# quarterly monitor

## OF ECONOMIC TRENDS AND POLICIES IN SERBIA

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# Analytical and Notation Conventions

**Values**

The data is shown in the currency we believe best reflects relevant economic processes, regardless of the currency in which it is published or is in official use in the cited transactions. For example, the balance of payments is shown in euros as most flows in Serbia's international trade are valued in euros and because this comes closest to the measurement of real flows. Banks' credit activity is also shown in euros as it is thus indexed in the majority of cases, but is shown in dinars in analyses of monetary flows as the aim is to describe the generation of dinar aggregates.

**Definitions of Aggregates and Indices**

When local use and international conventions differ, we attempt to use international definitions wherever applicable to facilitate comparison.

**Flows** – In monetary accounts, the original data is stocks. Flows are taken as balance changes between two periods.

**New Economy** – Enterprises formed through private initiative

**Traditional Economy** - Enterprises that are/were state-owned or public companies

**Y-O-Y Indices** – We are more inclined to use this index (growth rate) than is the case in local practice. Comparison with the same period in the previous year informs about the process absorbing the effect of all seasonal variations which occurred over the previous year, especially in the observed seasons, and raises the change measure to the annual level.

**Notations**

**CPI** – Consumer Price Index

**Cumulative** – Refers to incremental changes of an aggregate in several periods within one year, from the beginning of that year.

**H** – Primary money (high-powered money)

**IPPI** – Industrial Producers Price Index

**M1** – Cash in circulation and dinar sight deposits

M2 in dinars – In accordance with IMF definition: cash in circulation, sight and time deposits in both dinars and foreign currency. The same as M2 in the accepted methodology in Serbia

**M2** – Cash in circulation, sight and time deposits in both dinars and foreign currency (in accordance with the IMF definition; the same as M3 in accepted methodology in Serbia)

**NDA** – Net Domestic Assets

**NFA** – Net Foreign Assets

**RPI** – Retail Price Index

**y-o-y** - Index or growth relative to the same period of the previous year

**Abbreviations**

**CEFTA** – Central European Free Trade Agreement

**EU** – European Union

**FDI** – Foreign Direct Investment

**FFCD** – Frozen Foreign Currency Deposit

**FREN** – Foundation for the Advancement of Economics

**GDP** – Gross Domestic Product

**GVA** – Gross Value Added

**IMF** – International Monetary Fund

**LRS** – Loan for the Rebirth of Serbia

**MAT** – Macroeconomic Analyses and Trends, publication of the Belgrade Institute of Economics

**NES** - National Employment Service

**NIP** – National Investment Plan

**NBS** – National Bank of Serbia

**OECD** – Organization for Economic Cooperation and Development

**PRO** – Public Revenue Office

**Q1, Q2, Q4, Q4** – 1st, 2nd, 3rd, and 4th quarters of the year

**QM** – Quarterly Monitor

**SBS** – Serbian Bureau of Statistics

**SDF** – Serbian Development Fund

**SEE** – South East Europe

**SEPC** – Serbian Electric Power Company

**SITC** – Standard International Trade Classification

**SME** – Small and Medium Enterprise

**VAT** – Value Added Tax

# From the Editor

The draft 2008 budget does not provide for sufficient cuts in public spending. The trade deficit remains the basic structural problem of the Serbian economy. The dinar grew stronger in the course of 2007 and inflation accelerated, though the likelihood of its running out of control is slight. These, among others, are the issues we deal with in this issue of *QM*.

*Economic growth remained high in Q3*, standing at an annual 8.3% when the agriculture is excluded (9.3% in Q2). This growth was still above the long-term growth trend of output, and was driven by high aggregate demand. *The growth of aggregate demand slowed down in Q3* and, consequentially, so did production. Demand was curbed by the *slower growth of real wages* and the *appreciation of the dinar*. The *fiscal expansion* (albeit less than foreseen by the budget) and *growth of credit to enterprises and households* had the opposite effect.

*Inflation picked up speed in Q3, with the annualized core inflation standing at 9.4%, and was the result of supply-side shocks,* primarily related to food products. Since it was not triggered by an excessive growth of demand, it seems unlikely at present that inflation will run out of control. Two-thirds of the growth of core inflation, which is formed on the market, originated from the rise in industrial food prices. This is an indication that aggregate demand was not the main cause of inflation; if it were, its growth would have spilled over to all products and pushed up all prices. There are two possible and complementary explanations for the strong growth of food prices in Serbia. Either they are following the growth trend in the world, where food production is below demand, or, according to some indications, monopolistic structures in Serbia are taking advantage of the world trend to additionally raise their prices. The world trend did not have the same effect on inflation everywhere: economies in which competition is higher recorded a slower growth of inflation. Finally, *core inflation in 2007 will be low, about 5%*, thanks to the very low inflation rate in the first semester of the year.

The Serbian economy is becoming less competitive, *primarily because of the real appreciation of the dinar*. The value of the dinar in real terms (relative to prices) rose 4.4% in Q3, or 5.3% in 2007, up to November. Unit labor costs, expressed in euros, are the main determinant of the international competitiveness of the economy, and they are the result of the movements in wages, productivity and the exchange rate (see Box 2, section 5, Economic Activity). The high growth of productivity (regrettably, the result of decreasing employment), offset the very high growth of wages. As a consequence, unit labor costs in dinars did not rise. But when the major real rise of the dinar relative to the euro is added to the dinar costs, unit labor costs in euros go up, diminishing the international competiveness of the Serbian economy. This trend of declining competitiveness has been systematically manifested throughout 2006 and 2007 (see Graph T5-8).

The high deficit of the current account of 17% of GDP in Q3 continued to be the main structural imbalance of the Serbian economy. The growth of imports continued to accelerate, both because of the high aggregate demand and the dinar's appreciation, while the growth of exports was somewhat slower. The former, coupled with the fall in current transfers, led to the high CA deficit. As the country has had a high deficit since 2002, and probably will have for years to come, in Spotlight on: 1 " Current Account Deficits in Serbia: Causes, Concerns and Consequences " we analyze the causes, consequences and prospects for the future. A comparative analysis brings out that countries in transition had, and still have current account deficits. First, the process of transition created the possibility of profitable investment that was far above domestic savings and led to foreign deficits. Second, these economies embarked on transition or were in deep recession in the first years, only to start very fast growth after that. Anticipating rapid economic growth, the public, in the expectation that incomes would rise, increased its spending by borrowing, and thereby additionally pushed up the deficit. Finally, public spending could not be cut abruptly, which, via the fiscal deficit, led also to the current account deficit.

This is basically what happened in Serbia too, although its deficit is one of the highest. Of comparable countries, Bulgaria has a deficit of 15% of GDP, followed by Romania with about 12%, Hungary, Croatia and Slovakia with between 5% and 10% of GDP, and Slovenia, the Czech Republic and Poland under 5%.

Spotlight on: 1 argues that a balance of payments crisis is not in the offing next year, among others things because our short-term debt is small compared to the foreign exchange reserves: 10% in Serbia as against 60% in Croatia and Romania, and 70% in Bulgaria. Of course, any dramatic political change in the country would turn this prediction on its head.

Over the medium term, such a high deficit is unsustainable. As noted in previous issues, the continuation of structural reforms and privatization would secure a growth of production and savings, offset the high demand and investments, and ensure the reduction of the trade deficit. Even a reduced deficit could be financed only if new FDIs are attracted, since the privatization revenue will shortly dry up (see Box 2, section 6, "Balance of Payments and Foreign Trade"). At the end of the day, public spending must be cut and government with its savings (a fiscal surplus) must leave room for the private sector. This brings us to fiscal policy in 2008.

The draft 2008 budget does not make the needed turn toward restrictive fiscal policy announced by the government in the summer of 2007. Instead of the envisaged reduction of public spending by 1.7 percentage points of GDP, a decrease of only 0.7 points is laid down. This will result in a budget deficit of some 40 to 50 bn dinars (according to the IMF and QM definitions, see Box 2, section 7, "Fiscal Flows and Policy"), i.e. to a total deficit of the fiscal sector of 2% of GDP. (Spotlight on: 2 " Reforming Personal Income Tax: Think Global, Act Local" focuses on tax policy and analyzes the opportuneness of introducing a global income tax system.) Thus the government will not in 2008 either contribute to reducing the Serbian economy's high foreign deficit with its savings. This will put additional pressure on monetary policy, which will have to secure a low inflation rate in 2008, but probably through further strengthening of the dinar and/or curbing credit to the private sector (in Spotlight on: 3 "Monetary Policy – Channels of Transmission to Prices: a Year of Inflation Targeting." we analyze the first experiences of the NBS in targeting inflation and the channels through which this is done).

In 2008, economic policy will get another *chance* and also confront a danger*: wages in public enterprises*. The chance is control, i.e. freezing of these wages, which would have a major effect on checking demand both in itself and by securing the slower growth of other wages. The *danger* is that wages in public enterprises could run out of control and intensify the imbalance that comes from the public sector. The government should therefore take advantage of the current talks with public enterprises to introduce wage controls in 2008, and must not back down to the pressures for hikes. There is yet another threat, that of uncontrolled expansion of public spending: the creation of a public debt for denationalization (restitution) of €4 bn which, with interest, would require €250-300 mn a year to service. The proposal to create such a debt has nothing in common with responsible management of public finances.

Last but not least, I take this opportunity to remind readers that this is the tenth issue of the *Quarterly Monitor*. Although this is not a long time in the life of a periodical, we believe the goals of the founders (Faculty of Economics, FREN and CEVES), the editorial staff, and Kori Udovički, the prime mover in its launching, have to a major extent been realized. *QM*, however, receives the necessary critical impetus from the professional public and its readers and this justifies it existence. If the quality of our analyses, promotion of the methodology of monitoring developments in the domestic economy and continuous comparative monitoring of the progress of countries in transition has added to the expertise needed to conduct economic policy in Serbia, then we have motive enough to continue with the dedication required for work on any periodical. The critical input of our readers is always much appreciated.

# TRENDS

## 1. Review

The negative tendencies that began emerging in the previous quarter heightened in Q3. Economic growth, though still solid, began to slow slightly, core inflation picked up speed, and the already high foreign trade deficit continued to rise. GDP growth in Q3 continued to be strong (we estimate it at 6.6%) and non-agricultural GVA rose at a y-o-y rate of 8.3% owing to high domestic demand. The above-average growth was nonetheless slower than in Q2. Preliminary data for October confirms that economic activity slumped in spite of the strong growth. According to the October and November figures, total inflation also began to rise again. This can primarily be ascribed to supply-side factors: higher prices of cereals and food both here and in the world, and the leap in oil prices on the world markets. These negative effects of the international rise in prices are intensified in Serbia by the lack of competitive market structures.

The foreign trade deficit spiraled in spite of the further growth of exports. The current account deficit reached 17% of GDP, making Serbia a country with one of the highest deficits among the transition countries. The foreign trade imbalance was still offset through capital account, primarily by foreign borrowing and FDIs, so that the NBS foreign exchange reserves continued to grow in Q3. Coupled with the political uncertainties relating to the status of Kosovo, the imbalance led to the adjustment of the exchange rate and the depreciation of the dinar in the latter half of November. If this continues, the dinar's weaker exchange rate will probably be reflected over the medium term in an alleviation of the external deficit, but could also have negative inflationary effects.

With our estimates of the core inflation at around 5% by the end of the year, the NBS will stay within the target range of core inflation in 2007 (4-8%). Continuing to pursue the policy of inflation targeting in a disciplined manner in Q3, the NBS has mostly succeeded in deterring supply-side inflationary blows. We hope it will continue this endeavor in the period to come, and that it will not succumb to the pressures of the corporate sector and that part of the political public advocating a switch to exchange rate targeting and depreciation of the dinar, which they believe would result in a growth of exports and a reduction of the external imbalance. It is our recommendation that NBS should not step outside of its statutory requirements of maintaining low core inflation.

In contrast to the strict monetary policy, fiscal policy, mainly because of the contracts and obligations undertaken by the previous government, was mildly expansive. In *QM*'s view, the Ministry of Finance is doing the best it can in the circumstances, although an ideal scenario would require cutting the expenditure of the public sector. In agreement with other social and economic actors, and the political uncertainties 2008 will bring, the draft budget is a necessary compromise.

*QM* estimates the growth of GDP in Q3 at 6.6%. When the agriculture, which is affected by exogenous facts, is excluded from economic activity, the figure is even higher. The growth of non-agricultural GVA is about 8.3%, which, though slower than in Q2, was significantly above the average recorded over the past several years. Q3, however, also saw some negative tendencies that could further slow down economic activity by the year-end and undermine macroeconomic stability. Domestic demand was slower in this quarter, but it seems that the positive effects it generated on production at the beginning of the year are waning faster than demand itself is decreasing. Export-oriented segments of the economy recorded a considerable slowdown, partly because of the investment activities initiated by Serbia's biggest exporter, US Steel Serbia, and, possibly, also in part owing to the appreciation of the dinar. The question is whether the negative tendencies in Q3 will be absorbed in Q4 or if they will materialize, probably not so much in

the form of slower economic growth as in a further rise of the trade deficit. Services led in the structure of GDP growth with a y-o-y rise of some 10%, while material production recorded a fall of about 3% in Q3. Industrial production was up 3.5% in Q3 relative to the same period last year. The manufacturing industry recorded a similar growth of 3.2%. *QM* estimates that construction fell by some 5% in Q3, which may be due to the industry taking a breather after its very intense activity in the first semester of the year.

Employment with legal entities continued to decline between March and September 2007, while data on employment by entrepreneurs is not yet available. The manufacturing industry had the biggest impact on the employment drop by cutting 15,000 jobs between March and September. Employment in the public sector was stable. The number of registered jobless fell as unemployed persons are no longer eligible for medical insurance through the National Employment Service.

The real y-o-y growth of monthly gross wages of 14.1% slowed by over 4 percentage points relative to preceding quarters. The highest y-o-y wage rises were recorded in the health and social services sectors. The y-o-y growth of gross wages in state-owned public companies slowed down, and the highest growth in the private sector was in real estate, the hotel and catering businesses, followed by commerce.

Total inflation in Q3 was slightly lower than in the preceding quarter, while core inflation gathered pace. *QM* believes these movements were primarily the consequence of supply-side factors since half of the rise in total inflation in Q3 and as much as two-thirds of core inflation came about as the result of hikes in food prices. The average monthly inflation rate in Q3 was 0.8%, or an annual 10.9% (12% in Q2 and only 5.1% in Q1). The average monthly core inflation rate in Q3 was 0.8%, or as high as 9.4% annually, compared to 3.7% in Q2. The trends in October were similar, with total inflation standing at 0.6% relative to September and core inflation at 0.7%. In November, however, total inflation rose to 1.1% while core inflation remained the same as in October (0.7%). The biggest contribution to inflation in October and November was again by food prices, with the rise in oil prices being felt in November.

Q3 was the second consecutive quarter in which the Serbian economy recorded slower exports. At the same time, imports grew at y-o-y rates almost twice as high as those recorded in 2006. Eventually, the exports and imports growth rates leveled out which, coupled with the traditionally low coverage of imports by exports, led to the growth of the foreign trade deficit. This imbalance of the external sector, which set in in late 2006, intensified with the decline in current transfers recorded throughout 2007. As a result, the current account deficit grew, rising to 17% of GDP in Q3. Capital inflows, primarily FDIs and enterprises' foreign borrowing continued to be strong, offsetting the current account deficit. The NBS foreign exchange reserves continued to grow (by €475 mn).

In line with expectations, fiscal policy became more expansive in Q3. Consolidated public revenue was up about 8% in real terms in the quarter, while consolidated public expenditure was 15% higher in real terms relative to the same period last year. The y-o-y real growth rate of consolidated public revenue was the same in Q3 as in Q2, while the y-o-y growth of consolidated public expenditure accelerated appreciably. The deficit in the consolidated balance, defined from the aspect of the liquidity influence of government on aggregate demand, amounted to 12 bn dinars. Fiscal policy in Q3 was less expansive than envisaged by the budget and fiscal policy for 2007, as predicted in the previous *QM*. The estimate, therefore, is that the fiscal deficit defined in this way for the whole of 2007 will be around 1% of GDP.

In the monetary sphere, Q3 2007 was characterized by the faster growth of credit, both to enterprises and to households, with banks granting some €400 mn in new loans to each. Banks again invested heavily in NBS papers (dinar equivalent of a new €400 mn) after Q2 when such investment was negative (-€ 200 mn). Because of the appreciation of the dinar, real returns on NBS papers measured relative to the dinar/euro exchange rate grew, reaching almost 30% in Q3. Banks found sources for new credits in capital increases (some €400 mn), the usual inflow of household foreign exchange savings (a new €380 mn) and, to a surprising extent, company

deposits (€650 mn). Observed at Q3 level, the company sector became the net creditor of banks. Concurrently, monetary policy became more restrictive with the mild raising of the repo rate (from 9.5% to 9.75% in August, and back again to 9.5% in October), the real appreciation of the dinar (4.4% in Q3) and measures introduced in September to limit retail credits to households. By issuing 14 mn dinars, primarily through purchases from exchange offices, and the withdrawal of the same amount of dinars through the drop in NDAs, the NBS was able to keep primary money at end-Q3 at the same level recorded in Q2. NDAs grew owing to the running down of the government deposit with the NBS (12 bn dinars) and reduction of NBS capital (by about 6 bn dinars), but were simultaneously reduced by the NBS withdrawing some 32 bn dinars through the repo market.

A major drop in turnover on domestic financial markets and stagnation of prices and yields marked Q3 2007. The volume on the stock market measured by dinar turnover and the number of transactions fell for the first time in the last two years, by as much as 41% measured by dinar turnover, and 31% measured by the number of transactions, with both the continuous and discontinuous segments contributing equally. The Belgrade Stock Exchange indices moved in a relatively narrow band of 200 index points and dipped less than one-half percent in value in Q3. From the beginning of October to mid-November, however, the value of the indices plunged. BELEX15 and BELEXline lost 10.21% and 7.26% respectively, and in just one day, 20 November, BELEX15 lost 4.95% and BELEXline 3.05%. Bond yields moved in a band of 40 bp, losing on the average from 7 bp to 17 bp, with the exception of A2008 and A2009, which rose by 25 bp and 5 bp respectively.

## Serbia: Selected Macroeconomic Indicators, 2004-2007[1)]

| | Annual Data | | | Quarterly Data | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2004 | 2005 | 2006 | 2005 | 2006 | | | | 2007 | | |
| | | | | Q3 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 |
| **Prices and the Exchange Rate** | | | | | | y-o-y[2)] | | | | | |
| Retail Price Index - total | 10.1 | 16.5 | 12.7 | 17.1 | 14.8 | 15.6 | 12.5 | 8.2 | 5.8 | 4.7 | 6.5 |
| Retail Price Index - core inflation[3)] | 7.9 | 14.8 | 10.3 | 14.9 | 12.0 | 11.6 | 10.8 | 6.9 | 4.7 | 3.0 | 2.9 |
| Real fx dinar/euro (avg. 2005=100) | 100.5 | 100.0 | 92.1 | 100.0 | 97.1 | 94.8 | 90.3 | 86.4 | 86.2 | 86.3 | 83.2 |
| Nominal fx dinar/euro (period average)[4)] | 72.62 | 82.92 | 84.19 | 83.83 | 87.09 | 86.87 | 83.25 | 79.55 | 79.98 | 81.07 | 80.03 |
| **Economic Growth** | | | | | | y-o-y, real growth[2)] | | | | | |
| GDP (in billions of dinars) | 1,408 | 1,754 | 2,086 | … | … | … | … | … | … | … | … |
| GDP | 8.4 | 6.2 | 5.7 | 7.4 | 7.0 | 6.2 | 5.1 | 4.8 | 8.4 | 7.7 | 6.6 |
| Non-agricultural GVA | 7.5 | 6.3 | 7.9 | 9.7 | 9.8 | 7.9 | 7.1 | 7.2 | 9.0 | 9.3 | 8.3 |
| Industrial production | 7.1 | 0.8 | 4.7 | 3.2 | 5.3 | 6.1 | 3.9 | 2.9 | 4.8 | 5.2 | 3.5 |
| Manufacturing | 9.7 | -0.7 | 5.3 | 3.6 | 7.5 | 6.2 | 4.4 | 2.9 | 8.5 | 4.9 | 3.3 |
| Average net wage (per month, in dinars) | 14,108 | 17,478 | 21,745 | 17,969 | 19,284 | 21,126 | 21,986 | 24,585 | 25,103 | 27,165 | 28,019 |
| Registered Employment (in millions) | 2.050 | 2.061 | 2.022 | … | … | 2.032 | … | 2.019 | … | 2.004 | … |
| **Fiscal data** | | in % of GDP | | | | | y-o-y, real growth | | | | |
| Public Revenues | 41.2 | 40.1 | 38.9 | -0.6 | 4.8 | 3.8 | 4.4 | 5.9 | 15.9 | 8.0 | 8.0 |
| Public Expenditures | 40.0 | 38.2 | 38.3 | -2.5 | 8.1 | -2.4 | 5.2 | 21.0 | 9.7 | 8.8 | 15.3 |
| | | | | | | in billions of dinars | | | | | |
| Consolidated balance | 17.5 | 33.8 | 12.0 | 9.9 | 0.4 | 16.3 | 9.9 | -14.8 | 12.1 | 16.9 | -3.9 |
| Analytical balance (FREN's definiton)[5)] | -7.7 | -2.9 | -37.2 | 0.8 | -3.9 | -0.8 | -0.2 | -32.3 | -2.0 | 2.4 | -12.0 |
| **Balance of Payments** | | | | | | in millions of euros, flows | | | | | |
| Imports of goods | -8,302 | -8,286 | -10,096 | -2,234 | -2,139 | -2,494 | -2,541 | -2,910 | -2,830 | -3,093 | -3,225 |
| Exports of goods | 2,991 | 4,006 | 5,146 | 1,019 | 1,039 | 1,244 | 1,368 | 1,484 | 1,391 | 1,589 | 1,746 |
| Current account | -2,197 | -1,805 | -2,892 | -519 | -679 | -469 | -633 | -1,111 | -1,169 | -803 | -1,311 |
| *in % GDP* | *-11.1* | *-8.6* | *-11.6* | *-9.4* | *-13.1* | *-8.0* | *-9.5* | *-15.4* | *-18.1* | *-11.2* | *-16.9* |
| Capital account | 2,377 | 3,863 | 7,353 | 1,103 | 1,100 | 1,587 | 2,247 | 2,418 | 1,135 | 1,253 | 1,693 |
| Foreign direct investments | 773 | 1,248 | 4,077 | 495 | 164 | 545 | 1,671 | 1,668 | 617 | -5 | 542 |
| NBS gross reserves (increase +) | 229 | 1,857 | 4,240 | 454 | 390 | 1,079 | 1,539 | 1,232 | -193 | 407 | 458 |
| **Monetary data[6)]** | | | | | | in billions of dinars, e.o.p. stock[2)] | | | | | |
| NBS net own reserves[6)] | 103,158 | 175,288 | 302,783 | 159,055 | 182,772 | 224,808 | 244,631 | 302,783 | 327,997 | 348,471 | 361,861 |
| NBS net own reserves[6)], in mn of euros | 1,291 | 2,050 | 3,833 | 1,878 | 2,103 | 2,614 | 2,983 | 3,833 | 4,021 | 4,410 | 4,589 |
| Credit to the non-government sector | 342,666 | 518,298 | 609,171 | 456,541 | 547,564 | 591,270 | 614,698 | 609,171 | 666,007 | 732,402 | 786,873 |
| FX deposits of households | 110,713 | 190,136 | 260,661 | 162,667 | 207,609 | 222,105 | 243,328 | 260,661 | 293,195 | 307,783 | 336,109 |
| M2 (y-o-y, real growth, in %) | 10.4 | 20.8 | 30.6 | 22.4 | 24.7 | 19.8 | 20.5 | 30.6 | 35.4 | 30.7 | 29.7 |
| Credit to the non-government sector (y-o-y, real growth, in %) | 27.3 | 28.6 | 10.3 | 27.6 | 26.9 | 25.4 | 20.7 | 10.3 | 15.2 | 17.8 | 19.1 |
| Credit to the non-government sector, in % GDP | 23.9 | 29.6 | 28.6 | 27.3 | 29.9 | 31.0 | 30.9 | 28.6 | 30.5 | 32.6 | 33.0 |
| **Financial Markets** | | | | | | | | | | | |
| BELEXline (in index points)[7)] | 1,161 | 1,954 | 2,658 | 1,915 | 2,107 | 2,036 | 2,342 | 2,658 | 4,220 | 4,456 | 4,431 |
| Turnover on BSE (in mil. euros)[8) 9)] | 423.7 | 498.8 | 1,166.4 | 68.4 | 182.5 | 235.8 | 271.4 | 476.7 | 529.4 | 644.8 | 386.7 |

Source: FREN.

1) For more details (monthly series) see web page www.fren.org.yu.

2) Unless otherwise indicated.

3) Core inflation measures the price movements of goods and services that are not under administrative control, but formed freely on the market.

4) Calculation based on twelve-month averages for annual data and three-month averages for quarterly data.

5) Under FREN's definition, the analytical balance includes on the expenditure side the payment of old (domestic) debts, specifically payments for FFCDs, the Serbia Reconstruction Loan, debt to pensioners, etc. Defined in this way, the result measures the liquidity effect government transactions have on the economy.

6) NBS net own reserves = NBS fx reserves, net - (foreign deposits of commercial banks + government foreign deposits). For details see Trends' section Monetary Flows and Policy.

7) Index value at the last day of the given period

8) Total turnover on Belgrade Stock Exchange, includes turnover of stocks and FFCD bonds.

9) Dinar amounts for stocks turnover are converted into euros using the average exchange rate for the given period.

# 2. International Environment

**Following the credit crunch in the USA during the summer, financial markets gradually went back to normal in the fall. The sub-prime crisis, however, continues, fuelling anxieties of a recession. The negative effects of the financial crisis are expected in Q4 and next year. Although the euro zone recovered in Q3, surveys indicate a slowdown in the period ahead. The developing countries, for now the least hit by the financial crisis, continued their solid economic growth. The prices of oil, gold and agricultural products rose on the international markets.**

**Table T2-1. World: GDP Growth and Inflation, 2005–2007**

| in % | Real GDP growth | | | | | | | | Inflation | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | over a year ago | | over previous period, seasonally adjusted annual rate (saar) | | | | | | over a year ago | | | |
| | 2005 | 2006 | Q2 2006 | Q3 2006 | Q4 2006 | Q1 2007 | Q2 2007 | Q3 2007 | Q4 2006 | Q1 2007 | Q2 2007 | Q3 2007 |
| | u % | | | | | | | | | | | |
| World total | 3.2 | 3.6 | 3.5 | 2.8 | 4.0 | 3.2 | 3.9 | 3.8 | 2.1 | 2.3 | 2.4 | 2.3 |
| of which: | | | | | | | | | | | | |
| USA | 3.5 | 2.9 | 2.6 | 2.0 | 2.2 | 0.6 | 4.0 | 3.9 | 0.2 | 2.4 | 2.7 | 2.5 |
| Canada | 2.9 | 2.8 | 2.0 | 1.7 | 1.0 | 3.9 | 3.4 | 1.8 | 1.5 | 1.8 | 2.2 | 2.6 |
| Japan | 2.7 | 2.2 | 1.5 | 0.8 | 3.8 | 3.2 | 0.5 | 2.6 | 0.5 | -0.1 | -0.1 | -0.1 |
| China | 10.2 | 11.1 | 13.1 | 10.4 | 7.9 | 13.6 | 15.7 | 9.4 | 2.0 | 2.7 | 3.6 | 4.2 |
| India | 8.4 | 9.4 | 7.7 | 9.6 | 7.8 | 11.3 | 9.6 | 6.1 | 6.2 | 7.0 | 6.3 | 5.8 |
| Euro area | 1.5 | 2.9 | 2.7 | 2.7 | 3.3 | 2.9 | 1.4 | 2.8 | 1.8 | 1.9 | 1.9 | 1.9 |
| Germany | 1.1 | 3.1 | 4.4 | 2.6 | 4.0 | 2.2 | 1.0 | 2.8 | 1.6 | 1.9 | 2.0 | 1.4 |
| France | 1.2 | 2.2 | 4.9 | 0.0 | 2.2 | 2.2 | 1.3 | 2.9 | 1.3 | 1.3 | 1.3 | 1.5 |
| UK | 1.9 | 2.8 | 2.8 | 2.8 | 2.7 | 2.8 | 3.4 | 3.2 | 2.7 | 2.9 | 2.6 | 2 |
| Italy | 0.1 | 1.9 | 2.6 | 1.1 | 2.8 | 1.1 | 0.4 | 1.5 | 2.0 | 2.0 | 1.9 | 1.9 |
| Russia | 6.4 | 6.7 | 9.9 | 1.8 | 7.7 | 3.7 | 10.0 | … | 9.2 | 7.9 | 8.1 | 7.8 |
| Bulgaria | 5.5 | 6.0 | 6.4 | 6.7 | 5.7 | 6.2 | ... | … | 6.0 | 5.3 | 4.7 | 11.1 |
| Romania | 4.1 | 6.9 | 7.7 | 8.2 | 7.6 | 5.8 | 5.6 | … | 6.1 | 3.8 | 3.8 | 5.5 |
| Hungary | 4.1 | 3.8 | 4.1 | 3.9 | 3.4 | 1.4 | 0.2 | 1.2 | 6.4 | 8.5 | 8.6 | 7 |
| Croatia | 3.8 | 5.0 | 3.5 | 4.7 | 4.9 | 4.9 | ... | … | 2.2 | 1.8 | 2.1 | 2.9 |
| Macedonia | 3.8 | 4.0 | 5.7 | 3.6 | … | … | ... | … | 0.4 | 1.6 | ... | … |
| BIH | 5.0 | … | … | … | … | … | ... | … | … | 0.8 | 0.3 | 0.9 |

Source: Eurostat, JPMorgan, National Bank of Bulgaria, National Bank of Romania, National Bank of Republic of Macedonia, National bank of Croatia.

***The summer crisis on financial markets reduces the growth rates of the global economy***

**World.** The IMF, in its new *World Economic Outlook,* has revised growth rates downwards for this and next year after this summer's turmoil on financial markets. The problems were directly triggered by the realty and mortgage crisis in the USA, and will decelerate growth in US the most. But the IMF's estimate of the world economy's growth in 2008 has been reduced by one half of a percentage point (to 4.75%[1]). The crisis on the financial markets has eased somewhat, but liquidity is still low and the fear of risk high. It is therefore still uncertain whether the US economy will be able to avoid a recession. In the first semester of the year, before the crisis broke out, global growth was over 5%.[2] Strong world economic growth will be achieved despite the corrections of growth in the developed countries, primarily thanks to the thriving economies of developing countries. According to the IMF data, China, India and Russia recorded a y-o-y growth of 11.5%, 9% and 8%, respectively, in the first half of the year, and are to be credited for half of the global growth.

***Euro zone's GDP jumps in Q3...***

**Euro zone.** After the poor performance of the euro zone's GDP in Q2, flash estimates showed a recovery in Q3, with the seasonally adjusted annual rate amounting to 2.8%.[3] In Q2 the growth was a mere 1.3%[3]. After rising steadily during 2006, growth recorded a slowdown in 2007. This, however, was partly due to the correction as the warm weather in Q1 resulted in an unusual jump of growth in construction and agriculture, which had to fall in Q2. Recovery in Q3 was also confirmed by the data on industrial production. In July, the monthly growth was 0.7%

1 In IMF WEO report, aggregates are computed on the basis of purchasing-power-parity (PPP) weights. Thus the differences with the Table T2-1.
2 *World Economic Outlook*, October 2007, IMF.
3 JP Morgan.

annually,[4] and reached 1.2% in August, which was the highest monthly growth in the last eight months. Surveys also confirmed increased activity in Q3. The survey which estimates activity in production was at the 54.1[5] level, an above-average value, and the survey of the services sector brought out a 56.9 level, which is also high. Significant company profits, as well as a high rate of the use of capacities (although declining) probably encouraged investments. The effects of the financial crisis will likely be more discernable in the next quarter and, particularly, in 2008. As expected, the European Central Bank did not change its reference interest rate of 4% in October. Since the economy grew at a solid pace, although with risks ahead, officials said there was no need to reduce the rate, but noted that inflationary pressures still existed.

***...but inflation also rises***

During Q3, the inflation rate was slightly above the comfort zone, primarily owing to the prices of energy and food, which have been pushing it up recently. In Q3, the cost of living in the euro zone rose by 1.9% y-o-y, but inflation climbed from 1.7% annually in August to 2.1% in September. The biggest impact that month came from the price of energy (growth of 3% annually), in contrast to August when energy prices fell 0.9%. In September, food prices in the euro zone jumped 2.4% annually, in particular dairy products, which rose 4%. The use of capacities was at same level recorded at the end of the expansion of the two latest business cycles, and the effect should weaken in time. The strong euro kept inflation down, but the prices of energy and food will cancel out the effect. Since the inflationary expectations of consumers are highly correlated with food prices, there is a risk of minimum wages being raised, which would exacerbate the problem. The ECB's monetary policy is no longer considered accommodating, and there is currently a risk of both economic growth decreasing and inflation rising. Nonetheless, the growth will most likely decelerate moderately and inflation rise slightly and, consequently, there will be no reason to change the reference interest rate. In this situation, the following scenarios of ECB monetary policy are possible: first, if the fall of production is not dramatic, the ECB would let lower rates of capacity utilization reduce the inflation; second, if either of these two risks (growth and inflation) became threatening, it would react by changing the reference rate.

