	0
29 May	9.50	-50
11 June	9.50	0
28 June	9.50	0
12 July	9.50	0
27 July	9.50	0
15 August	9.50	0
28 August	9.75	+25
11 September	9.75	0
1 October	9.75	0
10 October	9.75	0
29 October	9.50	-25
12 November	9.50	0
28 November	9.50	0
10 December	9.50	0
27 December	10.00	+50
2008		
17 January	10,00	0
6 February	10.75	+75
18 February	10.75	0
28 February	11.50	+75
13 March	14.50	+300
28 March	14.50	0
17 April	14.50	0
24 April	15.25	+75
Scheduled MPC meetings in 2008		
15 May		
29 May		
12 June		
30 June		
17 July		
31 July		
14 August		
28 August		
16 September		
30 September		
16 October		
30 October		
14 November		
28 November		
16 December		
30 December		

Press Releases from the NBS Monetary Policy Committee Meetings

Press release from the MPC meeting held on 18 February 2008

Following discussion of current economic developments, the NBS Monetary Policy Committee decided to keep the key policy rate unchanged at the level of 10.75%. As the January core inflation outturn of 0.3% was lower than expected, and the key policy rate was last revised in early February, the MPC assessed that the impact of tighter monetary policy stance on core inflation movements was insufficient to justify any further changes.

Today, the MPC also discussed and reviewed quarterly Inflation Report which points to a pick-up in underlying inflationary pressures in early 2008 due to the acceleration in inflation in the latter half of 2007. Inflation movements in the first quarter of the year will be determined by high inflation expectations, fiscal expansion, surge in world inflation, increase in prices of energy and excise products, as well as by somewhat stronger fluctuations in the exchange rate of the dinar.

The MPC will continue to monitor economic flows and will tighten its monetary policy in keeping with the core inflation objective of 3-6% year-on-year at end-2008.

Press release from the MPC meeting held on 28 February 2008

After reviewing current economic developments, the NBS Monetary Policy Committee announced today its decision to raise the key policy rate by 0.75 percentage points to 11.50 percent.

The NBS Governor Radovan Jelasic intends to further elaborate on the reasons for such decision in a press conference scheduled for 10 a.m. on Friday, 29 February.

Press release from the MPC meeting held on 13 March 2008

After reviewing current economic developments, the NBS Monetary Policy Committee decided today to raise the key policy rate by 3 percentage points, from the present 11.5 to 14.5%.

The MPC assessed that tightening of the monetary grip is unavoidable and in keeping with the end-2008 core inflation objective of 3-6% year-on-year.

The above decision reflects concerns over the worsened macroeconomic performance and strengthened impact of non-economic and external factors. The MPC also noted an evident increase in the country risk premium, decline in foreign investment, and narrowing of the domestic capital market amid withdrawal of investors, plus significantly heightened inflation expectations that have fed through into lower trading volumes in the foreign exchange market, and created additional depreciation pressures.

In addition to the above reasons for urgent monetary policy tightening, the MPC also warned of the factors that could give rise to inflationary pressures in the coming period, such as the crude oil price growth which is approaching the most pessimistic forecasts, and the threat of increased fiscal spending in the pre-election period.

The MPC will continue to monitor economic flows and will proactively tighten its monetary policy to ensure achievement of the core inflation objective.

The next MPC meeting is scheduled for 28 March 2008.

Press release from the MPC meeting held on 31 March 2008

After reviewing current economic developments, the NBS Monetary Policy Committee decided today to keep the key policy rate on hold at 14.50 percent.

The MPC has also taken several monetary policy related decisions, and the Governor is expected to elaborate on them further in a press conference scheduled for this afternoon.

Press release from the MPC meeting held on 17 April 2008

Having concluded its assessment of current economic conditions, the MPC decided in its meeting today to keep the key policy rate unchanged at 14.5 per cent.

In its next meeting scheduled for 24 April 2008, the MPC plans to evaluate the impact of recent monetary policy and banking supervision measures and to discuss medium term outlook for the economy. On that occasion, the MPC will also reassess the degree of monetary policy tightness required to attain the end-2008 core inflation objective of 3-6% year-on-year.

Press release from the MPC meeting held on 24 April 2008

Having considered the latest economic developments, the National Bank of Serbia's Monetary Policy Committee decided today to raise the key policy rate by 0.75 percentage points to 15.25%.

Governor Jelašić will elaborate on the reasons for monetary policy tightening in a press conference.