The euro zone's trade was balanced. In Q3, a surplus of €10.2[6] bn was achieved, which was an improvement on the same quarter of 2006 (deficit of €1.8 bn). In July, the surplus amounted to €5.2 bn, while in July 2006 it was €1.1 bn. In August, the surplus was €1.9 bn, and in the same month of 2006 a deficit of €5.2 bn was recorded. In September, the surplus was €3.1 bn – also higher than last year's €2.3 bn, but the strong euro is expected to have a negative impact on exports in the months ahead.

***The EU's exports will most probably suffer from the strong euro***

The exchange rate of the euro against the dollar, which reached the level of 1.40 in Q3, had a negative impact on exports. According to the latest surveys, import orders are declining, and it is a question for how long the increase in trade with Central and East Europe countries will be able to cushion the reduced trade with the USA. As the difference in the rates of the US and EU central banks diminishes, the euro will probably appreciate, which is indicated by the October and November data (the euro reached a record level of 1.49 against the dollar). After the problems in the last few months, the money market has not improved equally to that in the USA. The quarterly Euribor is 60 basis points above the ECB reference interest rate, or three times higher than usual. Although the ECB's liquidity injections to some extent calmed the anxiety of banks about borrowing on the interbank market, this market has not yet fully normalized, and the spread between the quarterly Euribor and the reference rate is above the average.

***Positive situation on the labor market is conducive to spending, but credit is contracting***

Domestic demand shows signs of weakening but is still at a level conducive to growth. If the US financial crisis spills over into Europe to a greater extent, a drop in European shares and the credit contraction could lead to a sharper fall of domestic spending. Retail trade in August did not grow relative to the previous month, and the confidence indicator declined in September, although a survey of consumer confidence was still quite high. The positive developments on the

4 BNP Paribas.
5 Survey results of over 50 indicate expansion, and below 50 contraction.
6 Eurostat.

labor market (unemployment of 6.9% in Q3) maintained spending, but the possible contraction of credit is a potential problem. Owing to the rising risk aversion, according to the ECB survey, conditions for obtaining consumer loans will be tighter in the following quarter. Housing loans have also been affected by the crisis on the financial markets. Investment in construction is declining, as evident from the downward trend in building permits. In Q3, conditions for more risky loans became tighter and firmer guarantees are required.

***Financial markets in the USA went back to normal, but the overall consequences are still unclear***

***Total inflation grew due to oil and food prices, while core inflation is under control***

***The rising prices of oil increased the risk of recession, which prompted the Fed to cut its reference rate by an additional 25bp***

**United States.** Besides the crisis on the financial markets, the seasonally adjusted GDP of the USA amounted to 3.9%[7] in Q3, more than the expected 3%. Only construction recorded a significant drop. Industrial production grew by an annual 2%[8] in Q3, the manufacturing sector grew by 4.3%[8], and the use of capacities was 82.1%,[8] above the level of the long term trend. Due to the reduced domestic demand, as well as the favorable Dollar/Euro rate, the USA trade deficit was cut from $70.7[8] bn in March to $66.6[8] bn at end-August, and the manufacturing industry's exports achieved an annual growth of 13.3%[8] in August. In Q3, the cost of living recorded a y-o-y increase of 2.5% (2.7% in Q2).[7] In September, inflation rose to 2.8%[8] due to the weak dollar and the rise in oil and food prices (4.4% y-o-y growth in September[8]). Core inflation, to which the Fed pays more attention than the ECB, was under control, with a monthly growth of 0.2% in September. When oil prices hit a record of close to $100 a barrel, and because of the possible negative impacts in the current economic situation, the Fed decided that it would further reduce its funds rate by one-quarter of a percentage point (to 4.5%) in late October.

On the financial markets, investors ceased investing in derivatives through which high-risk housing loans were financed. In 2007, the prices of homes started to fall, and the average interest rates on high-risk loans rose, which led to a sudden rise in defaults. The banks and funds which invested in that market recorded very high losses. The losses ensuing from investment in risky housing loans, although significant, are dangerous primarily because of the impact they have on liquidity and raising risk averseness. Owing to the financial crisis and the liquidity problems, the cost of borrowing on the inter-bank market has leaped, mergers and acquisitions are stagnant, and hedge funds are recording losses and are selling their positions. The turmoil on the financial markets has shown that derivatives can disperse the risk but not altogether eliminate it. The negative side of dispersion is that it is not known *where* the risk is, i.e. *who* invested the most in risky housing credits, which undermines confidence. Credit spreads are still high, leading to reduced liquidity.

Owing to the lower liquidity, many participants in financial markets are cutting back their activities and investments, are much more stringent in granting loans, and are opting to sell their positions. The high spread between company and government bonds shows an increased risk aversion, which could lead to a re-examination of valuations on other markets. The spread between the quarterly USD Libor rate and the Fed's reference rate has declined but is still 50 bp, evidence that it is not yet business as usual on the market. Granting of loans is much more cautious, not only for high-risk but also for low-risk clients (in the Fed's survey, 14% of respondents reported more rigid conditions of crediting). A significant portion of the risky housing loans in the USA are about to shift upwards from the promotional interest rates (usual in the first two years of repayment), which will probably lead to a rise in defaults in the following quarters. When the loans were granted, the solvency of the clients was disregarded, as banks counted on the price of the real estate used as collateral rising further and planned to offset any losses from defaults by the sale of those properties. As the price of property has been falling, companies that adopted this policy on granting loans have taken serious losses.

The stricter terms for granting housing loans will have a negative impact on growth and spending in the coming quarters. In September, the construction of new homes declined by an annual 10.2%,[8] the steepest fall after January, and the number of building permits decreased by 7,3%. This means the crisis has not yet hit rock bottom. The drop in the value of homes and construction activity will, through the effect of wealth and employment reduction, lead to a fall in personal

7 JP Morgan.
8 BNP Paribas.

spending. As the prices of homes are falling, the level of wealth is being reduced, unemployment is rising and personal incomes are decreasing, all of which has a negative impact on spending. In addition, the sudden rise in oil prices has a *crowding out effect in spending* (owing to the rise in oil prices, an increasing part of spending goes for energy, which reduces residual demand), and this additionally prompted the Fed to cut its reference interest rate. Since gasoline consumption per capita in the US is relatively high, *crowding out* is more significant than in countries which are more economical with energy. In Q3, personal spending was still protected from the negative impacts and grew by 3%,[9] and the retail trade by 4%,[9] though consumer surveys conducted by the University of Michigan and the Conference Board show a decline in consumer confidence since August. Hence the weaknesses on the real estate and the labor markets will almost certainly reflect on spending to the end of the year.

The August employment figures only at first glance solve the "riddle" of the US labor market: how come the severe drop in construction did not lead to a fall in employment? The preliminary August data did record such a fall (4,000[10] fewer jobs than in July), raising fears of a recession and expectations that the reference rate would be cut. The statistics, however, were wrong and following revision in August, the official data was that 89.000[10] new jobs had been created in July, mostly in the public sector. Although employment is on a downturn, there have not yet been any massive layoffs in the hardest-hit construction industry. The unemployment rate was 4.7% in September, but would have been even higher if the rate of participation had not been reduced. These figures show that employers are not yet massively laying off their workers, but they are employing less new ones, so that the average period between jobs is now longer.

***Economic growth in East Europe slows***

**East, Central-east and South-east Europe.** The pace of economic growth in East Europe has been slowing, with the growth of GDP in Q3 standing at 3.2%, relative to 7.2% in Q2. The countries in the region have not been affected by the crisis on the financial markets so far, but this does not mean that risks do not exist. The analysis by the IMF estimates that the financial risks are significant and could lead to a correction of the growth rate[11]. The authors treated the East Europe countries that are most integrated with international financial markets (Serbia, Romania, Bulgaria and Croatia) and are consequently susceptible to changes in the investment climate. Indicators of vulnerability[12] stand at a level, which, as the example of other countries shows, is unsustainable over the long term, but factors in connection with European integration could help to mitigate the risks. The recent developments on international financial markets increased the danger of a sudden stop of foreign capital inflows. Inflow of capital from abroad has helped the growth of income per capita, but at the same contributed to the vulnerability of those economies. The main reasons are their high foreign trade deficits, currency and interest rate risks, as well as the lack of matching of maturities between the assets and liabilities. As global liquidity was very high until recently, banks invested in those markets because it was highly profitable to do so. In periods when credit marks a sharp increase, banks usually inaccurately estimate the risks and allocate capital to unsuccessful projects. In addition, the number of foreign banks providing credit is not that big; hence the lack of diversification increases the chances of a sudden stop of credit inflow. A smaller proportion of capital ends up in the tradable goods production sector, too much goes to finance personal spending, and the pressure on the exchange rate is additionally increased by the deficit and low competitiveness. Enterprises borrow in euros and their future revenues are in the local currency. Any volatility of the exchange rate could lead to solvency crises in these enterprises. It is noteworthy that Serbia is mentioned as the country where foreign banks most engage in the speculative "carry trade." According to the authors, in 2006 banks borrowed in the amount of almost 8% of Serbia's GDP, and invested a major part of those funds in domestic repo operations, because the yields were considerably higher than the interest rates on the leading foreign currencies, and additional revenue was provided by the appreciation of

9 BNP Paribas.
10 JP Morgan.
11 Sorsa, Bakker, Duenwald, Maechler, Tiffin (2007), "Vulnerabilities in Emerging Southeastern Europe - how much cause for concern?" IMF Working Paper.
12 Vulnerability indicators are: trade balance; foreign debt; ratio between foreign exchange reserves and short-term debt; ratio between foreign exchange reserves and short-term debt plus trade balance; fiscal balance; public debt; GDP growth; and inflation.

the exchange rate. As this capital makes arbitrage profit, its inflow would suddenly dry up if the exchange rate depreciated. If the inflow of capital into Serbia ceased, according to the authors, that would result in a correction of growth of 8.1% (only Bulgaria would have a bigger drop than Serbia in the first year after the shock).

Before the Russian parliamentary election on 2 December, an additional budget was approved, which will increase this year's government spending by 20%. The funds are earmarked for social welfare expenses, the Russian Development Bank, and the establishment of a government Nanotechnology Corporation that is expected to boost economic development over a long term. About 7% of the additional budget will come from tax revenue, which was higher than originally planned (mainly taxes on corporate profits, customs duties, taxes on luxury goods, and VAT on imported goods). The IMF is concerned by the pro-cyclic fiscal policy, which could worsen the already complicated situation with inflation. The probable reason for the increased public spending is the upcoming election since a major portion of the funds will go for pensions. Passage of legislation on the protection of strategic economic branches has been postponed and will be put on the Duma's agenda only after the election. This law would limit foreign investment in 39 sectors (mainly in the military industry), and legislation on limiting foreign investment in natural resources sectors is also in plan. On the one hand, Russia is increasingly protecting its market from the inflow of foreign capital, and on the other, Russian companies are investing more abroad. The major oil and natural gas revenues contributed to the growth of FDIs, which, at the end of 2006 amounted to $157 bn.[13]

***Growth in Asia somewhat lower than in the previous quarter, but still high***

**Asia.** Asia excluding Japan recorded a strong GDP growth. In Q3, the seasonally adjusted annual rate was 8%, slower than in the previous quarter (10.9%), but still very high.

In Q3, Japan recorded a major increase in exports, and its seasonally adjusted annual growth stood at 2.6%[14] following the stagnation in Q2 and the drop in Q1. The central bank of Japan decreased the growth projections for three of the country's nine regions in its latest regional report, which is an indication that the jump was temporary and that the economy will slow down again in the months ahead. Household spending rose in August and September (0.45 and 0.7%)[14] after a steep drop in June (1.2%)[14]. Consumer confidence plunged in September to the lowest level since March 2004. The unemployment rate rose in August to 4%[14] relative to 3.6% in June when it was at its lowest since February 1998. Investments will help GDP growth: according to a survey, companies expect a 4.9% growth of investments[14] in fiscal 2007. Construction will additionally contribute to GDP growth since in Japan, contrary to the US, property prices in urban areas are rising. In Q3, the growth of exports (4.3% relative to the preceding quarter)[14] contributed to economic growth. Exports to other Asian countries are rising, which will offset a possible drop in US demand. Deflation continues; the cost of living index (excluding fresh foods) dipped by an annual 0.1%[14] in September for the eighth month in a row. The ongoing price war between the countries' telecommunications companies could further hamper the combating of disinflation. Since Japan is quite dependent on US demand, a change in the reference rate should not be expected until it becomes clearer how the mortgage crisis in the USA developed.

## Currencies and Commodities

***Dollar at a very low level***

From mid-August to end-September, the US dollar fell by about 5% against the euro and by 17% from the beginning of 2006. The IMF nonetheless believes the dollar is still above its mid-term value and that the fall could continue. The US dollar hit a record low against the euro, and plunged to its lowest against the Canadian dollar in 47 years and against the Australian dollars in 23 years. Additionally, owing to the reference rate cut, it has the third lowest yield among the global currencies after the yen and the Swiss franc. The question is therefore being raised as to whether the dollar will become a "carry trade" currency.

13 UNCTAD.
14 BNP Paribas.

***Crude oil reaches record highs***

In Q3, crude oil rose from some $70 per barrel to almost $100. Several factors together produced this huge rise: the low inventories in the USA; bad weather cut the Mexican state oil company's output by 20%; and the uncertainty as to whether or not Turkey will intervene against the Kurds in northern Iraq. The rising price of oil has lead to increase in areas used to grow crops for biofuel, which led to higher prices of cereals and animal feed (see Box 1 in section 3. Prices and the Exchange Rate), and the inflation spilled over to meat and dairy products.

***Gold price in excess of $800***

In November, the price of gold exceeded $840 but then slipped to under $800. According to data released by the US Commodity Futures Trading Commission (CFTC),[15] the last week of October saw an increase in short positions by 10%,[15] and covering of these positions led to the price rise. After that, hedge funds sold their positions for profit taking and the price fell. Demand for gold has now increased because investors use it to hedge against drop of the dollar value; a new rise is therefore possible.

15 *The Financial Times.*

# 3. Prices and the Exchange Rate

**Though total inflation in Q3 was slightly lower than in the previous quarter, it was still relatively high in relation to late 2006 and Q1 2007. For its part, the core inflation rate accelerated significantly. *QM* believes these movements were primarily caused by supply-side factors. Half of the total rise in inflation in Q3 and as much as two- thirds of the rise in the core inflation rate[1] in Q3 can be ascribed to the rising prices of food products. The average monthly inflation rate in Q3 was 0.9%, or 10.9% annually (whereas the figures for Q2 and Q1 were 12.0% and just 5.1%, respectively). The average monthly core inflation rate stood at 0.8% in Q3, or as much as 9.4% annually; in Q2 it was 3.7%. Similar trends prevailed in October as well – total inflation stood at 0.6% in relation to the previous month, with a core rate of 0.7%. Total inflation is expected to reach over 9% at the year-end, while the core rate will probably be about 5%. The average dinar/euro exchange rate appreciated in Q3 by 2.2% nominally, or 4.4% in real terms.**

***Total inflation in Q3 remains approximately the same as in the previous quarter…***

Total inflation, as measured by the retail price index (RPI), remained at approximately the same level in Q3 as in the previous quarter, which was still higher than at the turn of the year. The average inflation rate in Q3 amounted to 0.9%, or 10.9% annually (Table T3-1). It stood at 12.0% in the previous quarter, and was as low as 5.1% in Q1. Y-o-y inflation in Q3 was 6.5%, compared with 4.7% in Q2. The fact that the y-o-y inflation rate was 1.8 percentage points higher in Q3 relative to Q2, although the average monthly rate was somewhat lower in Q3, is the consequence of comparison with Q3 2006, when the trend had already changed, and the inflation rate started slowing down significantly as a result of changes in NBS monetary policy.

**Table T3-1. Serbia: Retail price index and core inflation, 2005–2007**

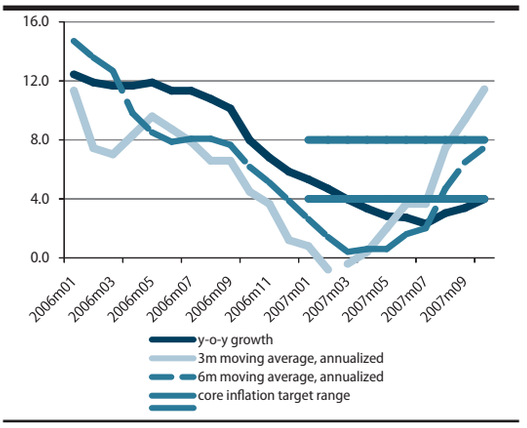
| | Retail Price Index | | | | Core inflation | | | |
|---|---|---|---|---|---|---|---|---|
| | base index (avg. 2005 =100) | y-o-y growth | monthly growth | 3m moving average, annualized* | base index (avg. 2005 =100) | y-o-y growth | monthly growth | 3m moving average, annualized* |
| **2005** | | | | | | | | |
| Dec | 107.6 | 17.6 | 2.2 | 22.5 | 106.3 | 17.6 | 0.9 | 18.6 |
| **2006** | | | | | | | | |
| March | 110.0 | 14.4 | 0.3 | 9.1 | 108.1 | 14.4 | 0.8 | 7.0 |
| June | 113.7 | 15.1 | 0.0 | 14.4 | 110.4 | 15.1 | 0.6 | 8.7 |
| July | 113.6 | 12.8 | -0.1 | 6.0 | 111.0 | 12.8 | 0.6 | 7.9 |
| August | 114.4 | 13.1 | 0.7 | 2.3 | 111.5 | 13.1 | 0.4 | 6.6 |
| September | 114.1 | 11.6 | -0.2 | 1.4 | 112.1 | 11.6 | 0.6 | 6.6 |
| October | 113.7 | 9.3 | -0.4 | 0.3 | 112.3 | 9.3 | 0.1 | 4.5 |
| November | 114.6 | 8.8 | 0.8 | 0.6 | 112.5 | 8.8 | 0.2 | 3.7 |
| December | 114.7 | 6.6 | 0.1 | 2.1 | 112.5 | 6.6 | 0.0 | 1.2 |
| **2007** | | | | | | | | |
| March | 116.1 | 5.6 | 0.8 | 5.1 | 112.4 | 5.6 | 0.1 | -0.4 |
| April | 117.1 | 4.6 | 0.9 | 7.0 | 112.6 | 4.6 | 0.2 | 0.4 |
| May | 118.8 | 4.4 | 1.4 | 12.7 | 112.8 | 4.4 | 0.2 | 2.0 |
| June | 119.5 | 5.1 | 0.6 | 12.0 | 113.4 | 5.1 | 0.5 | 3.7 |
| July | 120.2 | 5.9 | 0.6 | 10.9 | 113.6 | 5.9 | 0.2 | 3.7 |
| August | 121.6 | 6.3 | 1.2 | 10.0 | 114.9 | 6.3 | 1.1 | 7.4 |
| September | 122.6 | 7.4 | 0.8 | 10.9 | 115.9 | 7.4 | 1.0 | 9.4 |
| October | 123.3 | 8.5 | 0.6 | 10.9 | 116.7 | 8.5 | 0.7 | 11.5 |

Source: SBS.
* Moving averages of monthly price increases for three months, annualized (e.g., the value for March was obtained through annualization of the average of monthly price increases in January, February and March).

1 Core inflation measures the price movements of goods and services that are not under administrative control, but formed freely on the market. Thus the price of electricity, oil products, utilities, etc. are excluded from this indicator. In addition, core inflation does not include agricultural produce, as these prices are strongly affected by seasonal factors.

*…but core inflation is accelerating significantly*

**Graph T3-2. Serbia: core inflation (in %), 2006–2007**




Source: SBS

Core inflation recorded considerable acceleration in Q3 (Graph T3-2), primarily due to the rising prices of food. Thus the average core inflation rate stood at a monthly 0.8% in Q3, or as much as 9.4% annually; it was 3.7% in the previous quarter, and was negative in Q1 (-0.4%). The core inflation rate was at its highest in August, up 1.1% on the previous month – the highest core inflation rate since November 2005. The y-o-y inflation rate was 2.9% in Q3, while it stood at 3.0% in Q2. *QM* believes that better trend indicators are still obtained by observing the average monthly rate.

*The rise in prices in Q3 is primarily the consequence of supply-side factors…*

The rise in prices in Q3 was mainly triggered by supply-side factors, with the biggest contribution coming from industrial food products. Although they have a 19.9% share in the RPI, their contribution to price growth in Q3 amounted to as much as 55%. Hikes in bread and pastry prices, as well as in those of fresh meat, milk, and dairy products, made an especially significant contribution to total price growth. These three groups were responsible for as much as 43% of the total price rise in Q3 (Table T3-3). It is also noteworthy that agricultural products, with a 3.35% share in the total RPI, contributed by as much as 8.6% to total inflation.

**Table T3-3. Retail Price Index, Contribution to Growth by Selected Components in Q3**

| | Share in RPI | Price increase in Q3 | Contribution to RPI growth in Q3 |
|---|---|---|---|
| | | in % | |
| Total | 100.00 | 2.6 | 100.0 |
| Goods | 72.46 | 3.1 | 86.1 |
| Agricultural products | 3.35 | 6.6 | 8.6 |
| Industrial products | 69.11 | 2.9 | 76.6 |
| **Industrial food products** | **19.93** | **7.1** | **54.7** |
| **Bread and pastry** | **2.11** | **20.0** | **16.4** |
| **Fresh meat** | **2.10** | **17.2** | **14.0** |
| **Milk and dairy products** | **3.39** | **9.6** | **12.6** |
| **Vegetable fats** | **1.03** | **17.8** | **7.1** |
| Industrial non food products | 41.22 | 1.3 | 20.3 |
| Liquid fuels and lubricants | 9.39 | 3.6 | 13.2 |
| Services | 27.54 | 1.4 | 14.6 |

Source: SBS.

*…with the greatest contribution made by industrial food products…*

Similar conclusions can also be drawn when the core inflation rate is considered: the biggest contribution to its growth in Q3 was made by food products. Table T3-4 shows the contribution of selected components to core inflation. It is evident that the contribution of industrial food products to core price growth was as high as 66%. The significant contribution to price growth by fresh meat and vegetable fats (primarily cooking oil) in Q3 should also be emphasized: 29.2% and 14.4% respectively.

*… the possible reasons being the drought, a high degree of concentration in food production and retailing, as well as the global trend of rising food prices*

These movements in the prices of food and agricultural products can mainly be associated with supply-side factors – the drought and poor results recorded by the agriculture sector this year. A major section of the public, however, believes that the cause is the alleged monopolistic position of certain food producers and the high degree of concentration in retailing. Though both these factors certainly have an impact, it should be borne in mind that food prices have recently seen significant growth, both in the region and globally (see Box 1), and that movements in global markets inevitably have an impact on the Serbian market.

**Table T3-4. Core Inflation, Contribution to Growth by Selected Components**

| | Share in Core inflation | Contribution to Core inflation growth in Q3 | Contribution to Core inflation growth in 2007 (by October) |
|---|---|---|---|
| | | in % | |
| Core inflation | 100.0 | 100.0 | 100.0 |
| Goods | 76.3 | 84.9 | 80.6 |
| **Industrial food products** | **29.9** | **66.1** | **42.3** |
| Fresh meat | 3.9 | 29.2 | 8.9 |
| Vegetable fats | 2.1 | 14.4 | 6.3 |
| Beverages | 8.4 | 6.0 | 9.5 |
| Industrial non food products | 38.0 | 12.7 | 28.9 |
| Services | 23.7 | 15.1 | 19.4 |

Source: SBS.
Note: Components not part of core inflation have been excluded. For instance, the prices of bread and milk have been excluded from industrial food products.

Inflation in July rose 0.6% in relation to June, or 5.9% relative to the same month of 2006. The greatest contribution to price growth in July was made by non-core prices:[2] the rise in the price of petroleum products (responsible for 63% of the total July price rise), social security services (22% of the total price increase) and transportation services (24% of the total), while the 6.2% drop in the prices of agricultural products cut back total inflation.

Inflation amounted to 1.2% in August relative to the previous month, or 6.3% in relation to August 2006. Not counting May 2007, the month of the electricity price hike, this was the highest monthly inflation rate in the past 17 months. The high August price growth was primarily the consequence of the rise in the prices of agricultural products (accounting for 32% of the total price rise) and foodstuffs. Industrial food products were thus responsible for 51% of the total August price growth, and only three groups of staples – fresh meat, milk and dairy products, and cooking oil – for 45% of the August price growth. Thus total price growth since the beginning of the year reached 6.0% in August.

Inflation was lower in September than in the month before, but was still relatively high. Total inflation amounted to 0.8% at the monthly level, or 7.4% y-o-y. The inflation rate thus reached 6.9% from January to September. The September price growth was mainly the consequence of the rise in the prices of foodstuffs. Almost half (44%) of the total price growth can be attributed to wheat products (including bread), the prices of which rose by an average of 12% in September. Milk and dairy products also made a significant contribution to this growth (23% of the total), as did cooking oil (some 13% of the total growth) and agricultural products (about 10% of the total).

***October saw movements similar to Q3***

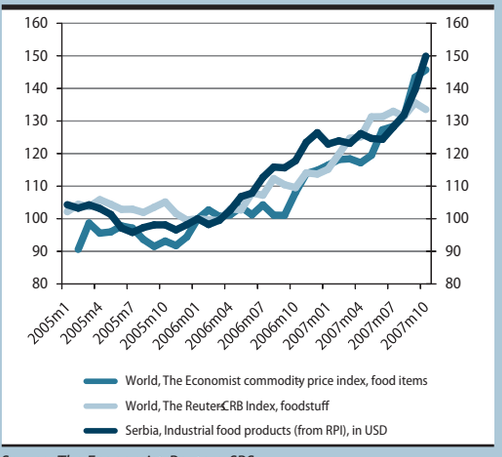
Inflation decelerated slightly in October relative to September. Core inflation also slowed in relation to September, but was still on a slight upward trend. Total October inflation stood at monthly 0.6%, bringing total price growth since January to 7.5%. Core October inflation stood at 0.7% per month, or 4% year-on-year. Food products, mainly staples, again made the highest contribution to inflation. Prices of wheat products rose by 1.6% relative to September, contributing 18% to total price growth; milk and dairy products cost 4.0% more than in September, with a 23% contribution to inflation. Therefore, wheat products (bread, pastry, pasta) and milk and dairy products made a total contribution of as much as 41% to the price growth in October. In addition, products with more significant contributions to inflation included tobacco (responsible for 13% of total growth) and liquid fuels and lubricants (i.e. petroleum products – 14% of the total). It is interesting to note that prices of agricultural products fell by 1.7% in relation to the previous month, which does not correspond to the seasonal pattern, and also brings into question the widespread belief that food prices are rising solely as the consequence of the drought.

2 Non-core prices are prices which are under direct administrative control (electricity, utility services, etc.) or are directly influenced by seasonal factors (agricultural products) or under the influence of exogenous factors (prices of petroleum products).

## Box 1. Global Food and Agricultural Produce Prices

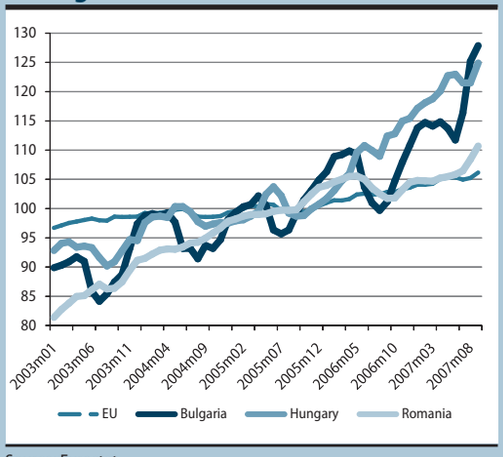
The prices of food and agricultural products have seen strong growth in most countries throughout the world over the past several months, and are therefore increasingly becoming the focus of public debate. Both relevant global food price indices (the CRB-Reuters Food Index and The Economist Commodity Price Index, Foodstuffs) grew significantly and reached record values since this summer (Graph T3-5). The prices of industrial food products in Serbia, when adjusted for the US dollar exchange rate, generally followed global trends (Graph T3-5). However, over the past several months, the Serbian food price index has begun to show greater acceleration relative to global prices. An acceleration of prices throughout the EU has also become apparent since this summer (Graph T3-6).

**Graph T3-5. Selected Food Price Indices, January 2006=100**




Source: *The Economist*, Reuters, SBS.

**Graph T3-6. Food Price Indices in the EU and Selected Countries, 2005 Average=100**




Source: Eurostat.

Both supply- and demand-side reasons were behind this strong growth of prices of food and agricultural produce. The prices of cereals and dairy products showed especially significant growth.[1] *QM* will, therefore, analyze the key factors contributing to these movements, with special emphasis on cereal production.

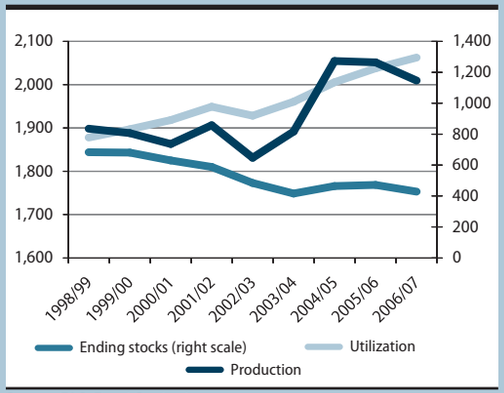
First, the supply-side factors. World cereal production has, since 1999 (excluding 2004, the year of record harvests), been lower than or equal to demand.[2] As a result, stocks of all cereals are now 37% lower than in 1999, while global wheat stocks fell to their lowest levels since 1980 in 2007 (Graph T3-7).[3] In addition, although total global production generally follows an upward trend, per capita production is constantly falling (Graph T3-8). In 2007, drought additionally reduced yields in a number of countries that are major producers (such as Australia, the EU, the US). Most European countries were hit by drought, with the result that cereal production in the EU was at its lowest level since 2003, and almost 20% lower than in the record year of 2004 (Graph T3-9).

The main demand-side factors affecting price growth are: first, the high rise in oil prices has led to a significant increase in interest for biofuels (bio-ethanol and bio-diesel). As crops are the basic raw material for bio-fuel production, this led to increased demand. Additionally, raw materials usable in bio-fuel refining are taking up increasingly larger portions of arable land, leaving less for food crops, with buyers of fuel crops increasingly competing with buyers of food crops. As a major drop in oil prices is unlikely in the near future, the trend can be expected to become more pronounced, with environmental regulation contributing to this effect: for instance, under an EU directive, member states are required to have at least a 5.75% share of bio-fuels in total fuel consumption by 2010.

Second, the rise in demand is also driven by the growing interest of large investment funds in agricultural and food products. Ever since the dot-com crash of 2001, they have been seeking al-

1 See, for instance, the November 2007 issue of *Food Outlook*, published by the FAO (Food and Agriculture Organization of the United Nations).
2 Source: FAO *Food Outlook*.
3 Source: United States Department of Agriculture *Wheat Yearbook*.

**Graph T3-7. The World: Cereals Production, Utilization and Ending Stocks, mil. tons, 1999–2007**

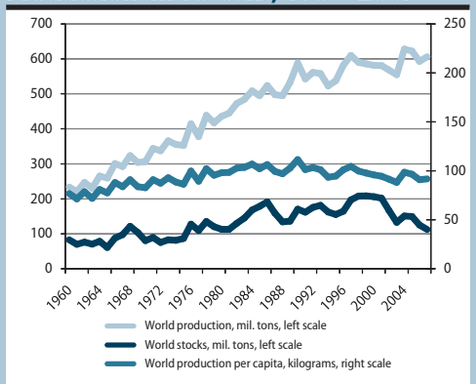



Source: FAO *Food Outlook*.

ternative investment opportunities, and commodities are an increasingly popular option. This summer's sub-prime mortgage market crisis has led to a panic flight of investors from these portfolios, freeing up large financial assets in the process, and thereby increasing demand for commodities (as alternate forms of investment), which additionally contributed to the pressure on prices.

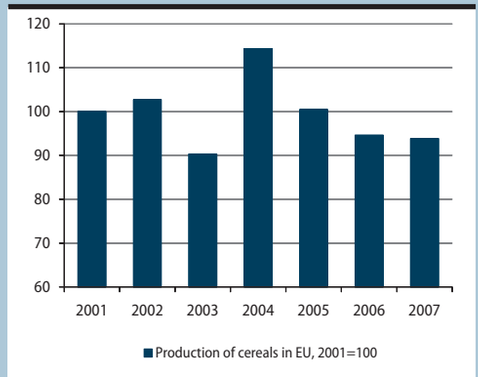
Third, it should also be noted that the higher standards of living in China and India are prompting higher demand on the part of their populations. Bearing in mind the size of these countries, any growth in demand there has a major impact on global agricultural produce demand levels. In view of all these factors, it may be concluded

**Graph T3-8. The World: Wheat Production and Stocks, 1960–2007**




Source: United States Department of Agriculture.

**Graph T3-9. European Union: Cereal Production, 2001–2007**




Source: Eurostat.

that global food prices will continue rising in the near future.[4] The question is what implications this holds for Serbia. To be able to answer this, we need to proceed from the fact that higher food prices have led to rising inflation in most European countries. It was noticeable, however, that the effect on total inflation was not the same everywhere. Initial analyses suggest that inflation rose less in countries with more developed markets. A lesson Serbia could learn from this could be that energy should not be expended on devising and adopting administrative measures to combat the adverse effects of rising food prices on living standards; rather, conditions should be created for the development of a free market and the strengthening of competition.

4 See, for instance, the Financial Times of 18 October and 16 November 2007.

***Agricultural producers' prices see significant growth in Q3***

The agricultural producers' price index recorded a significant acceleration and high growth rate in Q3. The average monthly rate now stands as high as 7.5% (Table T3-10), compared to a mere 1.2% in the same quarter of 2006. The y-o-y rate of growth for agricultural product manufacturers' prices stood at as much as 14.1% in Q3, while in Q2 it was just 3.1% (Graph T3-11).

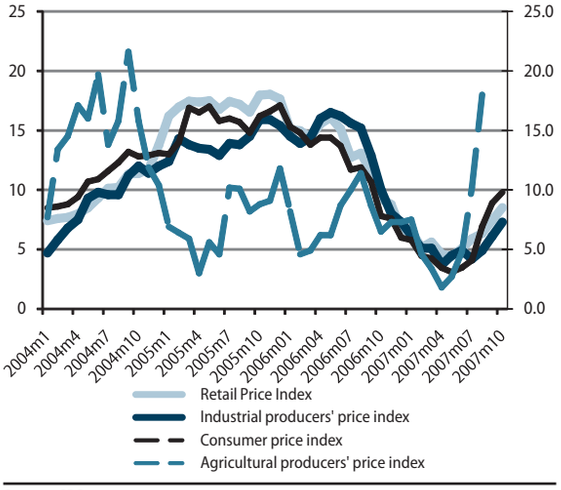
The consumer price index saw a monthly growth rate of 1.5%, an increase over the 0.9% in Q2 (Table T3-10). The average y-o-y growth in the consumer price index stood at 6.6% in Q3, while the figure for Q2 was 3.3%. On the other hand, the industrial producers' price index saw a slowdown in Q3. Thus the average Q3 monthly rate fell to 0.5% from the 1.3% recorded in the previous quarter.

## Table T3-10. Serbia: Comparative Price Growth, Selected Indices, 2005–2007

| | Retail Price Index | | | Consumer price index | | Industrial producers' price index | | Agricultural producers' price index | |
|---|---|---|---|---|---|---|---|---|---|
| | base index (avg. 2005 =100) | y-o-y growth | monthly growth | y-o-y growth | monthly growth | y-o-y growth | monthly growth | y-o-y growth | monthly growth |
| **2005** | | | | | | | | | |
| Dec | 107.6 | 17.6 | 2.2 | 17.1 | 1.6 | 15.4 | 0.4 | 11.8 | 1.0 |
| **2006** | | | | | | | | | |
| March | 110.0 | 14.4 | 0.3 | 13.8 | 0.6 | 14.4 | 0.6 | 4.9 | 1.1 |
| June | 113.7 | 15.1 | 0.0 | 13.7 | 0.0 | 16.2 | 0.2 | 8.7 | 1.2 |
| July | 113.6 | 12.8 | -0.1 | 11.7 | -0.9 | 15.6 | 1.3 | 10.0 | 0.3 |
| August | 114.4 | 13.1 | 0.7 | 11.9 | 0.3 | 15.2 | 0.3 | 11.4 | 2.6 |
| September | 114.1 | 11.6 | -0.2 | 10.7 | -0.1 | 12.9 | 0.0 | 8.7 | 0.8 |
| December | 114.7 | 6.6 | 0.1 | 6.0 | 0.1 | 7.3 | -0.2 | 7.3 | 1.1 |
| **2007** | | | | | | | | | |
| March | 116.1 | 5.6 | 0.7 | 4.2 | 0.4 | 5.1 | 0.6 | 3.4 | -0.5 |
| June | 119.5 | 5.1 | 0.6 | 3.5 | 0.4 | 4.9 | 0.7 | 4.8 | 2.8 |
| July | 120.2 | 5.9 | 0.6 | 4.1 | -0.3 | 4.2 | -0.1 | 10.2 | 4.4 |
| August | 121.6 | 6.3 | 1.2 | 6.9 | 3.0 | 4.9 | 0.7 | 18.0 | 10.5 |
| September | 122.6 | 7.4 | 0.8 | 8.9 | 1.7 | 6.1 | 0.8 | ... | ... |
| October | 123.3 | 8.5 | 0.6 | 9.8 | 0.5 | 7.3 | 0.8 | ... | ... |

Source: SBS.

## Graph T3-11. Serbia: Selected Price Indices, 2004-2007 (y-o-y growth)



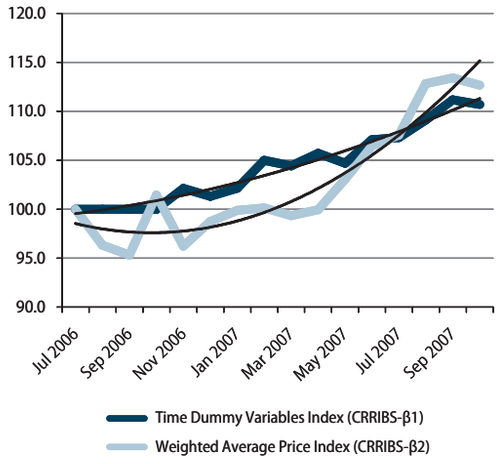

Source: SBS.

## Box 2. Belgrade Residential Property Index[1]

From this issue onward *QM* will begin regularly monitoring residential property prices in Belgrade. To this end we have developed the CRRIBS Index (CEVES Residential Real Estate Index Belgrade). It is still being refined, and is currently calculated using two separate methodologies, resulting in two versions – CRRIBS-β1 and CRRIBS-β2.

1 QM already covered the issue of the Belgrade residential property market in "Serbia's Residential Property Market", an article by Dragana Cvijanović published in QM issue 5, 2006. We wish to express our gratitude to Ms Cvijanović for her Belgrade residential property database covering the period from January 2005 to May 2006, as well as her suggestions about the application of the methodology set out in this study. Thanks are also due to Aleksandra Nojković for valuable advice on methodology.

**Graph T3-12. Time Dummy Variables Index (CRRIBS-β1) and Weighted Average Price Index (CRRIBS-β2), July 2006 = 100**




Source: CEVES

## Results

When index values are taken into account, it becomes apparent that the price per square meter of a property in Belgrade as a whole was on an upward trend from July 2006 to October 2007. The market price per square meter of the same property is some 13% higher relative to July 2006 (Graph T3-12).

It is also interesting to view price movements by borough. The greatest growth in property prices (over 30%) over this period was in the boroughs of Novi Beograd, Vračar, and Stari Grad. Conversely, the steepest fall (4.4%) occurred in Rakovica borough (Table T3-13). Additionally, Vračar is where the most expensive square meter of property is located, while Rakovica is home to the least expensive one. A square meter generally costs the most in smaller properties (up to 48 sqm), and the least in large ones (68 sqm and above).

**Table T3-13. Belgrade Boroughs: Weighted Average Property Price Indices (July 2006=100)**

| | Stari grad | Voždovac | Vračar | Zemun | Zvezdara | Čukarica | Novi Beograd | Palilula | Rakovica | Savski venac |
|---|---|---|---|---|---|---|---|---|---|---|
| **2006** | | | | | | | | | | |
| Jul | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Aug | 113.1 | 113.4 | 118.9 | 97.9 | 95.2 | 93.4 | 121.1 | 79.6 | 88.1 | 117.2 |
| Sep | 110.9 | 100.2 | 113.4 | 82.7 | 99.2 | 99.5 | 103.7 | 84.8 | 89.5 | 123.5 |
| Oct | 113.7 | 104.7 | 121.3 | 90.9 | 90.9 | 98.5 | 112.9 | 85.7 | 89.0 | 111.0 |
| Nov | 124.8 | 105.0 | 119.5 | 89.6 | 98.1 | 98.5 | 111.5 | 86.5 | 91.9 | 119.5 |
| Dec | 116.7 | 96.5 | 120.6 | 102.9 | 95.1 | 96.3 | 114.7 | 82.3 | 91.5 | 122.8 |
| **2007** | | | | | | | | | | |
| Jan | 114.2 | 103.5 | 120.8 | 111.8 | 95.3 | 98.0 | 117.6 | 86.3 | 95.1 | 107.6 |
| Feb | 115.9 | 112.3 | 120.0 | 98.4 | 104.8 | 96.5 | 119.0 | 86.0 | 94.0 | 118.3 |
| Mar | 123.1 | 108.8 | 122.5 | 96.5 | 103.0 | 97.5 | 114.7 | 89.0 | 92.8 | 122.4 |
| Apr | 112.4 | 115.9 | 119.4 | 95.8 | 101.0 | 98.6 | 123.6 | 93.4 | 94.9 | 108.8 |
| May | 112.5 | 106.2 | 126.0 | 97.2 | 104.7 | 98.8 | 117.7 | 83.2 | 94.9 | 114.3 |
| Jun | 116.2 | 123.6 | 115.9 | 105.7 | 100.6 | 96.2 | 123.2 | 94.9 | 97.0 | 117.3 |
| Jul | 119.7 | 110.8 | 128.6 | 108.8 | 105.0 | 99.2 | 135.5 | 83.4 | 95.7 | 122.6 |
| Aug | 128.5 | 120.2 | 137.6 | 118.3 | 113.4 | 105.4 | 124.7 | 92.0 | 97.6 | 121.2 |
| Sep | 133.5 | 115.0 | 141.8 | 118.4 | 110.8 | 98.8 | 129.6 | 92.7 | 99.5 | 141.4 |
| Oct | 134.7 | 117.0 | 135.2 | 120.6 | 112.6 | 104.4 | 138.1 | 99.2 | 95.6 | 126.2 |

Source: CEVES

## Methodology[2]

CRRIBS-β1 is based on time dummy variables. It is expressed as the ratio between coefficients with time dummy variables for each period in relation to the base period. The coefficients are obtained through the regression model estimation using the OLS method, where the logarithm price per square meter is taken as the dependent variable, with various property characteristics recorded in the database that can affect property price used as independent variables. By doing this we ensure that the final index reflects, as closely as possible, price changes caused over a given period by market forces, mainly supply and demand (bearing in mind all limitations stemming from incomplete data and lack of information about all relevant property characteristics).

2 For more details on methodology, data used, and additional results, visit www.ceves.org.yu.

CRRIBS-β2 is a weighted average price index. It is computed as the ratio between the average price of a square meter in the entire territory of Belgrade covered by the database in relation to the base period. As the aim is for the index to capture market influences only, i.e. to exclude the impact of changes to supply structure, we are using the weighted average.

To measure property price movements, we use consolidated property supply data for Belgrade provided by 30 to 60 estate agents (depending on the period) for the period from January 2005 to October 2007. This consolidated supply data comprises information from large agencies, and thus makes up about 30-40% of Belgrade's total residential property supply. The database constructed using this data contains information on property type (apartment, house, shop), whether the property is for sale or rent, its price in euros, as well as other user-relevant property information. The database entry also contains the date when the property came onto the market.

## The Dinar Exchange Rate

***The dinar appreciated against the Euro by 4.4% in real terms in Q3***

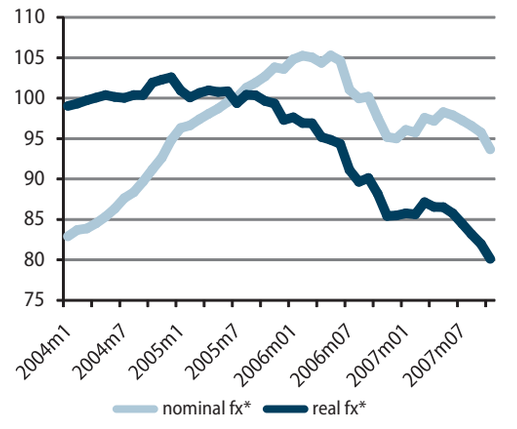
The dinar appreciated both nominally and in real terms against the euro in Q3. The average September dinar/euro exchange rate was higher by 2.2% nominally, or 4.4% in real terms, relative to the June rate. The dinar saw a nominal appreciation of 1.7% against the euro throughout 2007 (by October); in real terms, the appreciation was a significant 6.3% (Table T3-14).

**Table T3-14. Serbia: Dinar/Euro Exchange Rate, 2003–2007**

| | Nominal | | | | Real | | | |
|---|---|---|---|---|---|---|---|---|
| | exchange rate (FX)[1] | base index[2] (avg.2005 = 100) | y-o-y index[3] | cumulative index[4] | real FX[5] (avg.2005 = 100) | y-o-y index[3] | cumulative index[4] | USD/EUR rate[6] |
| | | | | annual exchange rate[7] | | | | |
| **2003** | 64.9743 | 78.4 | 107.1 | 110.5 | 96.8 | 97.6 | 104.4 | 1.1241 |
| **2004** | 72.6215 | 87.6 | 111.8 | 115.6 | 100.5 | 103.8 | 103.9 | 1.2392 |
| **2005** | 82.9188 | 100.0 | 114.2 | 109.3 | 100.0 | 99.5 | 94.9 | 1.2433 |
| **2006** | 84.1879 | 101.5 | 101.5 | 91.7 | 92.1 | 92.1 | 87.9 | 1.2537 |
| | | | | monthly exchange rate | | | | |
| **2005** | | | | | | | | |
| March | 80.7498 | 97.4 | 116.1 | 102.7 | 100.6 | 100.9 | 98.1 | 1.3074 |
| June | 82.5172 | 99.5 | 115.3 | 105.0 | 100.8 | 100.7 | 98.3 | 1.2180 |
| September | 84.4958 | 101.9 | 113.6 | 107.5 | 100.3 | 99.9 | 97.8 | 1.2265 |
| December | 85.9073 | 103.6 | 109.3 | 109.3 | 97.3 | 94.9 | 94.9 | 1.1861 |
| **2006** | | | | | | | | |
| March | 87.1033 | 105.0 | 107.9 | 101.4 | 96.9 | 96.3 | 99.6 | 1.2013 |
| June | 86.7609 | 104.6 | 105.1 | 101.0 | 94.4 | 93.6 | 97.0 | 1.2677 |
| September | 83.0621 | 100.2 | 98.3 | 96.7 | 90.1 | 89.8 | 92.6 | 1.2748 |
| October | 80.9242 | 97.6 | 95.0 | 94.2 | 88.2 | 88.5 | 90.6 | 1.2615 |
| November | 78.9404 | 95.2 | 91.7 | 91.9 | 85.4 | 86.0 | 87.8 | 1.2876 |
| December | 78.7812 | 95.0 | 91.7 | 91.7 | 85.5 | 87.9 | 87.9 | 1.3210 |
| **2007** | | | | | | | | |
| March | 80.8968 | 97.6 | 92.9 | 102.7 | 87.1 | 89.9 | 101.9 | 1.3246 |
| April | 80.5768 | 97.2 | 93.1 | 102.3 | 86.5 | 90.9 | 101.2 | 1.3516 |
| May | 81.4770 | 98.3 | 93.3 | 103.4 | 86.5 | 91.2 | 101.2 | 1.3512 |
| June | 81.1665 | 97.9 | 93.6 | 103.0 | 85.8 | 90.9 | 100.3 | 1.3420 |
| July | 80.6204 | 97.2 | 96.2 | 102.3 | 84.5 | 92.7 | 98.8 | 1.3716 |
| August | 80.0703 | 96.6 | 96.6 | 101.6 | 83.0 | 92.6 | 97.1 | 1.3622 |
| September | 79.3999 | 95.8 | 95.6 | 100.8 | 82.0 | 91.0 | 95.9 | 1.3884 |
| October | 77.6627 | 93.7 | 96.0 | 98.6 | 80.1 | 90.9 | 93.7 | 1.4227 |

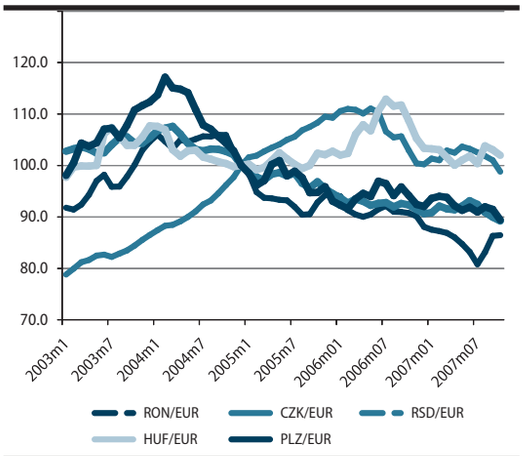
Source: Table P-3 in Analytical Appendix.
1) Month average, official daily NBS mid rate.
2) Ratio of fx in column 1 and average fx in 2005.
3) Ratio of fx in column 1 and fx for the same period in previous year.
4) Cumulative is the ratio of given month and December of previous year.
5) Includes Euro area inflation. Index calculation: RE=(NE/p) x p*
RE - real fx index NE -nominal fx index p - Serbia RPI index p* -Euro area CPI index
6) Period average.
7) Twelve-month averages for annual data.

**Graph. T3-15. Serbia: Nominal and Real Dinar/Euro Exchange Rate, 2004–2007**




Source: Table P-3. in Analytical Appendix.
*Avrg. 2005=100. See definition of real fx in Table T3-14.

**Graph T3-16. Nominal Exchange Rates, Selected Currencies/Euro, December 2004=100**




Source: Respective National Banks.

***Other East European countries also recorded significant currency appreciation***

The significant nominal appreciation rate of the dinar against the euro recorded since mid-2006 (11% from May 2006 to October 2007) is neither very unusual nor very high when compared to movements in other similar countries. The appreciation of the domestic currency, caused mainly by high capital inflows, is a phenomenon faced by more or less all East European economies in transition (Graph T3-16). Thus, for instance, from February 2004 to October 2007 the Polish zloty, the Romanian leu and the Czech koruna appreciated against the euro by 23.9%, 17.4%, and 16.8%, respectively. In addition, from May 2006 to October 2007, the period over which the dinar saw a nominal appreciation of 11% against the euro, the Hungarian forint appreciated by 10%. Similar conclusions can also be drawn when the real exchange rate is taken into consideration. For instance, over the course of one year, from August 2006 to August 2007, the real effective exchange rate in Hungary appreciated by 13.1%. If a somewhat longer period, from early 2004 to August 2007, is observed, it becomes evident that the real effective exchange rate in the Czech Republic appreciated by 13.4%,[3] while the figure for Hungary was 15.2%.

3 The Czech koruna was faced with its highest appreciation rate in 2002, when the year-on-year appreciation of the real effective exchange rate reached 15%.

# 4. Employment and Wages

**Employment in legal entities continued to fall between March and September 2007, while the data on the number of entrepreneurs is still not available. The manufacturing industry made the highest contribution to the fall in employment by cutting 15,000 jobs between March and September 2007. Employment in the public sector is stable. The number of registered unemployed declined since these persons can no long obtain medical insurance through the National Employment Service. The y-o-y real rise in gross monthly wages of 14.1% decelerated by more than 4 percentage points relative to the preceding quarters. Unit labor costs in the economy fell slightly. The highest real y-o-y wage growth was recorded in the health care and social welfare sectors. The y-o-y increase in gross wages in state-owned public enterprises decelerated, while the strongest wage growth in the private sector was recorded in the real estate, hotel and restaurant businesses, and in commerce.**

## Employment

***Employment in legal entities fell, with the manufacturing industry taking the lead by cutting 15,000 jobs***

Employment in September was lower by 17,000 relative to March 2007, although the data presented in Table T4-1 is not final.[1] The fall in overall employment was driven completely by the fall of employment in legal entities, where the manufacturing industry still led with 15,000 less jobs in September[2] relative to March, i.e. a drop in employment of 3.9% in this sector (Table P5, Analytical Appendix). Since growth in the manufacturing industry between March and September 2007 stood at some 4%, while employment declined constantly, we conclude that growth of this sector was generated through growth in labor productivity. The manufacturing industry was thus a sector of the Serbian economy characterized by growth without job creation, a phenomenon which can be attributed to an advanced stage of transition-related restructuring.

**Table T4-1. Serbia: Registered Employment, 2003–2007**

| | Total No. of employed (employees and entrepreneurs) | Employees in legal entities | Entrepreneurs | | | Total No. of employees |
|---|---|---|---|---|---|---|
| | | | Total | No. of entrepreneurs | No. of employees with entrepreneurs | |
| | 1 (=2+3) | 2 | 3 (=4+5) | 4 | 5 | 6 (=2+5) |
| | | | in thousands | | | |
| **2003** | | | | | | |
| March | 2,046 | 1,628 | 418 | 198 | 220 | 1,848 |
| September | 2,036 | 1,595 | 441 | 202 | 239 | 1,834 |
| **2004** | | | | | | |
| March | 2,065 | 1,601 | 464 | 208 | 255 | 1,856 |
| September | 2,037 | 1,560 | 477 | 210 | 267 | 1,827 |
| **2005** | | | | | | |
| March | 2,070 | 1,557 | 513 | 228 | 285 | 1,842 |
| September | 2,067 | 1,536 | 531 | 230 | 300 | 1,836 |
| **2006** | | | | | | |
| March | 2,032 | 1,496 | 536 | 228 | 308 | 1,804 |
| September | 2,019 | 1,447 | 572 | 242 | 330 | 1,777 |
| **2007** | | | | | | |
| March | 2,004 | 1,438 | 566 | 238.687 | 327 | 1,765 |
| September | 1,987 | 1.421[1)] | 566[2)] | 239 | 327 | 1,748 |

Source: SBS Semi-annual Report on the Employed and Wages RAD-1/P; Additional Survey to the Semi-annual RAD-1 Report; Semi-annual Report on Small Businesses and Their Employees RAD-15.
Notes by column:
1) The total number of employed (employees and entrepreneurs) includes those employed by legal entities (enterprises, organizations, institutions) - Column 2, and small businesses i.e. entrepreneurs - Column 3 (including store owners, self-employed professionals, etc., and those working for them). Employees of the Ministry of Defense of Serbia, and the Serbian Ministry of Internal Affairs are not included.
2) Employees in legal entities (companies, organizations, institutions).
3) Owners of small businesses and self-employed persons (entrepreneurs) and their employees (Column 4 + Column 5).
4)Owners of small businesses and self-employed persons (entrepreneurs).
5) Employees of small businesses (entrepreneurs).
Footnotes:
1) Data on employees in legal entities are for August 2007; September data are not available yet.
2) The last available data on entrepreneurs and their employees are from March 2007.

1 The data of the RAD-1 survey will be corrected by the semi-annual Report RAD-1/P, while the number of entrepreneurs will be supplemented by means of the RAD-15 survey for September 2007, after the release of the data from those surveys.
2 The most recent data we have on legal entities is from August 2007.

***Employment on the rise in the real estate sector***

Employment went up by around 2,000 jobs (about 3%) between March and September in the real estate sector[3]. Minor monthly fluctuations were observed in other sectors that will not be analyzed before the final data for September 2007 is released (Table P-5, Analytical Appendix).

**Table T4-2. Serbia: Employees in Legal Entities, Disaggregated, 2003–2007**

| | Employees in legal entities | | | | | | |
|---|---|---|---|---|---|---|---|
| | Public sector | | | | | | |
| | From the budget | | | Public enterprises | | Public sector - total | Other[1)] |
| | Administration - all levels | Education and culture | Health and social work | National public | Local public | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | in thousands | | | | | | |
| **2003** | | | | | | | |
| March | 60 | 116 | 147 | 129 | 54 | 506 | 1,122 |
| September | 62 | 114 | 147 | 127 | 55 | 505 | 1,090 |
| **2004** | | | | | | | |
| March | 63 | 117 | 147 | 125 | 57 | 509 | 1,092 |
| September | 63 | 116 | 148 | 124 | 57 | 508 | 1,052 |
| **2005** | | | | | | | |
| March | 63 | 119 | 148 | 122 | 61 | 513 | 1,044 |
| September | 61 | 117 | 147 | 112 | 61 | 498 | 1,038 |
| **2006** | | | | | | | |
| March | 60 | 118 | 141 | 105 | 61 | 485 | 1,011 |
| September | 58 | 117 | 138 | 102 | 60 | 475 | 972 |
| **2007** | | | | | | | |
| March | 58 | 121 | 138 | 100 | 59 | 476 | 962 |
| September | 59 | 120 | 139 | 100 | 58 | 476 | 945 |

Source: SBS.

Note: Military and police, even though financed from the budget do not enter the total balance of the employed persons presented in this table. Their numbers are estimated at around 80,000, and they add another 4% to the total number of employees in Serbia. The data on their exact numbers and wages are not published by the SBS because of national security issues.

Footnotes:

1) Private, socially-owned and mixed ownership enterprises. This column has not been disaggregated further due to absence of data. The number presented in column 7 is calculated by subtracting the total number of employees in public enterprises and those financed from the budget from the total number of employees in legal entities from the Table T4-1.

***Total employment in the public sector is stable***

Total employment in the public sector remained fairly stable between March and September. While employment went up by around 1,000 jobs in the administration and health care and social welfare sectors, a drop of equal proportions was observed in education and local public enterprises (Table T4-3). Employment in education remained considerably above the level of the previous three years following an increase by 4,000 new jobs between September 2006 and March 2007. This rise could have been driven by the reform of elementary education, within which an increasing number of elementary schools in Serbia are opening day care centers after classes and/or introducing additional elective subjects. This is corroborated by the fact that every teacher is registered as a full-time employee, even if they teach only 10% of their full-time working hours. Since this is an assumption we need to continue monitoring movements in employment in this sector in order to be able to establish the underlying causes with certainty.

***Unemployed persons can no longer obtain medical insurance through the National Employment Service, which is why registered unemployment is declining***

The total number of unemployed persons registered with the National Employment Service (NES) fell rapidly between March and September (column 1, Table T4-3), which can be attributed to the amendment of the Law on Health Care pursuant to which unemployed persons no longer have the right to medical insurance through the NES. Considering that both the number of employed and the number of the unemployed in Serbia has been falling over the last two years, we emphasize that the active working population in Serbia is shrinking.

3 Under statistical classification this sector also includes equipment rentals, computer-based activities, research and development, and other business activities (architectural firms, management, advertising and marketing, etc.).

## Table T4-3. Serbia: Registered Unemployment, 2003–2007

| | Total number of unemployed (NES 15-64) | Unemployment rate (SBS 15-64)[1)] | Total number of unemployed (LFS 15-64) | Unemployment rate (LFS 15-64)[2)] |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| **2004** | | | | |
| March | ... | 26.0 | .. | .. |
| September | 842,775 | 23.9 | 664,002 | 19.5 |
| **2005** | | | | |
| March | 884,111 | 25.0 | .. | .. |
| September | 897,724 | 25.3 | 718,773 | 21.8 |
| **2006** | | | | |
| March | 920,031 | 26.6 | .. | .. |
| September | 914,564 | 26.6 | 691,877 | 21.6 |
| **2007** | | | | |
| March | 913,299 | 26.7 | .. | .. |
| September | 808,200 | 24.5[3)] | .. | .. |

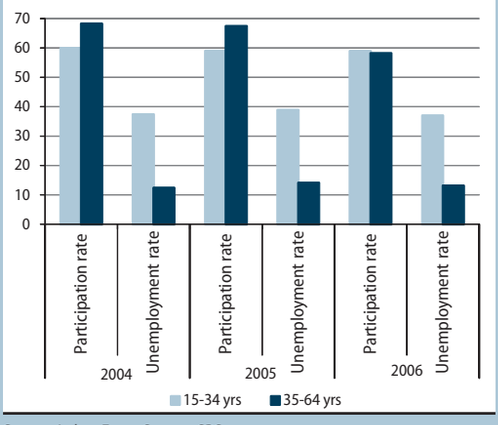
Source: National Employment Service (NES); Labor Force Survey (LFS), SBS.
Notes:
1) Population aged 15-64 is considered working-age population.
2) Active population consists of the total number of the working age employed + unemployed persons.
Footnotes:
1) The SBS unemployment rate stems from dividing the number of unemployed with the total active population, where the active population consists of the total number of employees from the SBS statistics (column 1 in Table T4-1), the number of unemployed 15-64 from the NES statistics (column 1 in this table) and the number of agricultural workers from the LFS. As of September 2004, "Unemployment rate" is based on the "Total number of unemployed", rather than "Individuals searching employment".
2) Labor Force Survey is conducted in October each year (once per year), thus the September data are in fact October data for that same year. 2007 LFS is not available yet, thus we do not publish the LFS number of unemployed or the unemployment rate for 2007 (columns 3 and 4).
3) After the 2007 LFS is published, we will adjust the SBS unemployment rate for the number of agricultural workers in 2007.

## Box 1. Labor Participation and Unemployment in Serbia

What are the characteristics of unemployed persons and the inactive labor force in Serbia? Which age bracket of the active labor force is the most vulnerable? By analyzing data from the Labor Force Survey for the period 2004–2006, in Graph T4-4, we observe the following:

a) Labor participation rate in the working-age population above 35 years of age is falling, while labor participation of those between 15–34 years of age is stable.

### Graph T4-4. Serbia: Labor Participation and Unemployment by Age, 2004–2006




Source: Labor Force Survey, SBS.

b) The unemployment rate in the 15–34 age bracket is around three times higher than the unemployment rate in the 35–64 age bracket. It stood at 37% in October 2006, while the unemployment rate in the 35–64 age bracket was 13.2%.

On the assumption that persons laid off from state-owned companies in the process of restructuring and privatization were mostly above the age of 34, the conclusion is that many of them have opted for exiting the labor force rather than seeking a new job. From the government standpoint, they seem to have been taken care of – they received severance payments, and some went into early retirement, and so are not included in the national unemployment rate.

Graph T4-4 shows that the biggest quantitative problem on the labor market are young people under 34 years of age, many of whom are first-job seekers, who cannot find employment. The emerging private sector is not able to absorb the new/young labor force, despite its economic growth rate of over 7% annually.

It can therefore be concluded that there are two, probably equally vulnerable, categories of the labor force: the first one – laid-off, largely older workers, who move out of the labor force earlier than their legal retirement age, and the second – young members of the labor force, including especially the long-term unemployed, without higher qualifications and work experience.

## Wages

*The real y-o-y increase in gross wages fell to 14.1%*

The real y-o-y increase in average gross wages[4] decelerated by more than four percentage points relative to the previous quarters and amounted to 14.1%. Also in October, the y-o-y real increase in gross wages continued to fall and amounted to 11.7% (Table T4-5). Although this slowdown will contribute to the containment of aggregate demand, it was achieved owing to the acceleration of inflation from 4.7% y-o-y to 6.6% from Q2 to Q3 2007. In order to exclude this effect of the increase in the y-o-y inflation rate[5], we look at the nominal y-o-y indices of gross wages. Since the nominal y-o-y increase went down minimally, from 22.7% in Q2 to 21.7% in Q3 2007 (Table T4-5), the conclusion is that this deceleration of wage growth is much slower than indicated by the real indices, that is, wages have nevertheless nominally remained at a very high level.

**Table T4-5. Serbia: Average Monthly Wage and Real Y-o-y Wage Indices, 2004–2007**

| | Average Monthly Wage | | | | Average Gross Monthly Wage Index[2)] | |
|---|---|---|---|---|---|---|
| | Total labor costs[1)], in dinars | Net wage, in dinars | Total labor costs, in euros | Net wage, in euros | nominal | real |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| **2004** | 24,234 | 14,108 | 334 | 194 | 123.7 | 111.4 |
| **2005** | 30,142 | 17,478 | 364 | 211 | 124.4 | 107.1 |
| **2006** | 37,493 | 21,745 | 445 | 258 | 124.4 | 111.3 |
| **2005** | | | | | | |
| Q2 | 29,516 | 17,122 | 360 | 209 | 125.3 | 107.6 |
| **2006** | | | | | | |
| Q1 | 33,258 | 19,284 | 382 | 221 | 127.3 | 111.0 |
| Q2 | 36,447 | 21,126 | 420 | 243 | 123.5 | 108.1 |
| Q3 | 37,882 | 21,986 | 455 | 264 | 122.3 | 109.7 |
| Q4 | 42,387 | 24,585 | 533 | 309 | 124.9 | 116.6 |
| December | 48,686 | 28,267 | 618 | 359 | 128.1 | 120.9 |
| **2007** | | | | | | |
| Q1 | 41,319 | 25,103 | 517 | 314 | 124.2 | 118.5 |
| Q2 | 44,684 | 27,165 | 551 | 335 | 122.6 | 118.6 |
| Q3 | 46,108 | 28,019 | 576 | 350 | 121.7 | 114.1 |
| September | 47,257 | 28,720 | 608 | 370 | 122.7 | 111.7 |

Source: Serbian Bureau of Statistics (SBS).
Footnotes:
1) Total labor costs include employer's total average expense per worker, including all taxes and social security contributions. TLCs amount to around 168.2% of the average net wage.
2) Gross wage indices are equal to total labor cost indices, because the average TLC is larger than the average gross wage by a fixed 17.9%.

4 Growth indices of gross wages and total labor costs are equal, because total labor costs are higher than gross wages by a fixed 17.9%.
5 For more details on the rise in inflation see Section 3 "Prices and the Exchange Rate", in *QM* no.9 and *QM* no.10.

## Box 2. Labor Costs

Total labor costs represent the total average monthly expense of the employer per employee, and they currently amount to around 164.5% of the net wage in Serbia. Hence, for every 100 dinars that a worker takes home, the employer pays 164.5 dinars. While, in addition to the data on the net wage, the SBS releases data on the gross wage rather than on total labor costs per employee (164.5% of the net wage), as of this issue QM will begin monitoring total labor costs, as a more relevant indicator of the competitiveness of the Serbian economy. Total labor costs therefore include: the net take-home pay, the payroll tax (as of January 2007 it is 12% of the gross wage[1], i.e., 17.1% of the net wage) and total social security contributions per employee, which the employer pays to the health, social and pension funds (as of January 2004, they amount to 35.8% of the gross wage, i.e., 51.1% of the net wage). Legally, these tax liabilities are classified in the following manner: the entire payroll tax (12%) and half of the contributions (17.9%) are borne by the employee, while the other half of the contributions (17.9%) are borne by the employer[2]. Hence the net wage reflects the purchasing power of the population, the gross wage published by the SBS constitutes a legal category and a base on which taxes and contributions are calculated, while total labor costs, since they constitute the average tax burden on the employer for each worker, provide the largest amount of information on the competitiveness of the economy[3].

Unit labor costs measure average labor costs per production unit, and are calculated here as the ratio between the total labor bill and gross value added (GVA). In order to track the movements of unit labor costs in the economy with more precision, as of this issue QM will exclude agriculture and the state sector from GVA in column 3 of Table T4-6[4]. Although we include into the total number of employees the number of employees with entrepreneurs, we face a problem in calculating the total labor costs bill for employees with entrepreneurs, since the SBS is not monitoring their wages. Therefore we use the minimum wage as a proxy for the average wage with an entrepreneur, which amounts to around 40% of the average wage. This estimate is made on the basis of data from the Tax Administration on the paid contributions for employees of entrepreneurs, from which we can infer that the average registered wage with entrepreneurs is approximately equal to the minimum wage.

1 Although the first 5,000 dinars are non-taxable as of January 2007, we ignore this fact in order to simplify the explanation.
2 Although all the mentioned liabilities are essentially paid by the employer, this legal classification was introduced in order to distinguish the part of the wage at employee's disposal, in case a shift is made to the system of free market payment of social security contributions.
3 The complete algebra for deriving total labor costs from the net wage can be found on the web page www.fren.org.yu.
4 In a more detailed review, for the purposes of this estimate, we have excluded the classification activities *other services and agriculture* from the statistics of national accounts, in order to derive GVA, and from the statistics of employment and wages we have excluded the classification categories: public administration and social insurance, education, health care and social welfare, utilities and social and personal services – in order to obtain the bill of total labor costs without the mentioned sectors. This is a methodologically correct comparison, bearing in mind that the classification activities excluded from the SNA fully correspond to the classification activities excluded from the employment and wage statistics.

***The share of the total labor costs bill in GDP went down relative to Q2 by 2.4 percentage points, though it was still higher than in 2006***

The share of the total labor bill in GDP for the whole of 2007 is higher than in 2006 (column 2 in Table T4-6), which can be attributed to the high growth in the average wage that was not supported by higher productivity. However, the fact that the share of the total labor bill in GDP fell from 42.8% in Q2 2007 to 40.4% in Q3 2007 was a positive trend (Table T4-6).

***Unit labor costs in the economy are declining***

When we look at the share of the total labor costs bill in GVA, from which the state sector and agriculture have been excluded, we observe a long-lasting downward trend in unit labor costs in the economy (column 3, Table T4-6). Such movements point to the fact that the state sector, which is characterized by a minimum number of layoffs and a high increase in the average wage, is in fact the sector that has contributed the most to the increase in unit labor costs on an aggregate basis[6].

6 For more details on labor costs in industry, see Section 5 "Economic Activity" in this issue of *QM*.

**Table T4-6. Serbia: Labor Costs and Real Y-o-y Wage Bill Indices, 2003–2007**

| | Labour Costs | | | TLC Bill Index [4] | |
|---|---|---|---|---|---|
| | TLC bill, in 000 din [1] | Unit labor cost (GDP) [2] | Unit labor cost (GVA) [3] | nominal | real |
| | 1 | 2 | 3 | 4 | 5 |
| **2004** | 534,294,604 | 38.6 | 41.7 | 123.4 | 111.2 |
| **2005** | 661,108,425 | 38.8 | 40.2 | 123.7 | 106.6 |
| **2006** | 805,517,464 | 40.0 | 39.3 | 121.8 | 109.1 |
| **2005** | | | | | |
| Q2 | 162,339,458 | 39.7 | 40.6 | 124.1 | 106.6 |
| **2006** | | | | | |
| Q1 | 180,227,329 | 41.9 | 40.2 | 125.9 | 109.9 |
| Q2 | 196,486,925 | 39.6 | 38.9 | 121.0 | 106.0 |
| Q3 | 203,348,767 | 38.6 | 38.7 | 119.3 | 107.1 |
| Q4 | 225,454,442 | 40.0 | 39.3 | 121.4 | 113.3 |
| **2007** | | | | | |
| Q1 | 218,080,843 | 44.6 | 40.5 | 121.0 | 115.4 |
| Q2 | 235,889,439 | 42.8 | 38.5 | 120.1 | 116.2 |
| Q3 | 242,064,617 | 40.4 | 38.0 | 119.0 | 111.6 |

Source: Serbian Bureau of Statistics (SBS).
Footnotes:
1) The wage bill is an inferred value representing the multiple of the total number of employed and the average total labor cost, including all taxes and social security contributions. Data on employment and wages with legal entities are from SBS, whereas the average wage of the employed with entrepreneurs was gauged from the taxing authorities data.
2) Wage bill participation in total GDP.
3) Wage bill participation in GVA, without agriculture and government.
4) Gross wage indices are equal to total labor cost indices, because the average TLC is larger than the average gross wage by a fixed 17.9%.

***The steepest real y-o-y increase in wages was registered in the health care and social welfare sectors***

The steepest real y-o-y increase in wages of 27.2% was registered in the sectors of health care and social welfare when those fractions of salaries not paid out of the budget are included (Table T4-7) or 27.5% if only the salaries paid out of the budget are taken into account (Table T4-8). This high y-o-y increase in the health care sector was, in fact, expected, because the salary level had been low in Q3 2006, and then went up sharply in Q4 2006. Within the public sector, the health care sector was followed by education, with a total real y-o-y wage increase of 16.3% (Table T4-7), or 16.7% if only the part of the salaries paid out of the budget is considered (Table T4-8). Incidentally, wages paid out of the budget recorded a lower real y-o-y increase than in the previous quarters (Table T4-8).

**Table T4-7. Serbia: Average Gross Wages by Activities, y-o-y Real Indices, 2005–2007**

| | 2005 | Q1 2006 | Q2 2006 | Q3 2006 | Q4 2006 | 2006 | Q1 2007 | Q2 2007 | Q3 2007 |
|---|---|---|---|---|---|---|---|---|---|
| Total | 106.8 | 110.9 | 108.0 | 109.7 | 116.4 | 111.3 | 118.6 | 118.6 | 114.2 |
| Agriculture, forestry and water works supply | 112.2 | 118.3 | 115.7 | 112.4 | 112.4 | 114.7 | 110.2 | 105.6 | 108.2 |
| Fishing | 116.2 | 105.5 | 70.8 | 93.6 | 100.5 | 92.6 | 78.8 | 63.6 | 101.5 |
| Mining and quarrying | 100.4 | 108.9 | 114.5 | 115.5 | 115.1 | 113.5 | 135.4 | 121.1 | 111.3 |
| Manufacturing | 109.1 | 114.4 | 110.9 | 113.8 | 115.8 | 113.7 | 114.9 | 114.7 | 109.7 |
| Electricity, gas and water supply | 104.1 | 104.0 | 99.4 | 107.1 | 114.9 | 106.3 | 143.0 | 117.7 | 110.1 |
| Construction | 104.5 | 108.7 | 111.0 | 112.7 | 119.4 | 112.9 | 123.9 | 126.0 | 112.9 |
| Wholesale and retail trade, repair | 111.6 | 114.2 | 113.9 | 112.0 | 117.9 | 114.5 | 118.7 | 115.1 | 113.5 |
| Hotels and restaurants | 108.3 | 112.0 | 111.0 | 106.4 | 108.6 | 109.5 | 112.0 | 114.7 | 115.6 |
| Transport, storage and communications | 104.2 | 110.0 | 111.0 | 104.0 | 109.1 | 108.5 | 108.5 | 111.9 | 108.4 |
| Financial intermediation | 110.5 | 112.9 | 111.5 | 113.9 | 111.3 | 112.4 | 112.9 | 111.4 | 105.2 |
| Real estate, renting activities | 111.6 | 101.5 | 99.1 | 105.8 | 107.3 | 103.4 | 122.0 | 120.8 | 116.6 |
| Public administration and social insurance | 105.0 | 112.6 | 104.3 | 107.6 | 112.5 | 109.2 | 111.5 | 118.3 | 113.2 |
| Education | 108.2 | 114.9 | 103.5 | 105.0 | 112.0 | 108.9 | 111.9 | 118.5 | 116.3 |
| Health and social work | 100.0 | 101.4 | 102.3 | 104.9 | 125.5 | 108.5 | 125.5 | 130.8 | 127.2 |
| Other community, social and personal service | 102.6 | 105.2 | 100.7 | 103.1 | 111.0 | 105.0 | 106.2 | 111.7 | 110.6 |

Source: Serbian Bureau of Statistics (SBS), RAD-1 Survey.

***The y-o-y increase in gross wages in state-owned public enterprises decelerated***

The y-o-y increase in gross wages in state-owned public enterprises went down from 18.9% in Q2 to 12.5% in Q3 (Table T4-8). In order to exclude the rise in inflation, we look at the nominal y-o-y indices of gross wages in state-owned enterprises. The nominal increase in the average gross wage fell from 22.8% in Q2 2007 to 20% in Q3 2007, which leads us to conclude that gross wages declined by much less in nominal terms than implied by their real growth indices.

The highest wage increase in the private sector of 16.6% occurred in real estate business[7], followed by hotels and catering with 15.6% and commerce with 13.5%.

**Table T4-8. Serbia: Gross Wage Y-o-y Real Indices - Public Sector, 2004–2007**

| | From the budget | | | Public enterprises | | Other[1)] | Serbia Average |
|---|---|---|---|---|---|---|---|
| | Administration - all levels | Education and culture | Health and social work | National public | Local public | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **2004** | 107.4 | 107.7 | 110.9 | 107.9 | 113.4 | 116.0 | 111.4 |
| **2005** | 105.9 | 106.0 | 100.8 | 100.5 | 103.0 | 106.9 | 107.1 |
| **2006** | 109.1 | 107.2 | 109.4 | 110.8 | 102.9 | 113.3 | 111.3 |
| **2005** | | | | | | | |
| Q2 | 103.0 | 108.4 | 102.9 | 98.1 | 104.1 | 103.2 | 107.6 |
| **2006** | | | | | | | |
| Q1 | 111.5 | 111.1 | 102.2 | 108.9 | 97.0 | 114.1 | 111.0 |
| Q2 | 102.2 | 100.8 | 103.1 | 109.6 | 102.8 | 110.7 | 108.1 |
| Q3 | 108.0 | 104.2 | 105.0 | 108.4 | 102.7 | 111.9 | 109.7 |
| Q4 | 114.7 | 112.8 | 127.5 | 116.1 | 109.3 | 116.5 | 116.6 |
| **2007** | | | | | | | |
| Q1 | 111.5 | 112.6 | 125.4 | 129.8 | 113.8 | 117.8 | 118.5 |
| Q2 | 118.6 | 119.2 | 131.5 | 118.9 | 104.5 | 118.3 | 118.6 |
| Q3 | 114.1 | 116.7 | 127.5 | 112.5 | 104.1 | 112.9 | 114.1 |

Source: SBS.
Note: 1) Column 6 includes private, socially-owned and mixed ownership enterprises.

7 Under the statistical classification this sector also includes equipment rentals, computer-based activities, research and development, and other business activities (architectural firms, management, advertising and marketing, etc.

# 5. Economic Activity

**Economic growth decelerated in Q3, but nevertheless remained very high. *QM* estimates GDP growth in Q3 at 6.6%. Economy excluding agriculture is growing even higher, as agriculture was predominantly influenced by exogenous factors. The growth of non-agricultural GVA amounted to around 8.3% which, despite the deceleration relative to Q2, was significantly above the average over the past several years. In Q3, however, negative trends were also observed, which could cause further deceleration of economic activity by the end of the year, and undermine macroeconomic stability. Domestic demand slowed down in Q3, but it seems that its positive effects on production at the beginning of the year are waning even faster. Export-oriented economic segments decelerated strongly, partly due to the initiated investment activities of the largest exporter in Serbia, but possibly due to the dinar's appreciation as well. It remains to be seen whether the negative tendencies of Q3 will be cushioned in Q4, or if they will be materialized, probably not so much through the deceleration of economic growth, but more through a further widening of the trade deficit. Services are at the top in the structure of GDP growth with a y-o-y growth of around 10%, while material production in Q3 recorded a y-o-y fall of around 3%. Industrial production in Q3 was higher by 3.5% than in the same period of the previous year. The manufacturing industry grew at a similar rate of 3.2%. The construction industry in Q3 recorded a decline of around 5% according to *QM*'s estimate, which may mean that this part of the economy is relaxing after a period of busy activities in the first half of the year.**

## Gross Domestic Product

***We estimate GDP growth in Q3 at 6.6%***

According to a preliminary estimate by *QM*, based on the available data on the results of economic activity, under the SBS methodology[1], the y-o-y real GDP growth in Q3 was around 6.6%. This growth constitutes a slowdown in relation to Q2 of around 1 percentage point. The greatest impact on GDP deceleration was by the poor performance of the agriculture in Q3, due to the drought (Table T5-1).

***Non-agricultural GVA also decelerated...***

Non-agricultural GVA, as a measurement of economic growth free from any significant influences of exogenous factors, still indicates a high economic growth of 8.3%. However, the growth of non-agricultural GVA in Q3 also decelerated by 1 percentage point relative to Q2 which is, in our estimate, a consequence of the deceleration in the growth of aggregate demand.

***... probably due to somewhat lower aggregate demand***

Graph T5-2 presents the movements of domestic and aggregate demand since 2001. Domestic demand decelerated in Q2 and Q3, but still remained very high (about 20% above the GDP level). A cause for concern, however, could be a possible deceleration of export demand, which still cannot be seen in the quarterly analysis of demand for Q3 (Graph T5-2), but which is indicated by the deceleration of exports in Q3[2] and the analysis of industrial production in August, and especially in September (Graph T5-6)[3].

The deceleration in the real growth of domestic demand was driven by a decline in the real wage growth, which in Q3 was 14.2% as against 18.7% in the first half of the year. Fiscal policy was indeed more expansive in Q3 than in Q2 and Q1, but the impression is that it is not yet of hand or, even more likely, that it has not yet significantly contributed to a rise in domestic demand. It should be borne in mind that the effect of the fiscal expansion in Q4 2006 was largely reflected in demand, hence in economic activity as well, with a lag of one quarter.

1 The methodology we used in estimating GDP is based on the estimate of real growth in GVA for individual economic sectors according to the production principle, and their subsequent summing up, with the addition of the tax component. The modifications relative to the SBS are partly related to the indicators on the basis of which we estimate sectoral growth, and which, in some cases, we consider to be more reliable indicators of actual growth in particular sectors (e.g. cement production in the construction industry). Likewise, since we have fewer available indicators than the SBS, we include proxies into our estimate, which are not an integral part of the official methodology, and conduct even more in-depth analyses of trends in particular sectors, as well as an analysis of demand.

2 For more details see Section 6 "Balance of Payments and Foreign Trade" of this issue of *QM*.

3 Contribution to the y-o-y growth of the manufacturing industry – exports and the domestic market sections.

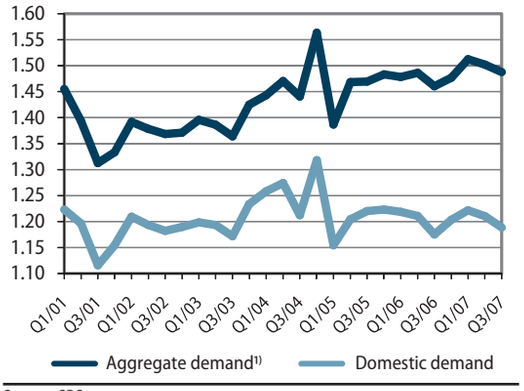
**Table T5-1. Serbia: Gross Domestic Product, 2004–2007[1)]**

| | Y-o-y indices | | | | | | | | | | Base index | GDP share |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2004 | 2005 | 2006 | 2006 | | | | 2007 | | | (jan-sep)$_{07}$/ (jan-sep)$_{02}$ | 2006 |
| | | | | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3[2)] | | |
| Total | 108.4 | 106.2 | 105.7 | 107.0 | 106.2 | 105.1 | 104.8 | 108.4 | 107.7 | 106.6 | 133.3 | 100.0 |
| Taxes minus subsidies | 109.3 | 110.2 | 99.8 | 99.1 | 101.9 | 96.6 | 101.5 | 113.5 | 108.1 | 110.0 | 146.3 | 15.3 |
| Value Added at basic prices | 108.3 | 105.5 | 106.8 | 108.4 | 107.1 | 106.8 | 105.4 | 107.6 | 107.6 | 105.3 | 131.1 | 84.7 |
| Non agricultural Value Added | 106.6 | 107.3 | 107.9 | 109.8 | 107.9 | 107.1 | 107.2 | 109.0 | 109.3 | 108.3 | 137.1 | 87.1 |
| Agriculture | 119.0 | 95.1 | 99.8 | 97.2 | 101.1 | 104.7 | 96.1 | 94.5 | 93.4 | 92.0 | 94.2 | 12.9 |
| Manufacturing | 108.8 | 99.9 | 105.6 | 109.2 | 106.7 | 104.4 | 103.2 | 108.7 | 104.4 | 103.2 | 112.1 | 16.1 |
| Construction | 103.5 | 102.0 | 107.7 | 119.7 | 105.5 | 100.4 | 110.2 | 128.2 | 109.6 | 95.0 | 131.9 | 3.5 |
| Transport | 115.8 | 123.4 | 129.3 | 131.2 | 130.7 | 128.8 | 127.0 | 118.4 | 121.4 | 120.0 | 241.6 | 11.5 |
| Wholesale and retail trade | 117.0 | 122.0 | 110.3 | 115.9 | 107.7 | 108.5 | 110.5 | 121.5 | 119.3 | 118.5 | 211.8 | 12.9 |
| Financial intermediation | 109.9 | 117.4 | 117.2 | 119.9 | 118.8 | 116.8 | 113.9 | 119.2 | 120.0 | 120.0 | 198.5 | 7.4 |
| Other | 101.4 | 102.1 | 100.5 | 100.9 | 100.4 | 100.4 | 100.4 | 99.4 | 101.8 | 101.5 | 106.6 | 35.7 |

Source: SBS.
1) In constant prices in2002.
2) QM estimate.

*Domestic demand likely to accelerate in Q4...*

**Graph T5-2. Serbia: Aggregate and Domestic Demand Ratio to GDP, 2001–2007**




Source: SBS.
1) Aggregate demand = domestic demand + export.

Export growth in Q3 also slightly decelerated, currently amounting to 27.3%, which constitutes deceleration relative to Q2 when the y-o-y export growth was 31.4%. An analysis of industrial production of export-oriented sectors of the manufacturing industry indicates unfavorable trends which will probably contribute to a further deceleration of exports. There are two reasons why we expect the export deceleration to continue to the end of the year: (1) the initiated overhaul of blast furnace #2 at US Steel Serbia, which is Serbia's largest exporter with a share of 12% in the 2006 exports and (2) the appreciation of the dinar which undermined the competitiveness of Serbian exports on the international market.

*...but this time is not expected to boost production*

The consequences of the mentioned demand-side factors on GDP in Q3 were a reduction of the high growth of non-agricultural GVA, with somewhat less favorable trends in individual economic segments, which will be discussed in more detail below. From the standpoint of economic growth and macroeconomic stability, a reason for concern is the appreciation of the dinar against the backdrop of high domestic demand. This is reducing the competitiveness of the economy and causing a slowdown of economic growth, which is being substituted with higher imports.

In Q4 we expect the expansive fiscal policy to become more visible, particularly bearing in mind that further expansion is announced for Q4 relative to Q3. In that connection, the economy will probably keep growing steadily, driven by domestic demand. We assume, however, that continuing appreciation of the dinar in such circumstances will nevertheless contribute to a further slight deceleration of the economy[4], which will occur together with a widening of the already very high trade deficit. GDP growth estimates for all of 2007 remain within the range of the projection presented in the previous issue of *QM* – slightly above 7%.

*Material production falls...*

By analyzing GDP based on the production principle, it becomes evident that material production[5] in Q3 recorded a y-o-y fall of around 3% (Table T5-1). These unfavorable results can undoubtedly be attributed mainly to the agriculture, but it should also be borne in mind that the construction industry also recorded a y-o-y fall in production of around 5%, while the manufacturing industry, which managed to maintain positive growth indices, decelerated appreciably.

4 Measured by non-agricultural GVA growth.
5 Material production includes agriculture, industrial production and the construction industry.

*... while services continue growing strongly*

On the side of services, Q3 saw no major changes in relation to Q2. Services had a y-o-y growth of around 10.6% in Q3. High household demand, which is a consequence of the still high real rise in wages and credit to households, generated a high growth in trade, which nevertheless decelerated slightly in comparison with Q2. We use the y-o-y increase in deposits and loans as an indicator to estimate the growth in financial intermediation. The high y-o-y rise in deposits and loans in Q3, both in the corporate and retail sectors, indicates the continuation of the high growth trend in financial intermediation. September saw a certain slowdown in credit to households following the measures of the monetary authorities[6], whose results will probably be felt in Q4. There is still not enough official data for an estimation of transport growth, but in this segment too there were no indications of changes in the growth trend.

## Box 1. Serbia's Economic Growth Compared to the International Environment

Measured by GDP growth, Serbia's economy had very high growth rates in the previous years. Viewed in the context of global economic developments, the achieved economic growth is not as extraordinarily high as it might appear at first glance.

*High GDP growth in most European transition economies ...*

A new IMF study released in November, entitled *Regional Economic Outlook – Europe*, provides an overview of GDP growth rates in European countries for 2006, with projections for this and next year (Table T5-3). GDP growth in Europe in 2006 amounted to a high 3.8%, with European developing countries, which include Serbia, growing even faster, at a rate of 6.6%. The projections for this and next year indicate a slowdown of economic growth in the whole of Europe, including its developing countries. The IMF cites as the main reason for this the inevitable beginning of a gradual adjustment of external imbalances that exist in most countries covered by the study.

**Table T5-3. Europe: Real GDP Growth and CPI Inflation, 2006–2008**

| | Real GDP Growth | | | CPI Inflation | | |
|---|---|---|---|---|---|---|
| | 2006 | 2007[1)] | 2008[1)] | 2006 | 2007[1)] | 2008[1)] |
| Europe | 3.8 | 3.7 | 3.2 | 3.5 | 3.3 | 3.1 |
| Advanced European economies | 2.9 | 2.7 | 2.2 | 2.2 | 2.0 | 2.0 |
| European Union | 3.2 | 3.0 | 2.5 | 2.3 | 2.3 | 2.3 |
| Euro area | 2.8 | 2.5 | 2.1 | 2.2 | 2.0 | 2.0 |
| New EU countries | 6.4 | 6.1 | 5.2 | 3.2 | 3.9 | 4.0 |
| Emerging European economies | 6.6 | 6.3 | 5.7 | 7.2 | 6.8 | 6.0 |

Source: IMF, World Economic Outlook.
1) IMF Estimation.

*... but a slowdown is expected*

In the context of the IMF analysis, *QM* would like to draw attention to two facts related to the Serbian economy: (1) Serbia's high economic growth is no exception since such growth is characteristic of all the European developing countries and, (2) the IMF forecasts that the existence of considerable external imbalances will inevitably result in restrictive policies and a slowdown of overheated economies.

*Domestic economic activity in line with regional trends...*

Serbia's GDP growth in 2006 was 5.7%, which was below the average in European developing countries (Table T5-3). *QM* estimates that Serbia's economic growth in 2006, however, did not lag behind the benchmark economies. Only the tax component of GDP[1] underperformed in that year, while the growth of the economy was at the level of other European developing countries (Table T5-1).

*QM* projects Serbia's GDP growth in 2007 at more than 7%, slightly over the average for the European developing countries. In 2008, Serbia's growth will probably slightly slower, in line with the trends brought out in the IMF study. In spite of the expected slowdown in 2008, *QM* nonetheless believes that Serbia's economic growth will continue to be high. This estimate proceeds from the fact that the actual growth of the economy in 2007 will be around 8.5%[2], and that GDP growth will

1 For more details see Section 5 "Economic Growth" *QM7*.
2 Measured by the growth of non-agricultural GVA.

6 For more details see Section 8 "Monetary Flows and Policy " of this issue of *QM*

be somewhat lower due to the poor performance in agriculture. Accordingly, it will be enough to have a completely average agricultural season in 2008 to cushion the probable deceleration of growth in the rest of the economy as the 2008 figures will be compared to the lower 2007 base. Likewise, the IMF's argument that economic growth will slow down under the pressure of establishing an external balance, will probably not be entirely valid for Serbia. In QM's view, the recently adopted Serbian budget for 2008 is not restrictive enough for such a forecast to materialize.

An examination of Serbia's economy in a regional context, despite certain simplifications inherent in such studies, indicates a slightly broader framework in which Serbia's economic activity can be reviewed. In this case, it is obvious that both the trends and risks of economic activity in Serbia are in line with the trends and risks in the other European developing economies.

## Industrial Production

*Industrial production in Q3 grew at a rate of 3.5%*

Industrial production in Q3 had a fairly high growth of 3.5% (Table T5-4), but signs of deceleration were discernible. The manufacturing industry had a y-o-y growth of 3.3%, which was by 1.7 percentage points lower than the growth achieved in Q2. The generation and distribution of electricity, water and gas, as in Q2, was in Q3 also in the lead in industrial production with a y-o-y growth that was slightly lower and amounted to 6.5%. Mining and quarrying was at a similar level of production reached in Q3 2006.

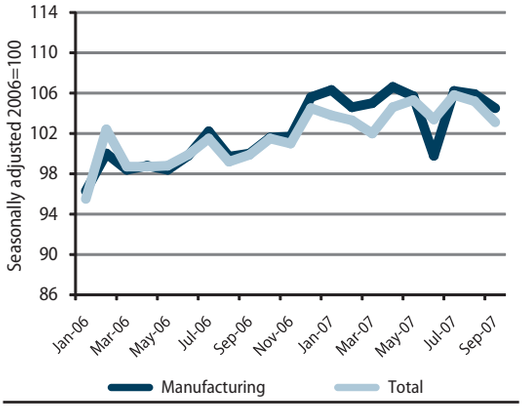
**Table T5-4. Serbia: Industrial Production Indices, 2005–2007**

| | Y-o-y indices | | | | | | | | | Base index | Share |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2005 | 2006 | 2006 | | | | 2007 | | | (jan-sep)07/ (jan-sep)02 | 2006 |
| | | | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | | |
| Total | 100.8 | 104.7 | 105.3 | 106.1 | 103.9 | 102.9 | 104.8 | 105.2 | 103.5 | 112.3 | 100.0 |
| Mining and quarrying | 102.1 | 104.1 | 104.0 | 102.6 | 102.8 | 104.6 | 102.1 | 101.4 | 99.2 | 103.7 | 6.3 |
| Manufacturing | 99.3 | 105.3 | 107.5 | 106.2 | 104.4 | 102.9 | 108.5 | 104.9 | 103.3 | 113.5 | 75.4 |
| Electricity, gas, and water supply | 106.6 | 102.2 | 99.3 | 107.6 | 101.6 | 102.1 | 94.2 | 108.7 | 106.5 | 110.8 | 18.3 |

Source: SBS.

*Seasonally adjusted indices point to a slowdown*

**Graph T5-5. Serbia: Industrial Production, Seasonally Adjusted Indices, 2006–2007**




Source:SBS.

Seasonally adjusted monthly indices of industrial production growth indicate the deceleration from July to September by about 2 percentage points. Despite the fact that, at a quarterly level, the seasonally adjusted growth index in Q3 was higher than in Q2, a change in the trend in industrial production, whose growth is now decelerating, is clearly discernable. An analysis by sections of industrial production, however, shows that the deceleration is concentrated only in a smaller number of sections, while the bulk of industrial production maintained high growth rates in Q3.

The deceleration of industrial production indices in Q3 has slightly changed the *QM* estimate of industrial production growth in 2007 of around 5%. It is more likely that 5% will be the ceiling of possible industrial production growth in 2007, and a slightly lower growth rate can realistically be expected.

***Small enterprises record faster growth than the rest of the industry***

An assessment of industrial production in small enterprises, which are not covered by regular statistical surveys of industry, indicates that it grew much faster in Q3 on a y-o-y basis than in the rest of industry[7]. Higher growth in small enterprises compared to medium-sized and large enterprises has been usual since 2002. In Q3, the difference in the growth of industrial production of small enterprises relative to others was slightly higher than customary. *QM* forecast such movements in industrial production in previous issues and we expect them to continue to the end of the year. The reason for the somewhat higher y-o-y growth of small enterprises relative to the rest of the industry was the lower base from the second half of 2006, with which their current production is compared. From June 2006 to February 2007 the growth index of small enterprises was lower than that of the rest of industry. Just like we considered the drop in the previous year to be a temporary hiccup, this time too we have reservations with regard to high growth in the industrial production of small enterprises.

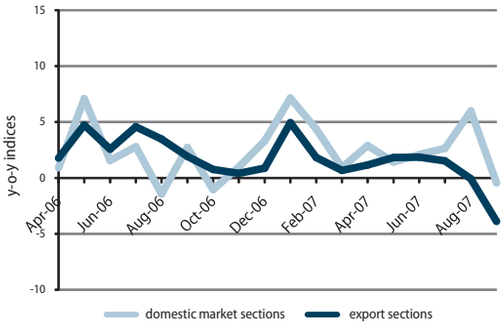
***The manufacturing industry grew 3.3% in Q3***

The manufacturing industry had a y-o-y growth in Q3 of 3.3% (Table T5-4), which was considerably lower than the y-o-y growth in Q2 and Q1. The strongest influence on the deceleration of industrial production in the manufacturing industry was exerted by a drop in the production of basic metals. If the production of basic metals is excluded from the results of the manufacturing industry (see Box 3), then the y-o-y index of industrial production growth would be almost identical to the one in Q2.

***Export-oriented sections also declined in Q3***

In this issue of *QM,* we continue analyzing typical sections of the manufacturing industry, which can indicate the origin of demand for industrial products. Two groups of the manufacturing industry sections were analyzed. In the first, we classified those sections of the manufacturing industry which market the bulk of their output abroad (export sections), while the second group comprises sections which sell almost all of their output on the domestic market (domestic market sections, Graph T5-6). For most of 2006, a larger contribution to the growth of the manufacturing industry was made by the export sections, despite the fact that their share in the manufacturing industry is lower. In November 2006, the trend was reversed and since then the domestic market sections have been driving the growth in the manufacturing industry. All this indicates that higher domestic rather than export demand boosted material production in late Q4 2006 and during 2007, which is in line with the analysis of movements in aggregate and domestic demand (Graph T5-2).

**Graph T5-6. Serbia: Contribution to Y-o-y Manufacturing Industry Growth, Domestic Market Sections[1] and Export Sections[2], 2006–2007**




Source: SBS.
1) Manufacturing industry sections selling most of their production on the domestic market.
2) Manufacturing industry sections selling a significant part of their production abroad.

In Q3 export sections were impacted by the slowdown in the production of basic metals and since August their industrial production has been falling, especially in September. *QM's* analysis shows that the export sections, even after the basic metals slowdown is excluded, declined in Q3, which may be linked to the appreciation of the dinar against the euro. The poor performance of industrial production in the export sections presages a slowdown in exports in Q4 and a further widening of the trade deficit.

***Domestic market sections had a production level similar to that in Q2***

The domestic market sections, on the other hand, recorded an acceleration of the y-o-y industrial production growth index in August, and then a fall in September. These, in all likelihood, were fluctuations normal for y-o-y indices of industrial production growth, and the domestic market sections have grown on a trend similar to that established back in late 2006.

7 The industrial production growth index for small-sized enterprises is estimated on the basis of a sample comprising around 300 enterprises, but it is not published as an official piece of data and is not included in the total industrial production growth index.

## Box 2. Unit Labor Costs and Competitiveness

*Unit labor costs indicate the share of labor costs in value added*

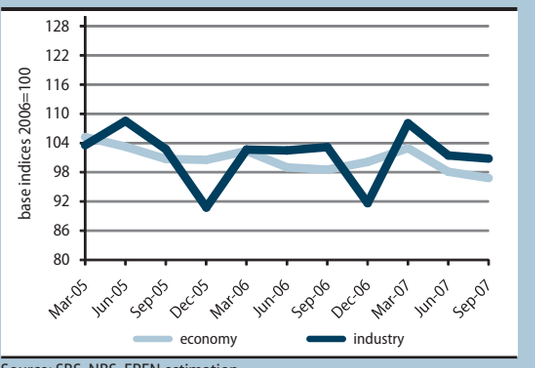
Unit labor costs (ULCs) indicate the share of labor costs in added value arising from the production process, and can be defined both at the level of individual industries and at the level of the industry or economy as a whole. ULCs are a useful indicator, showing the mutual relationship between the labor market and economic activity. For instance, a rise in ULCs may come about due to a fall in economic activity not accompanied by a drop in the number of employees or wages, but could also happen if there is a lack of demand in the labor market.

ULCs can also be viewed as the relation between labor productivity and wages. Bearing in mind the above definition, changes in ULCs can indicate an imbalance between rising labor productivity and rising wages. Any increase in ULCs indicates that wage growth outstripped productivity growth, while a decrease in ULCs shows that the contrary holds true, i.e. that productivity grew faster than wages. Graph T5-7 shows ULC movements in the economy since 2005 (minus the government sector and agriculture – hereinafter economy), as well as in the field of industrial production.

*ULCs have been consistent with growing productivity since 2005*

Graph T5-7 shows that unit labor costs remained nearly constant in the period observed, with temporary fluctuations. As for the economy as a whole, a gentle downward trend may be said to have been in evidence since 2004, while, for ULCs in industrial production, we can see neither a downward nor an upward trend. These results imply the following: growing wages in the private sector, and, viewed separately, industrial production, have since 2005 been consistent with a rise in productivity.

**Graph T5-7. Serbia: Real Unit Labor Cost in Economy and Industry, 2005–2007**




Source: SBS, NBS, FREN estimation.

ULCs are often used in economic theory to measure the level of competitiveness, as they define the greatest cost component (labor costs) in relation to added value in the production process. An economy with lower ULCs can be considered more competitive, and may increase its market share; conversely, an economy with higher ULCs, by definition, has a weaker position in the international market. When we use ULCs as an indicator of competitiveness, it must also comprise real changes to the national currency's exchange rate. Real depreciation causes competitiveness to increase; real appreciation lowers it.

ULCs as a measure of competition are generally defined and calculated, in theory, for the manufacturing industry, which produces the greatest part of internationally tradable products. Along with manufacturing, our analysis also encompassed the economy as a whole, since 1) the production of tradable products also utilizes non-tradable products and services, and 2) the development of information and communication technologies is making many services tradable, making the distinction between sectors by product tradability less strict. We have been following changes in the competitiveness of Serbia's economy, and especially manufacturing, in relation to the Euro market since 2005, and have therefore used Euro ULCs. We must emphasize that this analysis follows only relative changes to competitiveness (ULCs) in relation to the 2004 average, and that we are here not assessing whether the Serbian economy is competitive in the international market or not.

*ULCs measured in Euros show competitiveness has fallen*

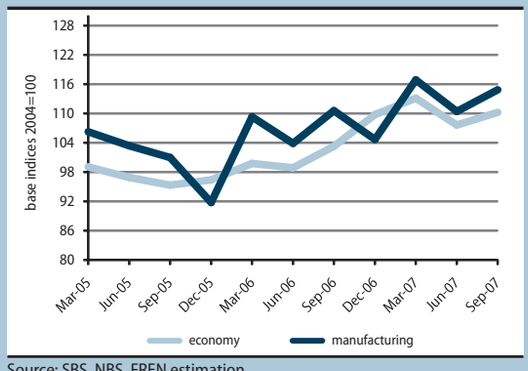
Graph T5-8 shows the movements of ULCs in Euros in the manufacturing industry and the private sector. We have taken 2004 as the base year: this was before the dinar began appreciating, while the methodology of calculating Euro ULCs is similar to that used for the private sector and industry in the Serbian environment. The only differences are that in this case the wages have been expressed in Euros, and that the figures have been adjusted using the Euro inflation rate.

The graph makes it apparent that Euro ULCs are higher by over 10% in relation to the 2004 average, both in manufacturing and in the private sector. The economy's result was to have been expected, since we have already seen that ULCs in the economy are practically constant (Graph T5-7), i.e. that wages are consistent with growing productivity. When real appreciation of the dinar against the

Euro is added to the equation, this rate is approximately the same as the reduction in competitiveness (or growth of Euro ULCs). Slower growth of Euro ULCs, as a consequence of greater pressure from international competition, was perhaps to have been expected in manufacturing – but this has apparently failed to materialize.

We do have to underscore, though, that ULCs cannot be viewed as the ideal measure of an economy's competitiveness. For one, ULCs relate only to labor costs. Even when these make up the largest part of inputs, the price of capital and intermediary inputs can have a decisive impact on competitiveness. Secondly, labor costs influence price competitiveness only. Total competitiveness is also influenced by other, demand-side factors, which are not only price-related in nature. Thirdly, competitiveness can be affected by certain external factors, such as bilateral agreements, subsidy policies, or protectionist customs tariffs.

**Graph T5-8. Serbia: Real Unit Labor Cost in Euro, in Economy and Manufacturing, 2005–2007**

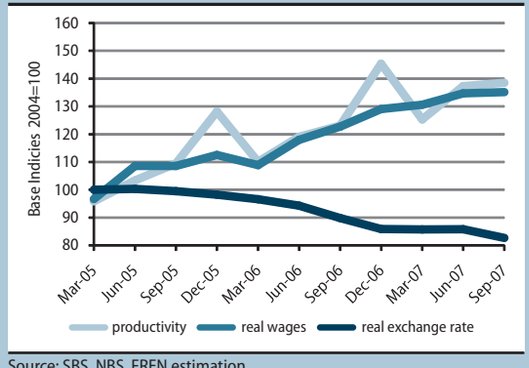



Source: SBS, NBS, FREN estimation.

Despite its limitations, the monitoring of unit labour cost is a useful tool to track a country's competitive performance in the short and medium run – i.e. to take the external sector's temperature and look at the possible cures if unit labour costs go up. The ULC measure is particularly useful when decomposed into the effects of productivity, labour cost and real exchange rate performance. Graph T5-9 shows movements of these three indicators in relation to 2004 values in industrial production.

***Productivity growth has been exceptionally high…***

**Graph T5-9. Serbia: Productivity Growth, Real Wages and Real Exchange Rate, 2005–2007**




Source: SBS, NBS, FREN estimation.

Graph T5-9 provides an indication of the high and harmonized growth of labor productivity and wages, as well as the significant appreciation of the dinar against the Euro. To be able to hold the same level, productivity growth needs to be high enough to compensate for both wage growth and currency appreciation, which failed to happen in our case (Graph T5-9).

High export growth rates still indicate that Serbian industry's productivity level managed to compensate for most of the pressure on competitiveness exerted by high average wage growth and dinar appreciation, even taking into account a certain drop in competitiveness since 2004. The high growth in productivity over the observed period was, however, mainly the consequence of a drop in employee numbers, and less influenced by increases in the physical volume of production. Any growth in productivity resulting from these factors cannot be sustainable in the long run; it thus remains to be seen which trends will prevail for exports, wages, and the real exchange rate in changed circumstances.

***…but is not sustainable in the long term***

**Table T5-10. Serbia: Sub-Sectors with Highest Growth Rates in 2007, 2004–2007**

| | y-o-y indices | | | | | | | | | base index | share |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2005 | 2006 | 2006 | | | | 2007 | | | (jan-sep)07/ (jan-sep)02 | 2006 |
| | | | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | | |
| Manufacturing | 99.3 | 105.3 | 107.5 | 106.2 | 104.4 | 102.9 | 108.5 | 104.9 | 103.3 | 113.5 | 100.0 |
| Total-selected sectors | 102.8 | 111.0 | 109.3 | 113.0 | 115.9 | 106.0 | 115.5 | 107.9 | 103.3 | 136.1 | 56.4 |
| Food and beverages | 104.6 | 105.3 | 104.2 | 105.1 | 109.5 | 102.5 | 112.2 | 107.7 | 104.2 | 120.7 | 30.0 |
| Basic metals | 121.8 | 122.7 | 116.6 | 131.7 | 135.4 | 109.8 | 115.1 | 108.7 | 92.2 | 222.8 | 10.9 |
| Furniture and related products | 92.2 | 165.5 | 134.3 | 163.0 | 197.8 | 160.2 | 169.5 | 113.6 | 83.9 | 152.7 | 3.1 |
| Machinery and equipment, except electrics | 60.9 | 86.2 | 95.8 | 85.8 | 79.0 | 86.6 | 102.6 | 106.2 | 142.0 | 78.2 | 3.6 |
| Non-metal mineral products | 97.7 | 106.6 | 119.3 | 107.8 | 103.3 | 103.1 | 123.4 | 98.0 | 91.9 | 89.8 | 5.4 |
| Publishing,printing and reproduction | 94.0 | 105.0 | 107.1 | 115.1 | 95.3 | 100.6 | 99.8 | 119.4 | 119.0 | 112.7 | 3.4 |
| Other | 94.8 | 97.9 | 105.2 | 97.4 | 89.5 | 98.9 | 99.5 | 101.0 | 103.2 | 84.2 | 43.6 |

Source: SBS.

***Leaders grew at the same pace as the rest of industry***

Table T5-10 presents sections which contributed the most to the industrial production growth in 2007 (*leader* sections). They include the production of food and beverages, basic metals, furniture and related products, machinery and equipment other than electrical, non-metallic mineral products, and publishing, printing and reproduction of recordings. The growth of the leaders in the manufacturing industry in Q3 was almost identical to that of other sections. In the previous issue of *QM*, we pointed to the fact that leaders in the manufacturing industry in 2007 did not stand out from the rest of the industry with exceptionally high growth rates relative to others, which used to be the standard picture in previous years. Still, the almost identical y-o-y growth rate of leaders and of other sections in Q3 was a consequence of not only the natural convergence of most sections, which is inevitable, but also of certain exogenous influences (see Box 3) and primarily of the drop in the production of basic metals and non-metallic mineral products.

In the context of the increasing convergence of the movements in industrial production indices for different sections of the manufacturing industry, it is also possible to monitor which sections of this industry are leaders in 2007. Among them, there is at least one representative from each specified-purpose group of industrial production[8]. The production of machinery and equipment other than electrical, which belongs to the production group of investment goods, has consolidated its status among the leaders. It is noteworthy that the production of investment goods was the greatest loser in the transition process and that its current level of industrial production is only 70% of that achieved in the same period of 2002 (Table T5-11).

**Table T5-11. Serbia: Components of Industrial Production, 2005–2007**

| | y-o-y indices | | | | | | | | | base index | share[5] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2005 | 2006 | 2006 | | | | 2007 | | | $(jan\text{-}sep)_{07}$/ $(jan\text{-}sep)_{02}$ | 2006 |
| | | | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | | |
| Total | 100.6 | 104.7 | 105.3 | 106.1 | 103.9 | 102.9 | 104.8 | 105.2 | 103.5 | 112.5 | 100.0 |
| Energy[1] | 103.9 | 102.5 | 100.7 | 104.8 | 99.9 | 102.7 | 93.0 | 104.9 | 105.6 | 110.6 | 23.6 |
| Investment goods[2] | 74.2 | 90.0 | 107.2 | 87.9 | 78.4 | 90.3 | 97.1 | 99.1 | 117.8 | 69.3 | 7.5 |
| Intermediate goods[3] | 104.9 | 106.7 | 109.4 | 109.1 | 106.5 | 102.3 | 113.6 | 108.4 | 102.4 | 131.1 | 32.2 |
| Intermediate goods without basic metals | 101.5 | 101.3 | 106.9 | 101.4 | 96.6 | 99.7 | 113.1 | 108.3 | 105.9 | 99.9 | 24.0 |
| Consumer goods[4] | 101.6 | 112.0 | 107.5 | 110.0 | 116.2 | 110.2 | 122.4 | 109.1 | 102.3 | 127.6 | 36.7 |
| Consumer goods without food industry | 96.3 | 128.3 | 112.9 | 117.8 | 126.9 | 122.5 | 138.7 | 111.4 | 99.3 | 138.5 | 14.1 |

Source: SBS.

1) Extraction of coal, crude oil, natural gas, electricity and water supply.

2) Manufacture of metal products excluding machines (sections 281,282 and 283 Classification of Activities), manufacture of machines and equipment (excluding electric), manufacture of office machinery and computers, radio TV and communications equipment, precision and optical instruments, manufacture of motor vehicles and trailers, manufacture of other transport equipment.

3) Mining of metal and non-metallic ores, stone quarrying; manufacture of textile yarns and fabrics, wood and cork products (except furniture), cellulose, paper and paper products, rubber and plastic products, chemical products (except pharmaceuticals and home chemicals products), petrochemicals, construction materials, basic metals, sub-sector of metal goods production except machines (sectors 284, 285, 286 and 287), electric machines and appliances, and recycling sub-sector.

4) Food industry products, tobacco products, clothing, leather products and footwear, publishing products, pharmaceutical products and home chemicals products, furniture and various other products.

5) Share in total industrial production.

8 Specified-purpose groups are: energy generation, production of investment goods, production of intermediate goods, production of consumer goods (durable and non-durable)

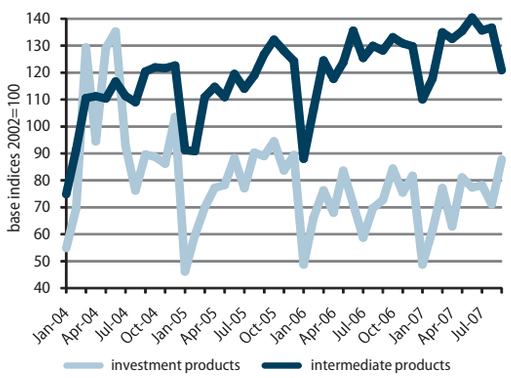
***Viewed by purpose, production of investment goods leads the way***

When viewed by purpose, it is obvious that the highest y-o-y growth of industrial production was that of the production of investment goods - 17.8% (Table T5-11), followed by energy generation, whose y-o-y growth was 5.9%. A significant slowdown of industrial production growth relative to Q2 was recorded in the production of consumer and intermediate goods (Table T5-11).

***Production of intermediate goods decelerates***

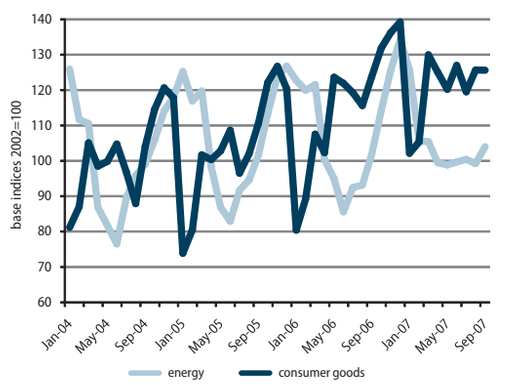
Graph T5-12 shows the movements in the industrial production of intermediate and capital goods. Our estimate in the previous issue – that an end to the divergent trends in the production of intermediate and investment goods can be expected in 2007 – has been confirmed by the results of industrial production in Q3. By showing basic indices of the movements in industrial production of intermediate and investment goods in relation to 2002 in one graph (Graph T5-12), we point to the impact of the opening of Serbia's economy on the establishment of a new structure of industrial production. Specifically, the production of intermediate goods, with technologically exploitable capacities and for the most part privatized, has very quickly managed to find markets for its products and to maintain high growth rates over the past five years. The production of investment goods, however, was not able to counter the foreign competition right away, so its present production is only 70% of the level in 2002. In 2007, for the first time in many years, a growth was recorded in the industrial production of investment goods. A probable explanation is that the process of the market adjustment of this specified-purpose product group has been brought to an end. Proof that the growth has sound foundations is also the high increase in exports of investment goods in 2007 of more than 50%.

**Graph T5-12. Serbia: Components of Industrial Production, 2004–2007**




Source:SBS

**Graph T5-13. Serbia: Components of Industrial Production, 2004–2007**




Source:SBS

***The production of consumer goods decelerated the most since the beginning of the year***

Graph T5-13 shows the movements in industrial production of energy and consumer goods. Although both these specified-purpose groups of industrial production are under the strong influence of the seasonal component, 2007 saw considerable deviations from the expected seasonal production levels. Energy generation had a somewhat lower production value in Q1 due to the warm winter, but the expected seasonal summer drop also never materialized. The trends with respect to consumer goods are even more interesting. Q1 saw an extremely high growth in the production of consumer goods – 22.4% y-o-y (Table T5-11), presumably under the pressure of higher domestic demand. As of Q1, production of consumer goods sharply decelerated, so in Q3 this specified-purpose group had a y-o-y growth of a mere 2.3%. Analysis of domestic demand (Table T5-2) brings out lower domestic demand in Q2 and Q3, which coincides with the drop in the industrial production of consumer goods. However, the deceleration of domestic demand is of a much weaker intensity than the slowdown in the production of consumer goods. Perhaps the index of retail trade at constant prices or the real wage growth index might be the more reliable indicators. These two indices point to a slight deceleration, which is not even remotely similar to the deceleration in the production of consumer goods. Finally, imports of consumer goods over the cited period, and particularly in Q3, did not record a deceleration similar to that of domestic production. All this leads to the conclusion already set out in the analysis of overall economic

developments: that high household demand coupled with dinar appreciation will be increasingly met through imports.

## Box 3. Impact of the Production of Basic Metals on Industrial Production in Q3

*US Steel Serbia starts modernizing its facilities*

Q3 saw the start of the modernization of blast furnace #2 at U.S. Steel Serbia in Smederevo. After it is overhauled, the furnace will operate in keeping with up-to-date international standards. The project is worth around €30 mn and more than 500 contractors will be involved. During the overhaul, *furnace # 1* will continue production.

The overhaul of *furnace #2* is planned to last until end-2007, which will inevitably result in a drop in the production of basic metals over the period. The considerable share of basic metals in total industrial production prompts us to further analyze and possibly revise our assessments of the decelerating trend in industrial production (Table T5-14).

**Table T5-14. Serbia: Industrial Production Indices without Basic Metals, 2006–2007**

| | y-o-y indices | | | | | | | share |
|---|---|---|---|---|---|---|---|---|
| | 2006 | | | | 2007 | | | 2006 |
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | |
| Total industry | 105.3 | 106.1 | 103.9 | 102.9 | 104.8 | 105.2 | 103.5 | 100.0 |
| Total industry without basic metals | 103.9 | 103.0 | 100.1 | 102.1 | 103.5 | 104.8 | 104.8 | 91.8 |
| Manufacturing | 107.5 | 106.2 | 104.4 | 102.9 | 108.5 | 104.9 | 103.3 | 75.4 |
| Manufacturing without basic metals | 106.4 | 103.1 | 100.6 | 102.1 | 107.7 | 104.4 | 104.6 | 67.2 |
| Basic metals | 116.6 | 131.7 | 135.4 | 109.8 | 115.1 | 108.7 | 92.6 | 8.2 |

Source: SBS.

*After the exclusion of basic metals, industrial production in Q3 remained at the same level as in Q2*

*Production of US Steel is significant at a macro level...*

The production of US Steel Serbia is very important at the level of total industrial production in Serbia. In the first six months of 2007, the company achieved a record of one million tons of steel. Last year, total production was 1.*7* million tons, which was also a record. Prior to 2006, the last time the iron and steel works achieved a production level of over one million tons was 1989, for the whole year, but during the sanctions it faced great difficulties.

The overhaul of furnace #2 will affect Serbia's trade balance as well. U.S. Steel is the largest individual Serbian exporter, marketing its products in more than 80 countries. According to the statistics, this company, with exports worth €664.*6* mn – accounted for as much as 12% of Serbia's total exports in 2006. At the same time, it is one of the largest importers since Serbia does not have the ore needed for steel production.

Table T5-14 shows the y-o-y indices of industrial production growth without the production of basic metals. The results of that production, however, suggest caution in taking a position regarding the deceleration of industrial production in Q3. Namely, when the production of basic metals is excluded, the index of y-o-y industrial production growth in Q3 is identical to the growth achieved in Q2, while the manufacturing industry achieved in Q3 a growth that was even higher than in Q2.

*...hence a slowdown in exports and industrial production can be expected by the end of the year*

The results of the production of basic metals, however, should not be taken out of the total picture of Serbia's industrial production in Q3, all the more so because some essentially unfavorable trends have also been observed in the movement of industrial production in other export- oriented sections of the manufacturing industry (Graph T5-6). Part of the recorded deceleration of industrial production in Q3, and probably of a slowdown yet to happen in Q4, can be attributed to the initiation of a new investment cycle of only one company, but a very important one at the macro level.

## The Construction Industry

***The construction industry fell by some 5% in Q2 ...***

The construction industry recorded a y-o-y drop of an estimated 5% in Q3. Among the several indicators that describe the movements in this industry, we consider the cement production index to be the most reliable[9] (Table T5-15). In Q3 2007, cement production was down 6.9% on the same period last year.

***... but we believe this is temporary***

The drop in construction activity in Q3 was probably the result of the industry taking a breather after the very high growth in the first semester of the year. The good weather in Q1 made possible a higher number of work days than usual, so that activity in Q1 was exceptionally high. It may be assumed that the current slowdown was caused by the intensive activity early on in the year and that further growth is adjusting to demand.

***QM estimates the growth of construction in 2007 at around 10%***

The growth of construction in the first three quarters relative to the same period last year was 11.4% (measured by the growth of cement production). *QM* believes this to be the underlying growth trend and that the Q3 drop was just a temporary glitch. In Q4, construction activity will be affected to a major extent by the weather conditions, though it seems that the overall growth in 2007 will be around 10%.

As regard to other construction indicators released by the SBS, the value of construction works in Q3 was nominally up by 3.4% and down by 0.7% in constant prices relative to the same period last year. The number of workers on sites fell by 5.7% and a y-o-y fall of work hours was recorded. These indicators, like the cement production index, point to a slowing of construction activity as well as the continuation of the growth trend of productivity in the construction sector.

**Table T5-15. Serbia: Cement Production, 2001–2007**

| | y-o-y indices | | | | |
|---|---|---|---|---|---|
| | I quarter | II quarter | III quarter | IV quarter | total |
| 2001 | 89.5 | 103.5 | 126.9 | 148.1 | 114.2 |
| 2002 | 83.6 | 107.9 | 115.6 | 81.6 | 99.1 |
| 2003 | 51.1 | 94.4 | 92.7 | 94.4 | 86.6 |
| 2004 | 118.8 | 107.4 | 98.5 | 120.1 | 108.0 |
| 2005 | 66.1 | 105.0 | 105.8 | 107.4 | 101.6 |
| 2006 | 136.0 | 102.7 | 112.2 | 120.2 | 112.7 |
| 2007 | 193.8 | 108.9 | 93.1 | - | - |

Source: SBS.

9 The correct indicator would be the consumption of cement, but it is not available at the quarterly level. Research has brought out that cement production approximates consumption fairly reliably.

# 6. Balance of Payments and Foreign Trade

**Serbia's export growth slowed for the second consecutive quarter, while imports accelerated, growing at a y-o-y rate almost twice that recorded in 2006. The result was the equalization of the exports and imports growth rates, which, coupled with the traditionally low coverage of imports by exports, led to major growth of the foreign trade deficit. This disbalance in the external sector, which started in late 2006, was exacerbated by the decline in current transfers throughout 2007, leading to the growth of the current account deficit to 17% of GDP in Q3. Capital inflows – primarily FDIs and corporate foreign borrowing – were still strong and covered the current account deficit. NBS foreign exchange reserves thus continued growth (by € 475 mn).**

*The current account deficit doubled in Q3 relative to the same period in 2006*

The current account recorded a significant deficit in Q3 of €1,310 mn, or double that in the same quarter of 2006. The drastic y-o-y deterioration in Q3 (109.6%) exceeded the y-o-y growth rates of the deficit in both Q1 and in Q2 (71.9% and 68.9% respectively).

*The deterioration of the current account was the result of the worsening trade balance and fall in current transfers*

Expressed in percentage of GDP, the current account deficit was 16.9% in Q3, higher by 5,7 percentage points than in Q2 when it stood at 11.2%. This deterioration can mainly be attributed to the worsening trade balance and the fall in current transfers (which contributed by 45.4% and 48.0% respectively)[1].

The foreign trade deficit in Q3 2007 amounted to €1,478 mn (19.1% of GDP), up 26.7 percentage points relative to the same period in 2006. The balance of current transfers was only €237 mn and was absolutely lower by €329 (58.2%) relative to Q3 2006. This fall in current transfers was mainly due to the higher outflow of foreign exchange from household accounts (y-o-y outflow growth of 43,8%), as well as a y-o-y drop in net non-residents' accounts 0(87.3%). Current transfers in Q3 contributed with 3.1% to GDP, while in the previous quarter their contribution was 10.8%.

### Box 1. Balance of Payments Corrections for Q1 and Q2 2007

Data on the balance of payments for Q1 and Q2 in this *QM* differ from the data that appeared in the previous issue due to corrections made in the meantime by the NBS. In *QM*9, the current account deficit in Q2 was reported as being 13.5% of GDP but, according to the corrected data, it amounted to 11.2% of GDP. The balance of current transfers in Q2 was also corrected, from the original €524 mn to €779 mn. Net non-residents' accounts underwent the biggest correction (from the originally reported €5.6 mn to €163 mn). FDIs in Q2 were corrected in the reverse order: from €152 mn they went down to €-5 mn. There were minor differences regarding mid- and long-term credits, as well as the item "Other capital inflows." These differences are completely due to the corrections made by the NBS.

*Export growth decelerated in Q3 (y-o-y growth of 26.9%), while imports accelerated (26.3%)*

According to NBS[2] data, exports amounted to €1,737 mn in Q3 (y-o-y growth of 26.9%), while at the same time imports were worth €3,224 mn (growth of 26.9%). In all, because of the low coverage of imports by exports (53.8%), this widened the foreign trade deficit (€1.478 mn).

1 The contribution of the trade balance and balance of current transfers to the deterioration of the current account balance is calculated as the share of their absolute changes in the absolute change of the current account balance.

2 The corrected NBS data on imports and exports (f.o.b.) calculated in accordance with IMF methodology was used in the analysis of the balance of payments (*Balance of Payments Manual*, Fifth edition, IMF: http://www.imf.org/external/np/sta/bop/BOPman.pdf), whereas SBS data was used to analyze imports and exports. The SBS data differs methodologically from NBS data; hence the discrepancies in the imports and exports figures and growth rates.

*Stagnation in metal exports and slump in agricultural exports decelerated exports growth*

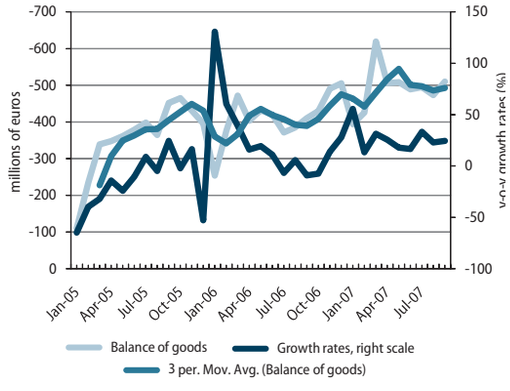
In Q3, export growth decelerated (26.9% relative to 29.4% in Q2) primarily due to the stagnation of metal exports because of repairs of production capacities, as well as the poorer performance of agricultural exports, owing to smaller yields caused by the drought and to the administrative ban on the export of basic cereals introduced during the summer. The reasons for the slowdown in export growth will be addressed in more detail in the analysis of foreign trade flows.

*High demand, dinar appreciation and rising energy prices trigger faster growth of imports*

On the other hand, demand for imported products continued unabated – not only did imports retain the same pace of growth but also recorded an acceleration of y-o-y growth rates (26.6% in Q3 relative to 23.8% in Q2). High domestic demand, the rise of energy prices on the world markets as well as the nominal appreciation of the dinar led to the accelerated import growth. To recall, a year ago, in Q3 2006, imports grew at almost half the present rate (14.1%). Exports accounted for 22.6% of GDP and imports for 41.8% of GDP, and the difference (trade deficit) amounted to one-fifth of the GDP.

The almost equal growth rates of imports and exports in Q3 resulted in a further rise in the foreign trade deficit due to the low coverage of imports by exports (53.8%). If the foreign trade deficit is to be cut, exports would have to grow at twice the import growth rate. In contrast to 2006, this was far from being the case in 2007. During the year, and especially in Q3, the foreign trade deficit rose (Graph T6-1).

**Graph T-6.1 Serbia: Foreign Trade Deficit, 2005–2007**




Source: NBS.

In Q3 exports and imports of services had approximately the same values (€560 and €577 mn respectively), which resulted in an almost neutral balance of services (€17 mn). At the annual level, services imports and exports recorded virtually the same growth (17.8% and 17.5%). The biggest contribution to the rise in earnings from services in Q3 came from transport (46.3%) and tourism (16.1%), while construction works abroad fell (-51.1%). The biggest contribution to the growth of the imports of services came from transport (growth of 52.3%) and tourism (25.9%). Imports of goods and services made up almost half of the quarterly GDP (49.0%), while exports accounted for less than one-third of GDP (30.1%).

*A y-o-y drop in current transfers of as much as €329 mn...*

*... owing to a major decline in remittances ...*

*... a fall in the net inflow from exchange offices ...*

*... as well as lower inflows in non-residents' accounts*

Besides foreign trade, the drop in current transfers also had a major impact on the growth of the current account deficit. Transfers were only €237 mn in Q3, compared to €566 mn in Q3 2006. This very low level was the result of a large outflow of foreign exchange from houshold accounts in July and August. In those two months, the balance of current transfers was extremely low: €66.8 mn in August, and even negative (€-6 mn) in July. The inflow of transfers and foreign exchange into household accounts (remittances) recorded steady growth from the beginning of 2007, while the outflows in Q3 were far higher (particularly in August when they amounted to €171 mn). Comparing these figures to Q3 2006 brings out growth in the inflow of remittances by 17.7% and a considerably larger outflow by 43.8%. Net non-residents' accounts were lower by 83.7%, while net purchases from exchange offices were lower by 28.6% relative to Q3 2006, which additionally led to the drop in current transfers and, consequently, a larger current account deficit. From the beginning of 2007, the net inflow of foreign exchange through exchange offices amounted to €811 mn, while in the first three quarters of 2006 it was €1,166 mn. One possibility is that a part of the drop was due to the legalization of trade and financial operations with Montenegro, as well as a fall in unoffical remittances.

*A capital account surplus of €1.7 bn*

In Q3, the capital account recorded a surplus (€1,693 mn), making up for the current account deficit and increasing the NBS foreign exchange reserves by €457 mn.

## Table T6-2. Serbia: Balance of Payments, 2004–2007[1)]

| | 2004 | 2005 | 2006 | 2005 Q1 | 2005 Q2 | 2005 Q3 | 2006 Q1 | 2006 Q2 | 2006 Q3 | 2007 Q1 | 2007 Q2 | 2007 Q3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | in million of euros | | | | | | |
| **CURRENT ACCOUNT** | -2,197 | -1,805 | -2,892 | -324 | -291 | -519 | -680 | -475 | -625 | -1,169 | -803 | -1,311 |
| Balance of goods | -5,311 | -4,279 | -4,950 | -683 | -1,089 | -1,215 | -1,101 | -1,256 | -1,167 | -1,439 | -1,504 | -1,479 |
| Exports of goods | 2,991 | 4,006 | 5,146 | 813 | 1,011 | 1,019 | 1,039 | 1,243 | 1,380 | 1,391 | 1,589 | 1,746 |
| *Growth rate (12-m, in %)* | *14.7* | *33.9* | *28.5* | *54.4* | *52.6* | *23.4* | *27.8* | *22.9* | *35.5* | *33.9* | *27.9* | *26.5* |
| Imports of goods | -8,302 | -8,285 | -10,096 | -1,496 | -2,100 | -2,234 | -2,140 | -2,498 | -2,548 | -2,830 | -3,093 | -3,225 |
| *Growth rate (12-m, in %)* | *29.4* | *-0.2* | *21.9* | *-13.4* | *6.6* | *15.2* | *43.0* | *19.0* | *14.1* | *32.2* | *23.8* | *26.6* |
| Balance of services | 155 | -5 | -49 | *-25* | *42* | *0* | *-31* | *4* | *16* | *6* | *-6* | *17* |
| Income, net | -172 | -260 | -314 | -59 | -83 | -56 | -58 | -97 | -81 | -98 | -107 | -137 |
| Current transfers | 2,728 | 2,471 | 2,240 | 410 | 790 | 686 | 474 | 828 | 566 | 320 | 776 | 237 |
| F/X purchases, net | 1,592 | 1,631 | 1,447 | 320 | 563 | 445 | 289 | 593 | 284 | 196 | 412 | 203 |
| Non-resident's accounts | 568 | 460 | 561 | 37 | 70 | 151 | 183 | 94 | 218 | 111 | 163 | 28 |
| Grants | 403 | 268 | 181 | 33 | 49 | 66 | 36 | 45 | 42 | 42 | 38 | 51 |
| **ERRORS AND OMISSIONS** | 168 | -384 | -221 | -184 | 109 | -130 | -31 | -32 | -83 | -158 | -44 | 75 |
| **CAPITAL AND FINANCIAL ACCOUNT** | 2,377 | 3,863 | 7,353 | 710 | 463 | 1,103 | 1,100 | 1,587 | 2,247 | 1,135 | 1,253 | 1,693 |
| Foreign direct investment (FDI) | 773 | 1,248 | 4,077 | 262 | 240 | 495 | 164 | 574 | 1,671 | 617 | -5 | 542 |
| Other investments | 1,604 | 2,615 | 3,276 | 448 | 223 | 608 | 936 | 1,013 | 577 | 518 | 1,258 | 1,151 |
| Medium and long-term loans, net | 1,221 | 1,820 | 3,140 | 157 | 444 | 387 | 443 | 1,242 | 771 | 511 | 973 | 642 |
| Extraordinary debt and interest repayment[2)] | ... | ... | -1,060 | 0 | 0 | 0 | 0 | -189 | -188 | -145 | 45 | 0 |
| Other[3)] | 383 | 795 | 1,196 | 291 | -221 | 220 | 493 | -40 | -6 | 153 | 240 | 510 |
| **NBS Reserves, net[4)], (increase +)** | -349 | -1,675 | -4,240 | -202 | -281 | -454 | -390 | -1,079 | -1,539 | 193 | -407 | -458 |
| **MEMORANDUM ITEMS** | | | | | | | | | | | | |
| NBS reserves excl. com. banks deposits | -299 | -679 | -1,666 | -51 | -219 | -185 | -92 | -340 | -181 | 278 | -373 | -340 |
| | | | | | | in % of GDP | | | | | | |
| Exports of goods | 15.2 | 19.0 | 20.7 | 17.8 | 19.7 | 18.5 | 20.1 | 21.0 | 21.0 | 21.5 | 22.2 | 22.5 |
| Imports of goods | -42.1 | -39.3 | -40.6 | -32.7 | -41.0 | -40.5 | -41.3 | -42.2 | -38.8 | -43.7 | -43.1 | -41.6 |
| Balance of goods | -26.9 | -20.3 | -19.9 | -14.9 | -21.2 | -22.0 | -21.3 | -21.2 | -17.8 | -22.2 | -21.0 | -19.1 |
| Current account | -11.1 | -8.6 | -11.6 | -7.1 | -5.7 | -9.4 | -13.1 | -8.0 | -9.5 | -18.1 | -11.2 | -16.9 |
| GDP in euros [5)] | 19,723 | 21,108 | 24,886 | 4,578 | 5,125 | 5,517 | 5,181 | 5,914 | 6,569 | 6,469 | 7,170 | 7,759 |

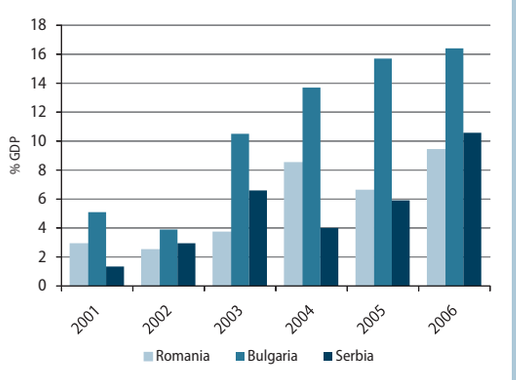
Source: Table P-8 in Analytical Appendix.
1) Original US dollars monthly data are converted to euros using monthly averages of official daily NBS mid rates.
2) Includes extraordinary repayment of principal and interests on WB and IMF loans
3) Includes short term trade credits, unpaid imports of oil and gas, short-term loans, other assets and liabilities and gross reserves of commercial banks.
4) Excluding IMF tranches.
5) For the stated period. GDP 2006, Q2 and Q3 2007: FREN's estimate.

***In Q3, FDIs lower than in 2006 due to the record privatization inflows in Q3 2006***

Net FDIs amounted to €542 mn in Q3, a drop of 67.7% relative to Q3 2006. In Q3 2006, however, FDI stood at record levels because of the privatization of a mobile telephony operator, as well as several privatizations in the banking sector; hence this drop in FDIs is the result of comparison to a high base. FDIs include portfolio investments, which stood at €115 mn in Q3.

## Box 2. FDIs in Serbia and the Region

### Graph T6-3 Serbia: FDIs in Serbia and Comparable Countries, 2001–2006




Source: NBS, Eurostat

Where the share of FDIs in the GDPs of Romania, Bulgaria and Serbia in the 2001-2006 period are concerned, (Graph T6-3) it is evident that they were much lower in Serbia than in Bulgaria, and comparable to the FDI inflows in Romania. In Serbia, FDIs have recorded major growth in 2006, reaching as much as 10.6% of GDP. The structure of FDIs in Serbia and the cited countries over the last six years, however, differs to a major extent. While the investments in Bulgaria and Romania in new production facilities and in the banking sector were the consequence of their announced accession to the EU, those in Serbia were mainly privatization inflows. The question that begs an answer here, both from the perspective of economic

growth and the equilibrium of the balance of payments, is how the FDI inflow will develop following the completion of the privatization process. The experiences of other transition countries show that the inflow of FDIs is higly correlated with the certainty of their integration with the EU, and that FDIs were an important factor of their economic growth. The estimate is that over 50%[1] of the growth of Central European and Baltic countries in the 1994–2003 period was due to FDIs.

1 Marco Neuhaus "Foreign direct investment: The growth engine in Central and Eastern Europe," in *EU Monitor*, June 2006 – Deutsche Bank

***Private foreign borrowing grows in Q3 ...***

Net mid- and long-term foreign borrowing amounted to €642 mn in Q3. This was primarily a result of the significant increase in this kind of borrowing by enterprises (over €700 mn). Within this item, government additionally borrowed €30.4 mn, while the banking sector settled its foreign liabilities to the tune of €-113,1 mn. The latter was due to both the expansion of enterprises' direct foreign borrowing and a restrictive measure of NBS monetary policy, i.e. lowering of the prescribed coverage of the total credit to households with capital to 150%, which led to a major capital increase and use of own sources for financing loans. The cumulative growth of short-term borrowing in Q3 amounted to €125 mn. Net short-term bank borrowing in Q3 was €186.1 mn. On the other hand, net short-term borrowing by enterprises went down by €61 mn in Q3.

***...primarily owing to continued company borrowing...***

***...while banks are reducing their foreign debt***

New foreign exchange savings hit a record of €445 mn in Q3 (y-o-y growth of 15.0%), as the result of both economic growth and high yields on foreign exchange savings with domestic banks.

***Investing in Serbia is profitable leading to growth of the capital account***

Despite the poor performance of the current account, major capital inflows resulted in a further growth of the NBS foreign exchange reserves by €457 mn. Though risks exists, investment in Serbia nonetheless appears to be profitable, which explains the strong capital inflows from abroad.

## Foreign Debt

***Serbia's foreign debt is 57.2% of GDP***

The country's total foreign debt in September amounted to 57.2% of estimated GDP (€16,361 mn).

***Public debt on a downward trend***

The public foreign debt declined and now stands at only 21.7% of GDP (€6,210 mn). Out of the total amount, €6,157 mn or 99.15% refers to the long-term public debt.

### Box 3. Serbia's Foreign Debt Compared to Countries in the Region

In this issue, QM compares Serbia's total debt with the debts of other countries in the region (Table T6-4). A comparison is made of two ratios that indicate the relative indebtedness of a country: foreign debt relative to GDP, and foreign debt relative to exports of goods and services. According to the first indicator (foreign debt/GDP), Serbia is a moderately indebted country, while the second (GDP/exports) indicates that Serbia is in a worse position than the cited countries. The poor ratio of the total foreign debt relative to exports is, however, more indicative of Serbia's extremely low exports rather of than a major foreign debt problem. In those terms, it is more relevant to observe the first indicator – foreign debt/GDP. Albania has the smallest share of foreign debt in GDP (19.2%) while Hungary turns out to be the most indebted country (94%). Albania and Romania have very low foreign debts compared to Serbia, while Bosnia-Herzegovina and Macedonia boast a somewhat more favourable ratio than Serbia. Hungary, Bulgaria and Croatia have higher shares of foreign debt in GDP and are more indebted than Serbia.

**Table T6-4. Total Foreign Debt in % of GDP and in % of Exports of Goods and Services, Serbia and Countries in the Region, 2006**

| | Albania | Hungary | Romania | Bulgaria | Croatia | Bosnia and Herzegovina | FYR Macedonia | Serbia* |
|---|---|---|---|---|---|---|---|---|
| | | | | | in % | | | |
| External debt/GDP | 19.2 | 94.0 | 34.3 | 82.3 | 89.7 | 54.0 | 40.4 | 57.2 |
| External debt/exports of goods and services | 85.7 | 121.4 | 106.1 | 128.8 | 170.9 | 152.6 | 87.1 | 218.4 |

Source: EBRD, Transition Report (2007).
*Data on Serbia, NBS .

**Table T6-5. Serbia: Foreign Debt by Term Structure and Debtor, 2004–2007**

| | 2004 | 2005 | 2006 | 2007 | | |
|---|---|---|---|---|---|---|
| | | | | Mar | Jun | Sep |
| | stocks, in EUR millions, at the end of the period | | | | | |
| Total foreign debt | 10,354 | 13,064 | 14,884 | 14,858 | 15,689 | 16,361 |
| *(in % of GDP)* | *52.5* | *61.9* | *59.8* | *56.7* | *57.1* | *57.2* |
| Public foreign debt | 7,112 | 7,714 | 6,420 | 6,241 | 6,253 | 6,210 |
| *(in % of GDP)* | *36.1* | *36.5* | *25.8* | *23.8* | *22.8* | *21.7* |
| Long term | 7,039 | 7,630 | 6,363 | 6,185 | 6,197 | 6,157 |
| o/w: to IMF | 706 | 732 | 185 | 0 | 0 | 0 |
| Short term | 73 | 84 | 57 | 56 | 56 | 53 |
| Private foreign debt | 3,242 | 5,350 | 8,464 | 8,617 | 9,436 | 10,151 |
| *(in % of GDP)* | *16.4* | *25.3* | *34.0* | *32.9* | *34.4* | *35.5* |
| Long term | 2,582 | 4,156 | 7,263 | 7,669 | 8,532 | 9,152 |
| Banks | 687 | 1,260 | 2,929 | 2,906 | 2,704 | 2,628 |
| Enterprises debt | 1,895 | 2,895 | 4,334 | 4,763 | 5,828 | 6,524 |
| Short term | 660 | 1,194 | 1,201 | 948 | 904 | 999 |
| Banks debt | 444 | 924 | 942 | 701 | 808 | 875 |
| Enterprises debt | 216 | 271 | 259 | 247 | 96 | 123 |
| Net foreign debt[1)] (in % of GDP) | 36.7 | 38.4 | 23.4 | 23.1 | 23.5 | 23.9 |

Source: NBS.
1) Total foreign debt minus NBS Fx reserves.

***Companies' foreign debt is higher than that of banks***

The private foreign debt recorded growth and is almost 8% higher relative to Q2, primarily because of strong foreign borrowing by companies. The stock of the private debt in Q3 amounted to €10.3 bn (36.2% of GDP). Short-term loans constituted 9.8% of the private foreign debt.

The overall foreign debt of the banking sector amounted to €3,584 mn (12.5% of GDP) in September. Out of the total debt of the banking sector, 75% was long-term and the remainder (25%) was short-term debts. The foreign debt of companies was twice as high, standing at €6,648 mn (23.2% of GDP) in September 2007, with long-term debts accounting for 98.1%, and short-term debts for a mere 1.84%.

## Exports[3]

*Exports decelerate in Q3...*

*... primarily owing to slower Bulky exports*

For the second quarter in a row, merchandise exports decelerated in Q3 (27.3% relative to 31.4% in Q2 and 34.1% in Q1, Table T6-6).[4] This can be ascribed to the slowing of the growth of iron, steel, and non-ferrous metals exports in August, as well as a deceleration of non-ferrous metals exports and slower steel, iron and cereal exports in September. The causes lie in the overhauling of the plants of the biggest Serbian exporter (US Steel Serbia), the drought and poorer agricultural yields, as well as the administrative ban on cereal exports, and seem to be of a temporary nature.

**Table T6-6. Serbia: Exports, Y-o-y Growth Rates, 2005–2007**

| | Exports share in 2006 | 2007 | | 2005 | | 2006 | | | | 2007 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 |
| | % | mil.euros | | | | y-o-y growth (%) | | | | | | |
| Total | 100.0 | 1,390 | 1,613 | 28.5 | 25.6 | 38.0 | 36.7 | 35.3 | 28.7 | 34.5 | 31.4 | 27.3 |
| Bulky exports | 32.8 | 455 | 501 | 21.9 | 27.6 | 32.7 | 13.1 | 55.0 | 45.9 | 36.1 | 34.3 | 19.4 |
| Iron and steel | 13.6 | 213 | 222 | -13.6 | 5.4 | 2.2 | 24.7 | 92.5 | 43.4 | 61.5 | 29.2 | 9.7 |
| Non ferrous metals | 9.6 | 120 | 149 | 76.1 | 67.7 | 79.9 | 53.5 | 58.8 | 73.3 | 11.8 | 36.2 | 17.6 |
| Fruits and vegetables | 5.1 | 57 | 75 | 19.2 | 8.5 | 88.0 | 31.9 | 20.5 | 26.9 | 30.3 | 59.2 | 29.7 |
| Cereal and cereal products | 4.5 | 65 | 55 | 130.5 | 77.1 | 88.0 | 31.9 | 21.2 | 29.6 | 26.6 | 23.2 | 40.7 |
| Underlying exports | 67.2 | 935 | 1,113 | 31.6 | 24.8 | 23.2 | 26.2 | 26.8 | 21.4 | 33.8 | 30.1 | 31.4 |
| Core | 31.9 | 443 | 515 | 38.2 | 40.4 | 29.6 | 24.0 | 26.8 | 26.0 | 30.6 | 35.3 | 28.6 |
| Clothes | 5.0 | 76 | 74 | 69.9 | 55.8 | 8.6 | 1.4 | 19.1 | 28.0 | 29.8 | 31.0 | 28.1 |
| Miscellaneous manufactured articles,n.e.s. | 4.4 | 51 | 64 | 40.5 | 32.9 | 34.8 | 21.8 | 7.2 | 4.5 | 6.0 | 17.1 | 34.2 |
| Manufactures of metals, n.e.s. | 4.2 | 60 | 81 | 37.1 | 36.6 | 24.1 | 14.7 | 68.8 | 50.8 | 76.7 | 60.6 | 33.0 |
| Rubber products | 3.8 | 55 | 54 | 36.2 | 17.8 | 24.1 | 14.7 | 10.0 | 17.7 | 16.2 | 18.0 | 4.9 |
| Electrical machinery, apparatus and appliances | 2.8 | 42 | 58 | 49.6 | 81.9 | 19.7 | 9.5 | 70.5 | 56.1 | 77.6 | 81.2 | 66.7 |
| Organic chemicals | 2.6 | 43 | 39 | 20.0 | 29.8 | 61.4 | 69.6 | 16.9 | 36.0 | 42.8 | 71.4 | 46.3 |
| Plastics in primary forms | 2.6 | 30 | 36 | -4.8 | 14.6 | 30.2 | 11.7 | 35.7 | 3.8 | -7.4 | 8.2 | 8.3 |
| Footwear | 2.5 | 35 | 37 | 55.0 | 60.0 | 45.2 | 19.4 | 21.6 | 22.2 | 34.9 | 18.1 | 10.9 |
| Paper, paperboard and articles of paper pulp | 2.1 | 27 | 34 | 36.2 | 61.9 | 20.2 | 72.1 | 18.0 | 22.1 | 12.3 | 35.6 | 23.0 |
| Non-metal mineral produce | 2.0 | 25 | 37 | 40.2 | 70.0 | 32.5 | 33.8 | 34.2 | 26.0 | 55.3 | 32.0 | 28.1 |
| Other | 35.4 | 492 | 598 | 25.8 | 14.0 | 13.4 | 29.4 | 26.8 | 17.5 | 36.8 | 25.9 | 34.2 |

Source: SBS.

The usual *QM* analysis involves disagreggation of total exports into two large segments – *Bulky exports* and *Underlying exports*. *Bulky exports* include sections of exports broken down in accordance with the SITC classification, whose share in overall exports in 2006 surpassed 4% and whose growth rate was significant. The category includes: iron and steel, non-ferrous metals, vegetables and fruit, and cereals. The *Core* category includes sections whose share in the overall exports in 2006 was above 2%, while their annual growth surpassed 15%. Finally, the component *Other* includes a wide spectrum of products that are not classified in these two groups.

*Bulky exports slow down overall exports*

*Bulky exports* contributed in a major way to the deceleration of the growth of total exports (y-o-y growth of only 19.4% in Q3 as against 34.3% in Q2). Breaking down of monthly data shows that the quarterly slowing of *Bulky exports* was a consequence of the radical deceleration in August and then the negative y-o-y growth in September (respective y-o-y growth rates of 12.9% and -2.7%). These movements reduced the contribution of this component to the growth of total exports from 33.2% in Q2 to 24.4% in Q3[5]. Analysis of the *Bulky exports* structure tells us why this happened.

*The growth rate of iron and steel exports plummets in Q3 owing to the overhauling of the blast furnace at U.S. Steel Serbia*

The biggest contribution to the deceleration of growth of both total and *Bulky exports* came from the category *iron* and *steel* (growth of 9.7% in Q3 as against 29.2% in Q2, Table T6-5). The growth of these exports fell dramatically in August (Table T6-7) but, for the first time since February 2006, a y-o-y drop was recorded in September (5.5%). The unfavourable movements in iron and steel exports in those two months were the result of the overhaul of production

3 SBS data on imports and exports was used in this part of the article. This data is methodologically different from the NBS data used for the analysis of the balance of payments, owing to which certain differences arise relative to the first part of the text.

4 The time series which were the subject of the analysis also include foreign trade with Montenegro (since July 2005).

5 The contribution to growth represents the share of export growth of some product in the increase of total exports. The same holds for imports.

facilities, specifically the second blast furnace at U.S. Steel Serbia, which will last until the end of the year. Meanwhile, production will go ahead with only one blast furnace functioning. This is without doubt the reason why the production of basic metals in Q3 fell by 7.4% y-o-y. Given the fact that the overhaul will last until the end 2007, the negative trends in iron and steel exports are likely to continue.

**Table T6-7. Serbia: *Bulky Exports* and Y-o-y Growth Rates, 2006–2007**

| | 2006 | | | | | 2007 | | | | | 2007 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | May | June | July | Aug | Sep | May | June | July | Aug | Sep | May | June | July | Aug | Sep |
| | mil.euros | | | | | | | | | | y-o-y growth (%) | | | | |
| Iron and steel | 65 | 58 | 58 | 67 | 76 | 75 | 78 | 79 | 70 | 72 | 15.2 | 33.8 | 36.0 | 4.1 | -5.5 |
| Non ferrous metals | 40 | 39 | 40 | 35 | 42 | 62 | 44 | 55 | 38 | 44 | 54.0 | 11.2 | 38.2 | 9.8 | 4.6 |
| Fruits and vegetables | 15 | 20 | 29 | 33 | 29 | 19 | 40 | 41 | 41 | 36 | 27.0 | 103.7 | 41.8 | 22.6 | 25.8 |
| Cereal and cereal products | 15 | 17 | 15 | 18 | 24 | 17 | 22 | 42 | 24 | 14 | 9.4 | 25.0 | 173.2 | 34.3 | -40.0 |

Source: SBS.

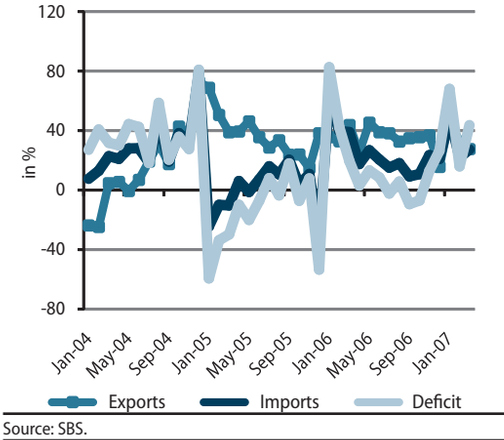
***Growth of non-ferrous metals exports also decelerated***

Another important reason for the slowing down of total exports was the negative movements in *non-ferrous metals* exports. Namely, these exports recorded a dramatic deceleration of growth in August and September (Table T6-7), which appeared to be the consequence of declining demand on the world market and, possibly, the impact of the holiday season.

***After the high June figures, vegetable and fruit exports decelerate significantly***

Where exports of *vegetables* and *fruit* are concerned, a slowdown became evident at the quarterly level (29.7% in Q3 relative to 59.2% in Q2). Quarterly analysis, however, considerably distorts the picture of the movements in this component of total exports. Breaking down of the quarterly data to the monthly level reveals the cause of the high growth rate in Q2 2007. The exceptionally high y-o-y rate in June (Table T6-7) was caused by a surge in vegetable and fruit exports in June relative to May 2007, while in the same period of 2006 the growth was much weaker. However, the growth of exports in July relative to June 2007 was symbolic, while in the same period of 2006 it was very strong. A similar situation occurred again in August, reducing the y-o-y growth rate from 103.7% in June, to 41.8% in July, 22.6% in August and 25.8% in September. If the four-month period (June-September) is observed, it becomes evident that the y-o-y change of vegetable and fruit exports was 42.3%, and that in the last two months the group's exports have noticeably decelerated.

**Graph T6-8. Serbia: 12-m Growth Rates of Exports and Imports 2004–2007**




Source: SBS.

***High exports of cereals in July, followed by steep drop in September***

Quarterly analysis also distorts the perception of movements in the export of *cereals* and *cereal products*. The quarterly data imparts an impression that this export component is accelerating significantly (40.7% in Q3 relative to 23.2% in Q2). If, however, the monthly movements are observed (Table T6-7), it becomes obvious that a surge in these exports in July (€42 mn) was the reason for the extremely high y-o-y growth rates. A leap in cereal exports in July led to the growth of the y-o-y rate over the whole quarter in spite of the y-o-y 40% drop registered in September. This drop can be attributed directly to the Government decision --"Regulation on Temporary Export Restrictions on Certain Goods." Following an extremely dry summer, which considerably cut farm production, the Serbian government passed the Regulation on August 3rd 2007, banning the export of certain cereals. The Regulation specifies that, owing to the critical shortage of important goods due to the long-lasting drought and the need to eliminate the consequences, the government temporarily bans export of goods within the following tariff marks: 1001 – wheat, 1005 – corn, 1201 00 – soybeans, including granulated and pulverized,

and 1206 00 – sunflower seed, including granulated and pulverized. At a session on October 25 2007, the government altered regulation and withdrew the ban on sunflower and soybean exports because the entire market surplus had already been purchased from farmers. The ban on wheat and corn exports was extended for another 120 days. In addition, the government gave a green light for export of wheat and corn products such as flour and meal.

*Underlying exports* (exports exluding *Bulky exports*, 67.2% of total exports) continued their stable growth (31.4% in Q3, 30.4% in Q2). These exports, which include a broad and diversified range of export groups, recorded growth rates exceeding 30% in 2007, while in 2006 the average growth rate of the category was around 25%. Such movements in exports from which the biggest export groups are excluded are good news since they mean that exports are diversifying, and that the risk is lower because exports are not concentrated on a small number of products; *Underlying exports* basically accelerated their growth in 2007.

***Growth of the Core category somewhat slower***

As far as the export of products in the *Core* category is concerned, a certain deceleration of growth was noticeable (28.6% in Q3 as against 35.3% in Q2). While the y-o-y export growth of these goods was stable and high in July and August (32.5% and 30.8% respectively), September saw an obvious slowdown (23.0%), which was partly caused by significant monthly growth in the same month of 2006 (a high 11.4%). The biggest growth in this group of products was recorded by: electrical machinery (66.7%), organic chemical products (46.3%) and metal products (33.0%).

The growth of exports of products in the category *Other* accelerated significantly (34.2% in Q3 as against 25.9% in Q2), which is noticeable at the monthly level in Q3 (27.6%, 32.8% and 42.8% respectively).

***The bulk of exports still go to Bosnia-Herzegovina and Italy***

The geographic structure of exports in Q3 has undergone a slight change relative to the previous quarter (Table T6-9).[6] Bosnia-Herzegovina and Italy remain the top two but in reverse order. Germany and Montenegro rotated in the third and fourth places. Finally, Russia replaced Macedonia in the fifth place. The EU, the destination of 56.4% of total merchandise exports, remains Serbia's most important foreign trade partner. It is also noteworthy that exports to Montenegro (12.1%), Germany (11.0%), Bosnia-Herzegovina (9.3%), Slovenia (6.8%) and Austria (6.5%) contributed the most to the growth of total exports.

**Table T6-9. Serbia: Exports, Structure by Countries, 2006–2007**

| | Q3 2006 | Q3 2007 | Q3 2006 | Q3 2007 | Q3/Q3 |
|---|---|---|---|---|---|
| | share in % | | mil.euros | | % |
| EU | 55.7 | 56.4 | 762 | 975 | 27.9 |
| Bosnia and Herzegovina | 12.3 | 11.7 | 169 | 202 | 19.8 |
| Italy | 12.3 | 11.0 | 169 | 191 | 13.0 |
| Germany | 10.7 | 10.8 | 147 | 186 | 26.8 |
| Montenegro | 10.3 | 10.7 | 141 | 184 | 30.7 |
| Russia | 5.3 | 5.2 | 73 | 91 | 23.8 |
| Form. Yug. Rep. Macedonia | 4.7 | 4.9 | 65 | 85 | 31.7 |
| Slovenia | 4.0 | 4.6 | 55 | 79 | 44.6 |
| Austria | 3.1 | 3.8 | 42 | 65 | 56.1 |
| Croatia | 4.0 | 3.7 | 55 | 64 | 15.0 |
| France | 3.6 | 3.2 | 49 | 56 | 13.0 |
| Other countries | 29.5 | 30.3 | 404 | 524 | 29.8 |

Source: SBS.

6 The data on total exports and imports, obtained by the addition of exports by country, differs from the monthly data used in the analysis because of the retroactive corrections of the Serbian Bureau of Statistics.

## Imports

*Growth of imports accelerates ...*

Imports of goods accelerated in Q3 (y-o-y growth of 26.9% in Q3 relative to 23.0% in Q2, Table T6-10). The acceleration is also noticeable if energy is excluded due to the volatility of its prices (31.6% in Q3 against 29.5% in Q2). The slightly faster growth of exports than of imports meant a very small rise in the percentage by which imports covered exports (51.5% in Q3 2006 and 51.7% in Q3 2007, which was nonetheless the highest quarterly value since Q1 2003. Acceleration of growth of total imports was the result of faster capital goods imports (primarily motor vehicles, which belong in this category), energy imports and the acceleration of imports of consumer durables.

**Table T6-10. Serbia: Imports, Y-o-y Growth Rates, 2006–2007**

| | Imports share | | 2007 | | 2006 | | | | 2007 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q1 | Q2 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 |
| | in % | | in mil.euros | | y-o-y growth (%) | | | | | | |
| Total | 100.0 | 100.0 | 2,901 | 3,183 | 44.4 | 21.7 | 13.9 | 18.5 | 31.0 | 23.0 | 26.9 |
| Energy | 20.5 | 15.7 | 594 | 499 | 42.3 | 43.1 | 3.6 | 24.1 | 14.2 | -3.0 | 6.8 |
| Intermediate products | 35.2 | 38.6 | 1,021 | 1,228 | 42.5 | 14.0 | 22.5 | 21.1 | 34.6 | 32.6 | 29.7 |
| Capital products | 23.9 | 25.8 | 693 | 820 | 54.1 | 21.4 | 15.4 | 13.7 | 51.1 | 32.9 | 41.0 |
| Durable consumer goods | 3.5 | 3.7 | 101 | 116 | 45.2 | 16.2 | 1.7 | 6.0 | 29.1 | 34.8 | 41.8 |
| Non-durable consumer goods | 13.9 | 13.8 | 403 | 440 | 45.9 | 22.1 | 11.2 | 19.3 | 23.3 | 19.2 | 18.2 |
| Other | 3.1 | 2.5 | 90 | 79 | 20.0 | 6.8 | -2.9 | 7.0 | 24.3 | 7.0 | 33.3 |
| Imports excluding energy | 79.5 | 84.3 | 2,307 | 2,684 | 45.0 | 17.3 | 16.6 | 17.3 | 36.2 | 29.5 | 31.6 |

Source: SBS.

*The growth of capital goods imports was primarily due to the growth of automobile imports*

Analysis of the import structure of merchandise according to economic use brings out that the fastest growth was recorded in the area of *capital goods* (41.0% in Q3 against 32.9% in Q2). This growth, however, was not the result of any significant acceleration of the import of technological infrastructure for the Serbian economy. It was achieved almost completely because of faster import of motor vehicles (which are in this category). In Q3 2007, capital goods contributed to the rise in total imports by 36.4%.

*Energy imports accelerated due to the rising price of oil and shrinking stocks*

The growth of imports of *energy* products at the y-o-y level (6.8% in Q3 relative to 3.0% in Q2) was mainly the result of the hikes in the price of crude oil in the world markets and lower domestic oil stocks. When, however, the pace of energy imports is observed at the monthly level, the movements are very volatile. This is evident also in the y-o-y import growth rates in July, August and September (21.6%, -8.4% and 6.0% respectively). After the reduction of energy imports in Q2 2007 and consequential dipping into stocks, a significant rise in the import of these products was recorded in July, which replenished the stocks and made it possible to reduce imports in August. But, as early as September, imports picked up again. Energy imports in August fell in particular because of the 18.9% reduction in imports of oil and oil products. Energy makes up 15.7% of total imports and contributes to its growth with 4.7%.

*Growth of aggregate demand leads to the growth of imports of consumer durables*

Acceleration of the growth of *durable consumer goods* imports (y-o-y rate of 41.8% in Q3 relative to 34.8% in Q2) was the third reason for faster growth of total imports. In view of the slowing of aggregate and domestic demand in Q3, as well as the gradual quarterly acceleration of growth of imports of these products (Table T6-10), the conclusion is that the acceleration was most likely a consequence of the delayed effect of aggregate demand growth in Q4 2006, Q1 and Q2 2007. If the gradual quarterly acceleration of the growth of imports of non-durable consumer goods is taken into consideration, it would seem that the growth of aggregate demand was to some extent accompanied by a turnaround in the structure of consumption, from non-durable to durable consumer goods. Imports of durable consumer goods, due to their small contribution of only 3.8%, had only a slight effect on the growth of total imports.

*Non-durable consumer goods imports decelerate*

Imports of *non-durable consumer goods* decelerated slightly (18.2% in Q3 against 19.2% in Q2). This was noticeable at both the quarterly level throughout 2007 (Table T6-10) and the monthly level in Q3 (respective monthly rates of 24.0%, 19.4% and 12.1%). At present, *QM* is unable

to say whether or not the deceleration will continue. The caution is dictated by the fact that deceleration of growth was recorded also in the first three quarters of 2006, which was followed by an acceleration in Q4 and stabilization of the y-o-y growth rate at around 20%. Observed by quarters, deceleration was also recorded in Q4 2006, but a turnaround occurred in Q1 2007. Non-durable consumer goods contributed to total imports with 9.8%.

***Stable growth of intermediary goods***

Finally, imports of *intermediary goods* continued their hitherto growth with only a minimal deceleration (29.7% in Q3 relative to 32.6% in Q2). This was related to the slowing of the growth of non-agriculture GVA and total industrial production. In *QM*'s opinion, this deceleration came about because of the slower growth of aggregate and domestic demand, as well as the fall in production and export of basic metals. A gradual deceleration was noticeable throughout 2007 (Table T6-10). The pace at which intermediary goods imports grew in the first three quarters of 2007 was faster than in the same period in 2006. The impact of the sudden acceleration of economic activity resulted in a significant acceleration of intermediary goods imports, while the slowing of economic growth in Q3 brought about a slight deceleration of these imports. The growth rate of intermediary goods imports in the future will be determined by the pace of economic growth since the domestic economy is highly dependant on imports. This component of total imports, because of its high share (38.5%), contributes most to the rise of total imports (41.5%).

***No major change in geographic structure of imports***

Where the geographic structure of imports (Table T6-11) is concerned, Q3 2007 saw no significant change. Since 2004, Serbia's leading trade partners have been Russia, Germany, Italy and China, from where 38.3% of total merchandise imports come. A very sharp y-o-y increase in imports from China was also recorded, indicating a wider trade deficit with that country. This was also the reason why trade with China gave the highest contribution to the growth of overall imports (14.7%). The EU, which accounted for almost 57% of total merchandise imports, remains the most important supplier of the Serbian economy.

Unfortunately, as noted in the two preceding *QM* issues, the differential of growth rates of exports and imports, owing to the relatively low coverage of imports by exports, is far from sufficient to reduce the foreign trade imbalance. This is indicated also by the slopes of the trend components of these two time series (Graph T6-12).

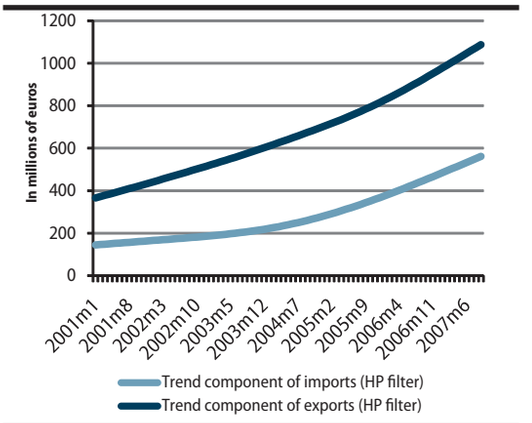
**Table T6-11. Serbia: Imports, Structure by Countries, 2006–2007**

| | Q3 2006 | Q3 2007 | Q3 2006 | Q3 2007 | Q3 07 /Q3 06 |
|---|---|---|---|---|---|
| | share in % | | mil.euros | | in % |
| EU | 56.4 | 56.8 | 1,489 | 1,901 | 27.7 |
| Russia | 15.6 | 12.9 | 413 | 431 | 4.6 |
| Germany | 10.0 | 9.8 | 264 | 328 | 24.1 |
| Italy | 8.2 | 7.8 | 216 | 262 | 21.8 |
| China | 5.9 | 7.8 | 157 | 261 | 66.5 |
| Bosnia and Herzegovina | 2.8 | 3.2 | 73 | 107 | 46.5 |
| Bulgaria | 3.6 | 2.9 | 94 | 96 | 2.7 |
| Croatia | 2.5 | 2.5 | 67 | 83 | 23.6 |
| Hungary | 2.4 | 2.5 | 63 | 83 | 30.1 |
| Slovenia | 2.4 | 2.2 | 62 | 74 | 18.9 |
| France | 2.4 | 2.1 | 62 | 70 | 12.9 |
| Other countries | 44.3 | 46.4 | 1,170 | 1,553 | 32.8 |

Source: SBS.

*Econometric forecasts predict a deficit of €6.5 bn by the year-end*

**Graph T6-12. Serbia: Trend Component of Merchandise Import and Export Time Series, 2001–2007**




Source: SBS.

The discussion of Serbia's foreign trade in this issue was expanded with an analysis of export and import trends in the January 2001 – July 2007 period.[7] The estimate, based on econometric analysis focusing on the trend component, clearly shows a break and shift in the trend line of imports in early 2004, and their more or less constant growth (Graph T6-12). A significantly steeper slope of the importd trend line, which started in early 2004, indicates an acceleration of exports that is still ongoing. Extrapolation of the growth trend of imports points to its value reaching about €6.5 bn by the end of 2007. The estimate should be taken with some reservations given the volatility of exports, which were excluded from the extrapolation (from September 2004 to September 2007, the y-o-y growth rate of imports moved from a minimum of 25.1% to a maximum 31.7%). The trend line of imports, shown in the graph, is almost linear, with a mild acceleration as of mid-2004. Econometric calculation of the exports and imports equations and their extrapolation shows that their values could reach about €6.5 and €13 bn in 2007, and hence a foreign trade deficit of approximately €6.5 bn.

Because of the relatively low coverage of imports by exports, the present ratio of their growth is far short of securing a reduction of the foreign trade imbalance. This is also indicated by the slopes of the trend components of those two time series (Graph T6-12).

7 The trend component was isolated for the period January 2001-September 2007 with the application of HP filters.

# 7. Fiscal Flows and Policy

**As expected, the expansiveness of fiscal policy intensified in Q3 2007. Consolidated public revenue was up by around 8% in real terms, while consolidated public expenditure was higher by 15% in real terms relative to the same period last year. The y-o-y real growth rate of consolidated public revenue in Q3 was the same as in the previous quarter, while the y-o-y growth rate of consolidated public expenditure accelerated considerably. The deficit in the consolidated balance, defined from the standpoint of the liquidity impact of the government on aggregate demand, amounted to 12 bn dinars. The degree of fiscal policy expansiveness in Q3 was lower than that provided for by the adopted budget and fiscal policy for 2007 – as announced in the previous issue of QM. In line with this, the estimate is that the thus defined fiscal deficit for the whole of 2007 will amount to some 1% of GDP. The draft budget and overall fiscal policy for 2008 constitute a step toward cutting public spending in relation to GDP, but less than previously announced and less than necessary in the context of the current macroeconomic imbalances.**

## General Trends and Macroeconomic Implications

*Revenue grew steadily...*

Consolidated public revenue in Serbia in Q3 2007 was higher by 15% in nominal terms, or by 8% in real terms relative to the same quarter of the previous year. The real y-o-y growth rate of consolidated public revenue remained at the level of around 8% for the second subsequent quarter, which was probably slightly higher than the growth of real GDP over the period. Tax revenue in Q3 2007 grew at a somewhat slower pace than total public revenue. In the interpretation of the growth rates of consolidated tax revenue in 2007 relative to 2006, it must be taken into account that tax rates are much lower in 2007 than in 2006. The most significant reduction occurred in the fiscal burden on wages (a cut in the total burden from 73% to around 62%), followed by conveyancing tax (a cut from 5% to 2.5% in the second semester of 2007) and, to a lesser degree, in the VAT (a cut in the rate for some product groups).

*...expenditure accelerated...*

During Q3 2007, the growth of consolidated public expenditure strongly accelerated. It was higher in that quarter by 15.3% in real terms relative to the same period in 2006, while the growth compared to the previous quarter was 12%. The accelerated growth of public expenditure in Q3 was for the most part a consequence of the implementation of contractual (NIP projects and the like) and statutory obligations (transfers to Vojvodina and local communities, etc.) assumed by the previous government, as well as of delivery on promises made by the parties of the ruling coalition during their election campaigns (subsidies for agriculture, etc.). A smaller portion of the rise in public spending in Q3 was a consequence of the payment of delayed public expenditures, compressed in the period of temporary financing, including the clearance of accumulated arrears.

*...the deficit rose*

The consolidated deficit, in terms of the broadest definition, in Q3 reached the level of 12 bn dinars, amounting to around 2% of GDP generated in the same quarter. This constituted an increase relative to the first half of 2007, when the consolidated balance ran a slight surplus. The thus estimated deficit is a ceiling on the liquidity impact of the government on domestic demand. According to the IMF methodology – the deficit in Q3 was somewhat lower, amounting to 5.6 bn dinars, or slightly below 1% of the estimated GDP in Q3.

*Expansiveness of fiscal policy intensified, but more slowly than planned*

Based on the previous estimates, it is possible to conclude that fiscal policy in Q3 had a certain impact on the rise in aggregate demand. The size of that impact is probably between the deficit which corresponds to FREN's analytical definition (2% of GDP in Q3) and the deficit which corresponds to the IMF definition (1% of GDP in Q3)[1]. Due to a time lag between changes in fiscal and in macroeconomic variables, it is estimated that the rise in fiscal policy expansiveness has not significantly affected movements in inflation and the trade deficit in Q3 2007.

1 For a more detailed explanation of methodological differences see Box 2.

**Table T7-1. Serbia: Consolidated General Government Fiscal Operations[1], 2005–2007**

| | 2005 | | 2006 | | | | | 2007 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Q3 | Q1-Q4 | Q1 | Q2 | Q3 | Q4 | Q1-Q4 | Q1 | Q2 | Q3 |
| | | | | | in billions of dinars | | | | | |
| I TOTAL REVENUE | 176.9 | 701.6 | 175.4 | 201.6 | 207.5 | 240.6 | 825.0 | 215.1 | 228.1 | 238.7 |
| II TOTAL EXPENDITURE | -167.2 | -667.8 | -174.9 | -185.3 | -197.6 | -255.4 | -813.2 | -203.0 | -211.2 | -242.6 |
| III "OLD" DEBT REPAYMENT AND NET LENDING | -8.9 | -36.6 | -4.4 | -17.1 | -10.1 | -17.5 | -49.1 | -14.1 | -14.6 | -8.1 |
| *o/w III.3 Net lending [2]* | *-2.4* | *-4.9* | *-1.8* | *-0.8* | *-1.3* | *-3.2* | *-7.1* | -0.6 | -1.2 | -1.7 |
| IVa CASH BALANCE (I+II), MoF definition[3] | 9.8 | 33.8 | 0.4 | 16.3 | 9.9 | -14.8 | 11.8 | 12.1 | 16.9 | -3.9 |
| IVc ANALYTICAL BALANCE (I+II+III), FREN's definition[3] | 0.8 | -2.9 | -3.9 | -0.8 | -0.2 | -32.3 | -37.3 | -2.0 | 2.4 | -12.0 |
| V FINANCING ( FREN's definition) | 11.9 | 27.7 | 8.5 | 1.4 | 103.2 | 8.7 | 121.7 | 24.9 | 8.0 | -0.3 |
| VI ACCOUNT BALANCE CHANGE (IVc+V) | 12.7 | 24.8 | 4.5 | 0.5 | 103.0 | -23.7 | 84.4 | 22.9 | 10.4 | -12.3 |
| **MEMORANDUM ITEMS** | | | | | | | | | | |
| Government net position in banking system, change (NBS) | .. | 16.0 | 10.5 | 6.6 | 90.1 | -31.9 | 107.2 | 36.7 | 25.2 | 6.1 |
| Enterprises' claims on VAT (FREN's estimate)[4] | 3.5 | 17.1 | -1.6 | 2.1 | -1.7 | 1.9 | 0.7 | 1.4 | 2.7 | 1.0 |
| License fee[5] | .. | .. | .. | .. | 27.0 | .. | 27.0 | 25.5 | 0.0 | 0.0 |

Source: Table P-9 in Analytical Appendix.
1) Includes all levels of government (central, provincial and municipal) and their budget beneficiaries and social security organizations (Serbian Pension and Disability Insurance Funds, Health Insurance Funds, National Employment Service, but not public enterprises and the NBS.
2) The item corresponds to the item "Net acquisition of financial assets for policy purposes" in the PFB (in accordance to GFS 2001), i.e. to the item "net lending" or "lending minus repayment" in the IMF presentation (i.e. GFS 1986). It comprises loans to students, financing of the National Corporation for Housing Loan Insurance and the like.
3) See Table P-9 in Analytical appendix and/or Box 2
4) FREN's estimate based on informal information regarding VAT credits and on analysis of VAT redemption PFB data.
5) Regarding to the fact that fee from license for mobile is one off revenue, this fee was regarded in our table as financing item, despite the definition of MoF, that threats this license as a non-tax revenue
Note: Details are given in Table P-9 in Analytical appendix.

## Analysis of Individual Tax Instruments and Individual Expenditure Items

***Revenue rose as planned***

A rise in consolidated public revenue in Q3 would have been a little higher had it not been for the adverse calendar-related effect[2], owing to which the September revenue was lower by about 4 to 5 bn dinars, contributing to a decline in the rate of revenue growth in Q3 relative to the same period of 2006 of about 2 percentage points.

Personal income taxes continued to be the only significant tax instrument that had a negative real growth rate. In Q3 2007, the revenue from the personal income tax was by 6.7% lower than in the same quarter of the previous year. The y-o-y rate of decline in this revenue in Q3 was lower than in Q2 and Q1 2007, which points to the existence of a downward trend in y-o-y rates of decline in revenue from this tax instrument. This trend was driven by the high wage growth in 2007. Since wages are expected to grow to the end of 2007, a fall in the y-o-y rate of decline in revenue from the personal income tax will also be continued during Q4 2007.

During Q3 2007, the high growth in the revenue from the corporate income tax relative to the same period of the previous year continued. The real level of the revenue from the corporate income tax in Q3 2007 was by 25% higher than in the same quarter of the previous year. The relatively good financial results of the economy in 2006, which probably continued in the current year as well – were the main factor of the rise in the revenue from the corporate income tax. A low level of tax rates acted as a strong incentive against evasion.

The real level of the VAT revenue in Q3 rose by 10.1% relative to the same period of the previous year, whereby an increase was achieved relative to the y-o-y growth rate in Q2. The rise in the VAT revenue exceeding the estimated GDP growth during Q3 indicates an acceleration of the y-o-y domestic demand growth. Movements in the trade balance, discussed in Section 6 "Balance of Payments and Foreign Trade," also indicate a certain acceleration of domestic demand relative to GDP movements.

2 The number of working days in September was only 20, which was lower than the usual 21–23 working days. Moreover, the last two days in this month, which is characterized by high collection of public revenue (excises, taxes and contributions on wages), were weekend days. Therefore, part of the September 2007 public revenue was collected in the subsequent month. The fact that this calendar-related effect was overlooked is probably the reason why some analysts (*MAT*, issue 9, September 2007, p. 8.), after the release of the September fiscal data, concluded that revenue was overestimated in the annual Budget Law for 2007.

Excise revenue in Q3 had a somewhat higher growth rate relative to the surprising deceleration in Q2. This revenue in Q3 was by 6.3% higher than in the same quarter of the previous year. If the collected revenue were increased by the amount of the revenue carried forward to Q4, due to the calendar-related effect, i.e. 2.5 bn dinars (by about 10%), the real rise in excise revenue in Q3 would amount, relative to the same period of the previous year, to around 17%.

Contribution revenue in Q3 continued to grow steadily as in the previous quarters of the year. The real level of the revenue in Q3 was higher by 1.7% relative to Q2. The deceleration of the y-o-y growth rate of the real level of contribution revenue as a whole is the consequence of a very high surge in this revenue in Q3 2006.

The y-o-y growth rate of customs revenue continued to demonstrate high variability from quarter to quarter. Customs revenue in Q3 relative to the same quarter of the previous year was higher by as much as 38.7%, which is several times higher than the y-o-y growth rate in the previous quarter. When viewed by quarter, the y-o-y growth rates of customs revenue have no high correlation with y-o-y rates of import growth. However, if the first three quarters of this year are compared them to the same period last year, the increase in customs revenue amounts to 19%, which is very close to the y-o-y import growth rate adjusted by the rate of the appreciation of the nominal dinar rate.

Other tax revenue in Q3 2007 was lower by 6.4% relative to the same period in 2006, that is, by 7.7% relative to Q2 2007. The estimate is that the significant delay on the part of the Tax Administration in the issuance of decisions on the amount of the property tax liability in 2007 contributed to the drop in the real level of the revenue from that tax instrument.

Non-tax revenue (administrative, court and consular fees, sale of goods and services, and sale of state-owned immovable property) – had a high real growth relative to the same period of the previous year, 20.1%, as well as relative to Q2 2007, 22%. An increase in the revenue from the sale of state-owned immovable property made the largest contribution to the increase in non-tax revenue in Q3.

After a strong deceleration in Q2, capital revenue shifted to negative growth rates in Q3 2007. Negative and relatively high growth rates were recorded both relative to the same period in 2006, and relative to the previous quarter of the current year.

***Expenditure growth accelerated, but was slower than the government planned***

The most important items of public expenditure grew strongly in Q3 relative to Q2 2007. The highest growth was recorded in discretionary items, whose level is not statutorily defined, such as: subsidies, capital expenditure and other expenditures. The strong growth of these items is related to the expiry of the period of temporary financing, in which priority was given to the statutorily defined obligations, while the execution of expenditure subject to discretionary decisions was postponed.

Expenditure for employees in Q3 was higher by 15.4% in real terms relative to the same period in 2006, thus considerably exceeding real GDP growth. However, relative to the previous quarter of 2007, this expenditure remained almost unchanged. What follows from the above is that the higher level of labor costs in Q3, relative to the same quarter of the previous year, was a consequence of the wage rises in late 2006, and to a lesser degree of the wage rise in April 2007, while in the period between April and September 2007 no major pay rises occurred in the state sector.

Expenditure for purchases of goods and services in Q3 was higher by 14.7% in real terms relative to Q3 2006. The increase relative to the previous quarter of 2007 amounted to 11.2%, indicating a certain deceleration of the growth (the growth in Q2, relative to Q1, amounted to 18.3%).

***Public investment and subsidies drive the rise in public expenditure***

Expenditure for subsidies in Q3 strongly increased in real terms, thus reversing the downward trend from the first two quarters of 2007. When viewed in absolute amounts, expenditure for subsidies in Q3 reached nearly 18 bn dinars, which was somewhat lower than the sum of subsidies in the first two quarters of 2007.

Expenditure for pensions in Q3 this year was higher in real terms by 4.1% relative to the same period of the previous year. The increase in this expenditure over the mentioned period was slower than GDP growth, for which reason its share in GDP went down. This was a consequence of the application of the current indexation formula, according to which pension increases in 2007 are calculated as a weighted average of the rise in the cost of living (75%) and wages (25%). The application of the formula, against the backdrop of the exceptionally high wage growth, also contributed to a decline in the replacement ratio to 52.7% in September 2007. However, these savings will not be carried over to 2008, since pensions will rise as of 1 January 2008, owing to the implementation of the Law on Amendments to the Law on Pension and Disability Insurance (RS Official Gazette, no. 85/05), so as to reach 60% of the average wage in 2007.

A strong growth in capital expenditure which started with the implementation of the NIP, in late 2006, after a temporary slowdown in the first half of the year, accelerated again during Q3 2007. The accelerated growth of capital expenditure in Q3 was for the most part a consequence of the shift from the regime of temporary financing to regular financing of the budget, which made possible the faster implementation of the initiated projects. Favorable conditions for construction activities during Q3 were conducive to the rise in public investment. Part of the rise in expenditure for public investment in Q3 was a consequence of the fulfillment of previously undertaken commitments, which could not be met due to temporary financing.

## Table T7-2. Serbia: Consolidated General Government Fiscal Operations[1], 2005–2007

| | 2005 | 2006 | | 2007 | | | Year-on-year | | | | | | Comparing to previous period |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 2006 | | 2007 | | | | 2007 |
| | Q3 | Q3 | Q1-Q4 | Q1 | Q2 | Q3 | Q3 | Q1-Q4 | Q1 | Q2 | Q3 | Q1-Q3 | Q3 / Q2 |
| | in billions of dinars | | | | | | Real growth (in %) | | | | | | |
| **I PUBLIC REVENUES** | **176.9** | **207.5** | **825.0** | **215.1** | **228.1** | **238.7** | **4.4** | **4.7** | **15.9** | **8.0** | **8.0** | **10.4** | **2.1** |
| *o/w: Public revenues excluding VAT liabilities to enterprises and offsets with SDF[2], [3]* | *172.7* | *205.3* | *815.0* | *213.7* | *225.3* | *237.6* | *5.7* | *6.8* | *14.2* | *7.8* | *8.7* | *10.1* | *2.9* |
| 1. Current revenues | 174.9 | 204.9 | 814.8 | 211.9 | 225.4 | 236.2 | 4.2 | 4.6 | 15.5 | 8.0 | 8.2 | 10.4 | 2.2 |
| Tax revenue | 162.6 | 188.5 | 751.3 | 194.9 | 208.8 | 215.3 | 3.2 | 4.6 | 15.5 | 7.7 | 7.2 | 9.9 | 0.6 |
| Personal income taxes | 24.1 | 29.2 | 118.6 | 24.9 | 28.2 | 29.1 | 8.1 | 11.9 | -8.9 | -8.0 | -6.7 | -7.8 | 0.6 |
| Corporate income taxes | 1.8 | 3.5 | 18.3 | 11.7 | 5.6 | 4.6 | 67.3 | 58.0 | 39.2 | 82.4 | 25.0 | 44.5 | -19.5 |
| VAT and retail sales tax | 54.4 | 57.0 | 225.1 | 60.5 | 65.0 | 66.9 | -6.8 | -7.3 | 23.4 | 7.2 | 10.1 | 13.0 | 0.3 |
| *o/w: Net VAT and retail sales tax[2]* | *50.9* | *58.7* | *224.6* | *59.1* | *62.2* | *65.8* | *2.6* | *0.3* | *16.5* | *6.6* | *5.3* | *9.1* | *3.1* |
| Excises | 19.7 | 21.7 | 81.6 | 19.1 | 22.8 | 24.5 | -2.2 | 1.8 | 23.1 | 3.2 | 6.3 | 9.6 | 4.9 |
| Custom duties | 10.4 | 9.9 | 45.3 | 12.0 | 13.9 | 14.6 | -15.6 | 3.7 | 18.1 | 4.4 | 38.7 | 19.0 | 2.3 |
| Social contributions | 46.4 | 59.4 | 232.2 | 58.8 | 65.0 | 67.8 | 13.9 | 12.3 | 14.5 | 14.8 | 7.1 | 11.9 | 1.7 |
| *o/w: contributions excluding offsets with SDF[3]* | *45.7* | *55.5* | *222.7* | *58.7* | *64.9* | *67.8* | *8.1* | *11.0* | *14.6* | *14.6* | *14.7* | *14.7* | *1.9* |
| Other taxes | 5.8 | 7.9 | 30.1 | 7.9 | 8.3 | 7.9 | 21.7 | 11.0 | 14.4 | 10.0 | -6.4 | 5.5 | -7.7 |
| Non-tax revenue | 12.3 | 16.3 | 63.5 | 17.0 | 16.7 | 20.9 | 17.8 | 4.1 | 15.7 | 12.4 | 20.1 | 16.3 | 22.0 |
| 2. Capital revenues | 2.0 | 2.6 | 10.3 | 3.2 | 2.6 | 2.5 | 16.9 | 15.7 | 48.2 | 10.6 | -12.1 | 13.6 | -8.8 |
| **II TOTAL EXPENDITURE** | **-167.2** | **-197.6** | **-813.2** | **-203.0** | **-211.2** | **-242.6** | **5.2** | **8.3** | **9.7** | **8.8** | **15.3** | **11.3** | **12.0** |
| 1. Current expenditures | -159.3 | -184.4 | -749.3 | -187.5 | -196.1 | -221.8 | 3.0 | 5.0 | 5.7 | 7.3 | 12.9 | 8.7 | 10.3 |
| Wages and salaries | -41.5 | -47.1 | -198.6 | -51.9 | -56.2 | -57.9 | 1.1 | 6.2 | 6.5 | 17.3 | 15.4 | 13.0 | 0.4 |
| *Wages and salaries excluding severance payments[4]* | *41.5* | *-47.1* | *-196.3* | *-51.9* | *-56.2* | *-57.9* | *1.1* | *6.2* | *8.7* | *17.3* | *15.4* | *14.6* | *0.4* |
| Expenditure on goods and services | -23.2 | -29.0 | -114.1 | -25.6 | -31.1 | -35.5 | 11.4 | 10.3 | 8.3 | 17.6 | 14.7 | 13.8 | 11.2 |
| Interest payment | -5.7 | -8.8 | -28.9 | -5.7 | -3.1 | -4.2 | 37.6 | 5.0 | -5.6 | -39.3 | -55.5 | -36.3 | 30.7 |
| Subsidies | -14.0 | -13.6 | -54.4 | -9.3 | -10.4 | -17.8 | -13.7 | -11.2 | -13.3 | -21.8 | 22.8 | -3.0 | 66.9 |
| Social transfers | -70.8 | -81.7 | -335.8 | -91.1 | -91.8 | -101.8 | 2.8 | 6.1 | 7.8 | 7.9 | 16.9 | 10.8 | 8.2 |
| *o/w: pensions[5]* | *-46.9* | *-58.5* | *-227.7* | *-62.0* | *-63.3* | *-64.9* | *10.9* | *8.8* | *11.0* | *8.5* | *4.1* | *7.8* | *0.0* |
| Other current expenditures | -4.2 | -4.1 | -17.4 | -3.9 | -3.4 | -4.6 | -13.0 | -2.0 | 4.5 | -27.9 | 6.4 | -6.9 | 31.2 |
| 2. Capital expenditures[6] | -7.8 | -13.2 | -63.9 | -15.5 | -15.1 | -20.8 | 49.8 | 71.8 | 100.2 | 32.8 | 48.2 | 55.4 | 34.5 |
| **III "OLD" DEBT REPAYMENT AND GOVERNMENT NET LENDING** | **-8.9** | **-10.1** | **-49.1** | **-14.1** | **-14.6** | **-8.1** | **0.7** | **18.6** | **206.4** | **-18.9** | **-24.8** | **11.4** | **-45.7** |
| 1. Debt repayment-FFCDs and LRS | -5.1 | -4.8 | -21.8 | -4.6 | -13.3 | -6.5 | -16.1 | -13.2 | 345.9 | -13.1 | 26.8 | 14.1 | -52.8 |
| 2. Pensions | -1.5 | -4.0 | -20.3 | -8.9 | 0.0 | 0.0 | 139.8 | 85.5 | 431.7 | -100.0 | -100.0 | 20.1 | -100.0 |
| 3. Net lending[7] | -2.4 | -1.3 | -7.1 | -0.6 | -1.2 | -1.7 | -50.0 | 30.8 | -70.1 | 41.8 | 15.8 | -18.5 | 30.9 |

Source: Table P-9 in Analytical Appendix.
1) See footnote 1) in Table T7-1.
2) Retail sales tax/VAT minus new tax credits to enterprises.
3) Social contributions reduced by refunds between Pension Fund, Serbian Development Fund and enterprises that are debtors of the Pension Fund.
4) FREN's estimate, for details see Table P-9 in Analytical appendix.
5) Refers to the current expenditures on pensions.
6) Capital expenditures exclude projects financed from abroad (apart in 2004, see footnote 16 in Table P-10).
7) See footnote 2) in Table T7-1.
Note: Real growth is obtained comparing 2003 constant prices quarterly data

**Table T7-3. Serbia: Government Position in the Banking Sector, 2005–2007**

| | 2005 | | | | 2006 | | | | 2007 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mar. | Jun. | Sep. | Dec. | Mar. | Jun. | Sep. | Dec. | Mar. | Jun. | Sep. |
| | in billions of dinars, stocks | | | | | | | | | | |
| Total | -25.8 | -22.0 | -32.8 | -43.1 | -53.7 | -60.4 | -150.5 | -119.0 | -155.3 | -180.4 | -174.4 |
| Republics and State Union | -6.9 | -1.6 | -10.2 | -27.8 | -31.1 | -34.0 | -124.2 | -100.5 | -128.9 | -149.1 | -144.4 |
| Municipalities | -19.0 | -20.4 | -22.6 | -15.3 | -22.6 | -26.4 | -26.3 | -18.5 | -26.4 | -31.3 | -30.0 |
| | cummulative, from the beginning of the year | | | | | | | | | | |
| Total | -18.7 | -14.9 | -25.7 | -36.0 | -10.6 | -17.3 | -107.4 | -75.9 | -36.7 | -61.8 | -55.8 |
| Republics and State Union | -12.8 | -7.6 | -16.2 | -33.8 | -3.3 | -6.1 | -96.3 | -72.7 | -28.8 | -49.0 | -44.3 |
| Dinar position | -7.3 | -10.1 | -16.8 | -27.9 | -3.1 | -16.3 | -13.1 | -12.0 | -27.0 | -53.5 | -47.6 |
| Fx position | -5.5 | 2.6 | 0.6 | -5.9 | -0.2 | 10.2 | -83.2 | -84.7 | -1.8 | 4.5 | 3.3 |
| Municipalities | -5.9 | -7.3 | -9.5 | -2.2 | -7.3 | -11.1 | -11.0 | -3.2 | -7.8 | -12.8 | -11.5 |
| NBS | -5.3 | -3.2 | -5.0 | -0.8 | -6.1 | -5.1 | -5.5 | -3.5 | -6.8 | -13.5 | -11.9 |
| Commercial banks | -0.6 | -4.1 | -4.5 | -1.4 | -1.2 | -5.8 | -5.5 | 0.3 | -1.1 | 0.7 | 0.5 |

Source: NBS.

## Draft Budget and Fiscal Policy in 2008

***Fiscal adjustment is planned for 2008...***

During October and November 2007, key documents were released defining the fiscal and overall economic policies of the government for 2008. The revised Memorandum on the Budget and Economic and Fiscal Policies was made public in October, while in early November the basic elements of the budget of the Republic of Serbia for 2008 were presented. Generally speaking, it can be said that the degree of fiscal adjustment geared to reducing the share of public spending in GDP is lower by around 1 percentage point relative to the proposal in the Budget Memorandum of July 2007.

### Box 1. 2008 Budget and IMF Recommendations

Almost at the same time as the presentation of the 2008 budget bill, The IMF Mission released its Concluding Statement in which it assesses that the fiscal adjustment in 2008 as set out in the revised Memorandum and the budget bill is insufficient, and that additional adjustment is needed. Specifically speaking, the IMF proposes a move from the consolidated deficit, which amounts to some 1.5–2% of GDP in 2008 under their methodology, to a surplus of 1% of GDP. The proposal means that at the given level of revenue, it is necessary to reduce expenditure by 2.5–3 percentage points of GDP, i.e., that additional expenditure cuts worth around 70–80 bn dinars more than envisaged in the government's plan are needed

In that sense, the question arises of whether the IMF's recommendation can be realized and how? Strict implementation of all the measures laid down in the July Memorandum on the Budget and Economic and Fiscal Policies (the wage freeze, cuts in expenditure for purchases of goods and services, reduction of subsidies) would bring savings of around 18 bn dinars. Additional reduction in lending and recapitalization (which the IMF treats as expenditure, while the Ministry of Finance does not) would bring additional savings of around 13 bn dinars. Cumulatively, these two groups of measures would bring savings of around 31 bn dinars. In order to make these savings it would be necessary to discontinue or strongly reduce budget loans – such as agricultural loans, start-up loans and the like – as well as to discontinue or strongly reduce the government's participation in the recapitalization of banks.

Additional expenditure cuts in 2008 could be possible only if all the projects within the NIP, for which commitments have not been undertaken (around 18 bn dinars), were abandoned or if legal regulations were amended so as to reduce or eliminate some entitlements of budget beneficiaries (e.g. by eliminating the statutory obligation to keep the replacement ratio at 60%).

***... but lower than announced***

In the proposed Serbian budget for 2008, revenue and expenditure are planned to go up by 9.9% relative to the 2007 budget[3]. The planned nominal rise in budget expenditure is the lowest since

3 The estimate is that the planned rise in expenditure for 2008, relative to the 2007 outlay, will amount to around 11.8%, since the executed expenditure of the budget in 2007 will be by around 10 bn lower than planned. Of course, it is possible that some savings will be made in 2008, i.e., that the executed expenditure will be lower than planned. Budget revenue in 2007 is estimated to be at the planned level.

2001 to date. The real growth of revenue and expenditure, with the 2008 inflation at present officially projected at 6% (average for the period 7.1%) – amounts to 2.6%. The planned nominal rise in revenue and expenditure is lower than the expected nominal GDP growth, so the share of the 2008 expenditure of the Serbian budget in GDP will be reduced by 0.7 percentage points.

The draft budget assumes a rise in tax revenue over the coming year of 15.2%, which is a somewhat faster than the projected growth of nominal GDP in 2008. The projected rise in tax revenue in 2008 is by around 2.5 percentage points slower than the estimated growth in 2007. Above-average growth was projected for the corporate income tax, personal income tax and VAT, while for other tax instruments the estimated rise is a slightly slower than the growth in nominal GDP. On the basis of current and projected macroeconomic and fiscal trends, the planned rise in budget revenue in 2008 is seen as likely to be achieved.

The 2008 budget assumes a decline in non-tax revenue by around one-third or some 21 bn dinars compared to 2007. The reason for the expected reduction in non-tax revenue lies in the fact that the 2007 non-tax revenue, according to the methodology applied by the Ministry of Finance, included the proceeds from the sale of the license for the third cellular phone operator in the amount of 25.4 bn dinars. It is estimated that non-tax budget revenue was conservatively projected, and that it will probably be a slightly higher than set out in the Budget Law.

The proposed expenses of the Serbian budget in 2008 are higher by 58.9 bn dinars than the plan for 2007, that is, by some 70 bn dinars over the actual expenditure executed in 2007. The bulk of the proposed increase is related to two components of the budget – wages and transfers to mandatory social insurance funds and other levels of government. These two components together account for 91% of the increase in the budget in 2008 relative to the budget plan in 2007, while of the increase calculated relative to the estimated outlay they account for around 77%.

***Statutorily prescribed transfers and the carried over wage level will increase public spending in 2008***

Transfers from Serbian budget in 2008 relative to 2007 have been increased by around 30 bn dinars – almost entirely as a result of the implementation of the applicable provisions of laws and the Constitution. The bulk of the increase is related to the transfer to the pension and disability insurance fund aimed at attaining the statutory level of the replacement ratio, according to which average pensions should be at least 60% of the average wage in the previous year. From the economic side, the mentioned indexation and the cost to the budget arising from it come as a consequence of the considerably faster growth of wages than of productivity in the last quarter of 2006 and in 2007. Since the overall wage growth was initiated by the wage growth in the public sector (the government and public enterprises), it turns out that an exaggerated increase in one component of public spending (wages) has initiated the statutorily prescribed rise in another component of public spending (pensions).

The wage bill in the the 2008 budget is higher by 23.8 bn dinars relative to the budget in 2007. Out of the mentioned increase, around 18.5 bn dinars relates to the carried-over growth, that is, increase that would have happened even if wages had been frozen in 2008. The remainder of the increase in the wage bill, amounting to slightly over five billion dinars, is a result of the planned wage rise in the course of 2008, which will amount to 6% on average.

The projected rise in other budget items is relatively modest, except for subsidies, which are planned to grow by 11.4%. Specifically, the highest increase is planned in subsidies for agriculture and tourism, subsidies to the railroad company are stagnating, and those to industrial companies are falling.

The draft budget envisages a cut in expenses for public investment (capital expenditure according to the terminology of the Ministry of Finance) in 2008 by around 7%, while the part of public investment within the NIP is to go down by around 22% relative to the 2007 budget. A cut relative to the actual level of public investment in 2007 will be lower, because the planned public investment in 2007 will not be implemented in full.

Under the Bill on the Budget of the Republic of Serbia, however, beside budget resources earmarked for financing public investment in 2008, considerable direct foreign borrowing by the government is planned in the amount of around €740 mn for financing the modernization of hospital centers, streamlining the irrigation system and the like, as well as for the issuance

of guarantees in the amount of some €840 mn for the borrowing by public enterprises and state institutions (most of the guarantees are related to two public enterprises, Serbian Roads and Serbian Rail). Even if a good portion of these loans is not disbursed in the course of 2008, it is clear that they will enable a strong growth in total public investment in Serbia in the coming year.

**Table T7-4. Serbia: Proposed State Budget for 2008**

| | 2006 | Budget 2007 | Proposed budget for 2008 | Index 2008/2007 |
|---|---|---|---|---|
| | in millions of dinars | | | |
| **Public revenues** | **499,106** | **581,842** | **639,600** | **109.9** |
| Tax revenue | 436,792 | 517,298 | 596,179 | 115.2 |
| Personal income taxes | 63,644 | 61,409 | 72,000 | 117.2 |
| Corporate income taxes | 16,859 | 27,297 | 34,024 | 124.6 |
| VAT | 225,137 | 270,359 | 311,493 | 115.2 |
| Excises | 81,619 | 98,849 | 111,275 | 112.6 |
| Custom duties | 45,267 | 54,264 | 61,585 | 113.5 |
| Other taxes | 4,266 | 5,119 | 5,802 | 113.3 |
| Non-tax revenue | 62,314 | 64,543 | 43,421 | 67.3 |
| **Total expenditure** | **468,805** | **595,518** | **654,429** | **109.9** |
| Current expenditures | 436,375 | 524,835 | 588,551 | 112.1 |
| Wages and salaries | 115,369 | 152,911 | 176,712 | 115.6 |
| Expenditure on goods and services | 30,455 | 42,925 | 45,827 | 106.8 |
| Interest payment | 19,229 | 17,411 | 16,957 | 97.4 |
| Subsidies | 30,620 | 35,509 | 39,572 | 111.4 |
| Donations and transfers | 182,934 | 203,184 | 233,200 | 114.8 |
| Social transfers from budget | 52,558 | 61,632 | 66,703 | 108.2 |
| Other current expenditures | 5,212 | 11,262 | 9,581 | 85.1 |
| Capital expenditures | 32,429 | 70,683 | 65,878 | 93.2 |
| *o/w National Investment Plan* | 9,139 | 44,391 | 34,550 | 77.8 |
| **Budget surplus/deficit** | **30,301** | **-13,676** | **-14,829** | **108.4** |

Source: Ministry of Finance.

## Macroeconomic Implications of Proposed Fiscal Policy for 2008

***The planned fiscal adjustment in 2008 is insufficient relative to macroeconomic imbalances***

Based on the draft budget and the revised Memorandum on the Budget and Economic and Fiscal Policies – the planned fiscal adjustment in 2008 is assessed as insufficient for a stronger reduction of the imbalances in Serbia's economy. This pertains primarily to the trade and current account deficits, which in 2007 will reach levels of around 22% and 16% of GDP, respectively. The pursuance of the proposed fiscal policy is expected to bring a relatively modest cut in external deficits. Likewise, the assessment is that the adopted policy will not autonomously contribute to a decline in core inflation.

***Macroeconomic risks are rising***

The maintenance of the current account deficit at a high level over a prolonged period of time increases the likelihood of the outbreak of a balance of payments, i.e., foreign exchange crisis. The likelihood of such an outbreak also depends on the volume and composition of capital inflows. Any sudden drop in capital inflows, coupled with the given high current account deficit, would cause difficulties on the foreign exchange market over the short run (a decline in foreign reserves, depreciation of the dinar), which could turn into a foreign exchange crisis, if the reduced inflows persisted over the medium term. On the basis of the expected development of macroeconomic flows (the external deficit, the expected inflow of foreign capital and loans, the size and maturity structure of the external debt, etc.) and the implementation of the announced policies – the likelihood of an outbreak of a balance of payments crisis in Serbia in 2008 is assessed as low. However, a more significant reduction in inflows of foreign capital (for whatever reason: a global crisis on the world market, political reasons, etc.), against the backdrop of a high current account deficit, could cause disturbances on Serbia's foreign exchange market.

***The roles of monetary policy and wage policy gain importance in 2008***

The adopted fiscal policy implies a need to intensify the restrictiveness of other economic policies in the course of 2008 in order to keep macroeconomic imbalances under control. This applies primarily to the deceleration of credit expansion and wage controls in public enterprises. Effective wage controls in public enterprises, including a nominal wage freeze during 2008 at the present level of wages (in some enterprises), would be of considerable help in reducing macroeconomic imbalances.

*Insufficient fiscal adjustment in 2008 must be compensated in the years to come*

If fiscal policy for 2008 is taken as given, the maintenance of macroeconomic stability will require strong fiscal adjustment in 2009 and subsequent years. It may be said that the fiscal policy for 2008 constitutes a suitable basis for the implementation of fiscal adjustment in the coming years – it will not be burdened with the pre-negotiated high wage increases or the carry-over effect of the wage growth, etc., as was the case in 2007 and 2008. Furthermore, the servicing of the public debt to pensioners will be completed in 2008, and the annual expenditure for that purpose amounted to around 0.4% of GDP; the year 2008 will also be the end of the obligation to keep the replacement ratio at a minimum level of 60%. A reduction in subsidies and budget loans could contribute to a significant reduction in public spending, without negative social and economic implications. However, the key measure of fiscal adjustment in 2009 and subsequent years should be a slower increase in average wages in the state sector compared to the nominal GDP growth, as well as downsizing of the sector. Likewise, it is necessary to exercise utmost caution in including new expenditure in public spending, such as the announced expenditure for denationalization (restitution). Servicing a public debt in the amount of €4 bn, which would be incurred for the purpose of denationalization (about €250–300 mn per year), cannot be an integral part of a responsible fiscal policy in Serbia, which requires additional cuts in public spending relative to GDP, a considerable amount of public investment in infrastructure, etc.

*Wage controls are key to the success of fiscal adjustment...*

*... but there are other challenges, too*

In order to realize sizeable expenditure cuts relative to GDP, the government has to be firmly committed to implementing such a policy. To this end, it needs to take measures as soon as 2008 aimed at ensuring that the rise in public spending is slower than GDP growth in several subsequent years. This applies primarily to wage policy and retrenchments in the state sector, as well as to the streamlining of the network of institutions financed out of the budget, cuts in subsidies, reduction of budget loans, re-examination of the economic rationale for the participation of the government in the recapitalization of banks and the like.

## Box 2. Methodological Notes

In assessing fiscal policy for 2008 it is necessary to clarify methodological differences in different definitions of revenue, expenditure and the deficit in the Serbian budget and in the consolidated general government balance:

• The deficit of the Serbian budget under the methodology of the Ministry of Finance amounts to 14.8 bn dinars or 0.5% of GDP. According to that definition, expenditure includes recurrent/current and capital expenditures, but not amortization of public debt, or repayment of government loans.

• According to the IMF methodology, expenditure should include the servicing of the principal of the debt to pensioners, as well as loans approved by the government, because these components directly increase domestic demand. Likewise, the IMF includes in the consolidated balance of public spending the total revenue and expenditure of the Serbian Roads public enterprise, and own revenue of budget beneficiaries. If expenditure included the servicing of debts to pensioners in the amount of around 10 bn dinars, as well as various forms of budget loans in the amount of around 15 bn dinars, the budget deficit would go up to about 40 bn dinars, accounting for some 1.5% of GDP. The addition of the net results Serbian Roads would increase the deficit of the consolidated general government.

• The analytical balance defined in QM constitutes the broadest definition of expenditure, and thus of the deficit, which also incorporates the servicing of FFCDs. If some one-half of the expenditure for FFCDs were added to the above amount, the result would be the most broadly defined deficit, which measures the liquidity impact of the government on demand, and which amounts to around 50 bn dinars, that is, around 1.8% of GDP.

The consolidated deficit in 2008 will probably be higher than the deficit of the central budget by around 0.2–0.3 percentage points of GDP, because the expected surplus of local governments will probably not be sufficient to cover the planned drawdown in the deposits of the Pension Fund of the Self-Employed.

# 8. Monetary Flows and Policy

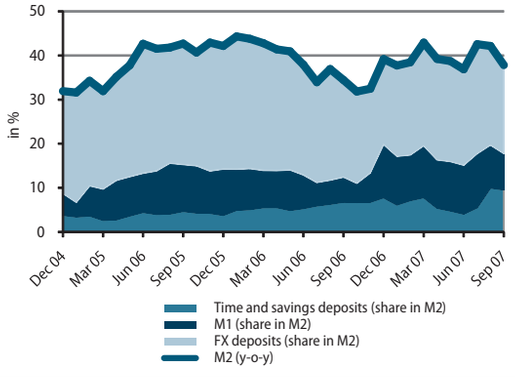
**In the monetary sphere, Q3 2007 was characterized by a faster growth of credit, both to enterprises and to households (with each receiving about €400 mn in new loans). Banks also stepped up investment in NBS papers (dinar equivalent of a new €420 mn) after Q2, when the change in stock of these investments was negative (-€200 mn). They found sources for this in capital increases (about €400 mn), the usual inflow of household foreign exchange savings (a new €380 mn), and, surprisingly, new company deposits (€650 mn). Thus, observed in the Q3 time frame, enterprises became banks' net creditors. At the same time, monetary policy became more restrictive with the slight raising of the repo rate (from 9.5% to 9.75% in August, and back to 9.5% again in October), the real appreciation of the dinar (4.4% in Q3), and the September measures to curb retail loans to households. In Q3 the NBS was able to keep primary money at the same level as in Q2 thanks to the issuance of 14 bn dinars – primarily through the purchase of foreign exchange from exchange offices on the one hand, and the withdrawal of the same amount of dinars through the decrease of NDAs on the other. These grew owing to the running down of the government's dinar deposit with the NBS (12 bn dinars) and the reduction of NBS capital (about 6 bn dinars), but were also decreased in the same period by the NBS withdrawing about 32 bn dinars through the repo market.**

## Monetary System: Structure and Flows of Monetary Supply

*Growth of nominal M2 accelerates, and real M2 continues to slow*

In Q3, the 12-m growth of total monetary supply (M2) started to accelerate following the slowdown of the previous quarter. Nominal M2 recorded a 12-m growth of 39.4% (37.4% in Q2 2007). Real M2, however, continued slowing, a trend that was established in Q2 2007, at a 12-m rate of 29.7% (30.2% in Q2, Table T8-2). When the contributions of different forms of use of monetary supply are observed, it is noticeable that there were no major changes in structure in Q3 relative to the preceding two quarters, with the contribution of foreign exchange deposits continuing to be the highest (Graph T8-1). There was only a mild rise in the contribution of dinar savings and time deposits to the growth of monetary supply.

**Graph T8-1. Serbia: Money and Component Aggregates[1], 2004–2007**




Source: Table P-10. in Analytical Appendix.
1) The share of money components was obtained as their ratio against the value of M2 in the same period of the preceding year, whereby the sum of obtained ratios is equal to the y-o-y growth of total money (M2).

*The monetary growth in Q3 was the result of the growth of credit to the private sector...*

The total increase of monetary supply in Q3 2007 (12.9% of M2 at the beginning of the year, calculated as the difference between the 23.9% cumulative increase from the beginning of the year to end-Q3 and the 11% cumulative increase to end-Q2), was the upshot of the rise in NFA in Q3 by 2.5% of opening M2, and the increase in NDA by 10.5% of opening M2. The rise in NDA in Q3 was the result of the growth of credit to the non-government sector by 14.4% of opening M2 (difference between the cumulative increases at end-Q3 and end-Q2, expressed in percentage of M2 at the beginning of the year), and the rise in net credit to government (running down of government deposits) by 0.7% of opening M2. On the negative side, the growth of M2 was impacted by the capital increase of the monetary sector by -4.2% of opening M2 (Table T8-2). The remainder of the NDA growth relates to other items, not all of which are specified in Table T8-3. The conclusion, therefore, is that the main source of the growth of monetary supply in Q3 2007 was credit to the non-government sector, as was the case also in several preceding quarters with the exception of the pre-election Q4 2006 when the growth of monetary supply was chiefly driven by increased spending of the government deposit consisting of privatization proceeds.

*...and of net foreign exchange reserves*

***Growth of credit to non-government sector continues to accelerate***

As in the preceding quarters of 2007, credit to the non-government sector continued to accelerate in Q3, recording a nominal 12-m growth rate of 28% (23.9% in Q2 2007), while the real rate was 19.1% (17.8% in Q2 2007, Table T8-2). When observed on the basis of flows adjusted for exchange rate differentials,[1] the acceleration is evident: the 12.m growth at end-Q3 was 36.7%, compared to 30.2% at the end Q2 2007. The faster expansion of credit to the non-government sector was the result of the equally strong 12-m growth of the two components of credit – enterprises and households. Real credit to enterprises grew at a 12-m rate of 17.6% (14.5% in Q2 2007, and 8.3% in Q1 2007, adjusted flows, Table T8-2), while the growth of credit to households was 49.2% (47.4% in Q2 2007, and 50.1% in Q1 2007). In all of Q3, the expansion of credit to households continued to be extremely high, although the effect of the measures to limit repayment terms for retail loans to households became noticeable as of September.[2]

**Table T8-2. Serbia: Monetary Survey, Selected Indicators, 2004–2007**

| | 2005 | | 2006 | | | | 2007 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sep | Dec | Mar | Jun | Sep | Dec | Mar | Jun | Sep |
| | | | | | y-o-y, in% | | | | |
| M2[1)] | 42.7 | 42.1 | 42.8 | 37.9 | 34.4 | 39.2 | 42.9 | 37.4 | 39.4 |
| Credit to the non-government sector[2)] | 48.7 | 51.3 | 45.3 | 44.4 | 34.6 | 17.5 | 21.6 | 23.9 | 28.0 |
| Credit to the non-government sector[2)], adjusted[3)] | 38.6 | 45.6 | 39.6 | 41.6 | 38.0 | 24.1 | 26.3 | 30.2 | 36.7 |
| Households | 91.3 | 92.5 | 100.6 | 96.6 | 80.8 | 62.2 | 58.4 | 54.7 | 60.2 |
| Enterprises | 27.6 | 34.3 | 25.0 | 26.9 | 24.7 | 11.1 | 14.2 | 20.2 | 26.2 |
| | | | | | real y-o-y, in % | | | | |
| M2[1)] | 22.4 | 20.8 | 24.7 | 19.8 | 20.5 | 30.6 | 35.4 | 30.7 | 29.7 |
| Credit to the non-government sector[2)] | 27.6 | 28.6 | 26.9 | 25.4 | 20.7 | 10.3 | 15.2 | 17.8 | 19.1 |
| Credit to the non-government sector[2)], adjusted[3)] | 28.2 | 28.2 | 21.5 | 22.7 | 23.6 | 16.4 | 19.8 | 24.1 | 27.4 |
| Households | 59.1 | 59.1 | 74.8 | 70.4 | 61.9 | 52.2 | 50.2 | 47.4 | 49.2 |
| Enterprises | 18.2 | 18.2 | 8.8 | 9.9 | 11.7 | 4.2 | 8.3 | 14.5 | 17.6 |
| | | | | | cumulative, in % of opening M2[4)] | | | | |
| M2[1)] | 30.8 | 42.1 | 3.1 | 12.4 | 23.8 | 39.2 | 5.9 | 11.0 | 23.9 |
| M2 dinar[1)] | 10.5 | 14.2 | -0.5 | 3.6 | 8.8 | 19.8 | -0.1 | 0.8 | 6.8 |
| Foreign deposits (households and enterprises)[5)] | 16.1 | 22.5 | 2.6 | 8.4 | 18.1 | 25.7 | 4.0 | 10.1 | 17.3 |
| Valuation adjustments[6)] | 4.3 | 5.4 | 1.0 | 0.4 | -3.1 | -6.4 | 1.9 | 0.0 | -0.1 |
| NFA, dinar increase | 17.1 | 18.0 | -4.0 | 2.4 | 30.9 | 41.1 | 5.2 | 12.0 | 14.5 |
| NFA, fx increase | 13.3 | 13.5 | -4.7 | 2.1 | 34.3 | 48.4 | 3.1 | 12.0 | 14.7 |
| Valuation adjustments[6)] | 3.8 | 4.4 | 0.7 | 0.3 | -3.4 | -7.3 | 2.2 | 0.0 | -0.1 |
| NDA | 13.7 | 24.2 | 7.1 | 10.0 | -7.1 | -1.9 | 0.6 | -1.1 | 9.4 |
| o/w: credit to the non-government sector[2)], adjusted[3)] | 21.2 | 34.1 | 5.1 | 15.6 | 25.0 | 27.3 | 6.6 | 19.6 | 33.7 |
| o/w: net credit to government[7)] | -5.0 | -10.4 | -0.7 | -1.3 | -21.8 | -17.4 | -4.1 | -7.7 | -7.0 |
| o/w: NBS and com. banks capital and reserves | -10.7 | -12.1 | -1.2 | -7.5 | -8.5 | -13.2 | -2.2 | -7.4 | -11.6 |
| | | | | | cumulative, in % of GDP[8)] | | | | |
| Net credit to government[7)] | -1.0 | -1.9 | -0.2 | -0.3 | -4.8 | -3.4 | -1.3 | -2.2 | -1.9 |
| o/w: dinar credits | -1.0 | -1.6 | -0.2 | -0.9 | -0.7 | 0.6 | -1.2 | -2.4 | -2.0 |
| Credit to the non-government sector[2)], adjusted[3)] | 6.8 | 10.0 | 1.6 | 3.8 | 4.8 | 4.3 | 2.6 | 5.5 | 7.5 |

Source: Table P-10. in Analytical Appendix.
1) Definitions of M2, M2 dinar, NFA and NDA - see Analytical and Notation Conventions.
2) Credits to the non-government sector: credits to households and enterprises (including cities and municipalities, non-profit and other non-government entities).
3) Flows are adjusted for exchange rate changes. Adjustments are applied under the assumption that 70% of credit to the non-government sector (both households and enterprises) are euro-indexed.
4) "Opening M2" refers to the stock of M2 from the beginning of stated year (i.e. end of previous year).
5) The contribution of fx deposits to the growth of M2 measures only the contribution of the increase in fx-denominated fx deposits so that their revalorization produces the exchange differentials.
6) Valuation adjustments refer to the difference in NFA contribution to M2 growth calculated in dinars and NFA contribution to M2 growth calculated in euros.
7) Net credit to government: difference between government credits (dinar and fx) and deposits (dinar and fx). Government does not include cities and municipalities which are considered within the non-government sector.
8) The GDP used in the calculations is annually centered.

1 For details on the adjustment methodology see footnote 2 in Table T8-2 or Box 2, section 8, Monetary Flows and Policy, *QM*6.
2 See *QM*9, Box 1, section 8, Monetary Flows and Policy.

**Table T8-3. Serbia: Monetary Survey, 2005–2007**

| | 2005 | | 2006 | | | | 2007 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sep | Dec | Mar | Jun | Sep | Dec | Mar | Jun | Sep |
| | in millions of dinars, end of period | | | | | | | | |
| **STOCK** | | | | | | | | | |
| NFA | 216,183 | 218,886 | 200,462 | 229,984 | 360,685 | 407,565 | 441,048 | 484,388 | 500,302 |
| o/w: NBS gross reserves | 362,216 | 424,844 | 465,497 | 549,529 | 648,946 | 715,114 | 719,381 | 730,668 | 751,920 |
| o/w: commercial bank foreign liabilities | -131,090 | -191,124 | -229,081 | -302,170 | -300,781 | -307,742 | -318,598 | -286,848 | -290,860 |
| NDA | 206,257 | 239,985 | 272,642 | 285,856 | 207,195 | 231,055 | 234,991 | 224,279 | 291,193 |
| Net credit to government [1] | -10,242 | -27,831 | -31,129 | -33,954 | -124,159 | -100,061 | -128,909 | -149,081 | -144,385 |
| Net dinar credit | -11,268 | -22,332 | -25,479 | -38,649 | -35,438 | -8,776 | -35,782 | -62,290 | -56,369 |
| Net fx credit | 1,026 | -5,499 | -5,650 | 4,695 | -88,721 | -91,285 | -93,127 | -86,791 | -88,016 |
| Credit to the non-government sector [2] | 456,541 | 518,298 | 547,564 | 591,270 | 614,698 | 609,171 | 666,007 | 732,402 | 786,873 |
| Other items, net | -240,042 | -250,482 | -243,793 | -271,460 | -283,344 | -278,055 | -302,107 | -359,042 | -351,295 |
| M2 [3] | 422,441 | 458,870 | 473,103 | 515,840 | 567,881 | 638,620 | 676,039 | 708,667 | 791,495 |
| M2 dinar [3] | 180,043 | 192,180 | 189,911 | 208,606 | 232,506 | 283,116 | 282,299 | 288,329 | 326,341 |
| Fx deposits (households and economy) | 242,398 | 266,690 | 283,192 | 307,234 | 335,375 | 355,504 | 393,740 | 420,338 | 465,154 |
| **STRUCTURAL INDICATORS** | | | | | | | | | |
| Currency outside banks/Dinar deposits (households and economy), in % | 35.6 | 38.7 | 31.8 | 30.6 | 28.9 | 31.9 | 26.2 | 29.1 | 25.1 |
| Fx deposits (households and economy) / M2 (%) | 57.4 | 58.1 | 59.9 | 59.6 | 59.1 | 55.7 | 58.2 | 59.3 | 58.8 |
| Velocity (GDP/ M2) [4] | 4.0 | 3.8 | 3.9 | 3.7 | 3.5 | 3.3 | 3.2 | 3.2 | 3.0 |
| M2 / GDP [4] | 0.25 | 0.26 | 0.26 | 0.27 | 0.29 | 0.30 | 0.31 | 0.32 | 0.33 |
| Credits to the non-government sector / GDP [4] | 0.27 | 0.30 | 0.30 | 0.31 | 0.31 | 0.29 | 0.30 | 0.33 | 0.33 |
| Non-perofrming loans (in % of total loans) [5] | .. | .. | .. | .. | .. | 4.7 | 4.9 | 4.7 | 5.2 |
| Money multiplier (dinar M2/H) | 2.0 | 1.9 | 2.1 | 2.1 | 2.1 | 2.0 | 2.4 | 2.0 | 2.3 |

Source: Table P-10. in Analytical Appendix.
1) See footnote 7) in Table T8-2.
2) See footnote 2) in Table T8-2.
3) Definitions of M2, M2 dinar, NFA and NDA - see Analytical and Notation Conventions.
4) See footnote 8) in Table T8-2.
5) The figure for December 2006 relates to January, 31 2007 and represents the ratio of loans with overdue payments of 90 days and more to total outstanding loans. The source for data in this row is the Credit Bureau, Association of Serbian Banks. For details, see QM6, Spotlight on No.1.

## Banking Sector: Credits and Sources of Financing

***In Q3, banks granted a new €800 mn in loans to enterprises and households...***

***... somewhat less than in Q2***

In Q3 banks lent slightly less new credit to enterprises and households than in Q2 (€800 mn compared to €900 mn in Q2). Half of the new credits went to these two categories of customers: €400 mn to enterprises (as against €550 mn in Q2 2007), and the same amount to households (€350 mn in Q2, Table T8-4). Of the total of new credit to enterprises in Q3, most – about €260 mn – was long-term (over one year), and short-term loans accounted for €260 (Table T8-4). The reverse was true in Q2 when short-term loans constituted the major part of the credit granted. Enterprises' direct foreign borrowing continued to rise, with the new net borrowing amounting to as much as €850 mn (€1,200 mn in Q2, or €550 mn if the credit to Serbian Telecom is exluded; €438 mn in Q1 2007), Table T8-4.

**Table T8-4. Serbia: Funding, Credit and Investment Activity, Adjusted[1] Flows, 2005–2007**

| | 2005 | | 2006 | | | | 2007 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sep | Dec | Mar | Jun | Sep | Dec | Mar | Jun | Sep |
| | in millions of euros, cumulative from the beginning of the year | | | | | | | | |
| **Funding(-, increase in liabilities)** | -1,712 | -2,783 | -539 | -2,208 | -3,468 | -5,237 | -325 | -1,061 | -2,574 |
| Domestic deposits | -913 | -1,314 | -116 | -550 | -1,322 | -2,245 | -339 | -757 | -1,819 |
| Households deposits | -575 | -884 | -178 | -413 | -795 | -1,200 | -329 | -652 | -1,059 |
| dinar deposits | -40 | -46 | -13 | -54 | -51 | -124 | -35 | -57 | -97 |
| fx deposits | -535 | -838 | -165 | -359 | -744 | -1,076 | -295 | -595 | -963 |
| Enterprise deposits | -338 | -430 | 63 | -137 | -527 | -1,045 | -10 | -105 | -760 |
| dinar deposits | -223 | -363 | 36 | -52 | -295 | -739 | 23 | 112 | -324 |
| fx deposits | -115 | -68 | 27 | -85 | -232 | -307 | -33 | -218 | -437 |
| Foreign liabilities | -506 | -1,194 | -401 | -1,278 | -1,433 | -1,660 | -10 | 266 | 207 |
| Capital and reserves | -293 | -275 | -22 | -380 | -713 | -1,331 | 25 | -569 | -962 |
| **Gross foreign reserves(-,decline in assets)** | -27 | -29 | -190 | -191 | -36 | -77 | -14 | 5 | -17 |
| **Credits and Investment[1]** | 1,369 | 2,058 | 417 | 1,193 | 1,906 | 3,100 | 687 | 1,294 | 2,488 |
| Credit to the non-government sector, total | 1,147 | 1,893 | 272 | 847 | 1,320 | 1,541 | 575 | 1,508 | 2,315 |
| Enterprises | 697 | 1,172 | 85 | 390 | 557 | 536 | 313 | 865 | 1,271 |
| short term | 597 | 835 | 85 | 254 | 258 | 194 | 195 | 549 | 699 |
| long term | 101 | 337 | 1 | 136 | 299 | 341 | 118 | 315 | 572 |
| Households | 450 | 721 | 187 | 457 | 763 | 1,006 | 263 | 644 | 1,044 |
| short term | 38 | 81 | 50 | 106 | 169 | 194 | 36 | 101 | 148 |
| long term | 412 | 640 | 137 | 351 | 594 | 811 | 226 | 543 | 896 |
| Placements with NBS (Repo transactions and treasury bills) | 235 | 185 | 162 | 448 | 740 | 1,637 | 200 | -11 | 438 |
| Government, net[2] | -21 | -43 | -20 | -107 | -157 | -79 | -89 | -203 | -264 |
| **MEMORANDUM ITEMS** | | | | | | | | | |
| Direct foreign liabilities of enterprises and banks' credits to enterprises | 1,281 | 2,035 | 325 | 897 | 1,599 | 2,102 | 791 | 2,567 | 3,822 |
| o/w: direct foreign liabilities of enterprises | 583 | 863 | 239 | 507 | 1,043 | 1,567 | 478 | 1,702 | 2,551 |
| Mid and long term | 589 | 846 | 224 | 479 | 979 | 1,523 | 446 | 1,637 | 2,362 |
| Short term | -6 | 17 | 15 | 29 | 64 | 43 | 32 | 65 | 190 |
| Required reserves and deposits | 438 | 945 | 216 | 1,182 | 1,535 | 1,813 | -146 | 242 | 349 |
| Other net claims on NBS[3] | -3 | 54 | -56 | -75 | -46 | 0 | 13 | -44 | -104 |
| *o/w: Excess reserves* | -19 | 12 | -55 | -59 | -73 | -50 | 20 | -56 | -103 |
| Other items[4] | -61 | -158 | 168 | 130 | 166 | 499 | -110 | -464 | -57 |
| Effective required reserves (in %)[5] | 28 | 31 | 32 | 38 | 38 | 36 | 34 | 37 | 34 |

Source: Table P-11. in Analytical Appendix.

1) The increases in credits were obtained on the assumption that 70% of total credits are euro-indexed and that all long-term credits to companies and households are thus indexed. The increases in the original dinar values of deposits were calculated at the average exchange rate in the period, and in fx deposits as the difference in balances calculated at the exchange rates at ends of periods. Capital and reserves were calculated at the exchange rates at the ends of periods and do not include the effects of exchange rate differentials from revaluation of all previous items.

2) Credits to government, net: difference between credits to the government and government deposits held in commercial banks; negative sign means that deposits increase is larger that the growth of credits. Government include: Republic level and cities and municipalities.

3) Other net claims on NBS: difference between claims on NBS ( cash and excess reserves) and liabilities to NBS.

4) Includes: Other assets; Deposits of enterprises undergoing liquidation; Interbank, net; and Other liabilities, excluding Capital and reserves.

5) Effective required reserve: refers to share of required reserves and deposits in total deposits (households and enterprises) and banks' foreign liabilities. The base for calculating required reserves does not include subordinated debt owing to unavailability of data.

***Banks again invested in NBS papers in a major way...***

***... a new €420 mn***

Banks again invested in repos and 6-m NBS papers, to the tune of some €420 mn in net terms in Q3. In Q2, banks in net terms withdrew the liquidity invested earlier in these instruments and papers (€211 mn). Yields on these investments rose in Q3. In spite of a nominal repo interest rate which remained unchanged at 9.75%, and the real interest rate which fell as inflation accelerated (Graph T9-6, section 9, Financial Markets), the foreign exchange rate appreciated and increased yields for investors who invested their foreign exchange in safe NBS papers (Graph T9-7, section 9, Financial Markets).

***Banks find sources for new credits in the increased company deposits...***

***... capital increases and new household deposits...***

The banking sector's capital increased considerably in Q3 2007, by some €400 mn (€600 mn in Q2, and about €330 mn in Q3 2006, Table T8-4). In contrast to Q2 when capital increase was the dominant source of financing of new credits, in Q3 it was surpassed in volume by new company deposits. In Q3, banks amassed an extraordinary amount of domestic deposits – about €1,060 mn (some €420 mn in Q2, €770 mn in Q3 2006). Of the total new deposits, as much as €655 mn were company deposits (€100 mn in Q2 2007, €390 mn in Q3 2006, and €520 mn in Q4 2006). Dinar deposits accounted for €435 mn and increases in foreign exchange deposits for €220 mn. This pronounced inflow of company dinar deposits and the banks' intensive investment in repo instruments construct a scenario similar to that of Q4 2006 when companies' direct foreign borrowing soared. Though the large inflow of company deposits cannot be explained with certainty, one possible explanation for both episodes (Q3 2007 and Q4 2006) is that the deposits which in part originate from credits to enterprises from abroad are deposited with banks in dinars, to enable them to invest in repo instruments.

The increase in household deposits of €405 mn in Q3 (€320 mn in Q2 2007, €380 mn in Q3 2006) shows their stable growth. New foreign exchange savings accounted for €380 mn (€300 mn in Q2 2007, €390 mn in Q3 2006), and the growth of dinar deposits for €40 mn, Table T8-4.

The reduction of net credit to government by €60 mn in Q3 (€120 mn in Q2) and new net foreign borrowing by banks of €60 mn (repayment of €280 mn in Q2) were also a source for new bank credits, though to a lesser extent.

A net settlement of banks' foreign liabilities of about €150 mn in Q3 (Table P-5, Analytical Appendix) is registered in the balance of payments. The discrepancy is due to the fact that the data in Table T8-4, item ""Foreign borrowing," also registers net changes in the bank balances of non-residents. The figure is from the banking sector's consolidated balance and cannot be broken down into the subcomponents of foreign liabilities. The balances of non-residents' accounts rose by some €120 mn in Q3 (Table P-5, Analytical Appendix). Where the other discrepancies are concerned, *QM* was unable to determine to which foreign liabilities they relate.

## Central Bank: Balance and Monetary Policy

***At the end of Q3, primary money was at the same level as at end-Q2...***

At end-Q3, primary money was at the same level as at end-Q2, which indicates a slowing of the nominal 12-m growth to 24.2% at end-Q3 (37.2% at end Q2 2007), Table T8-10.

***... as the result of the issuance of dinars through the foreign exchange market...***

Primary money (H) increased owing to the following net changes in the stocks of its components: an increase in the NBS's net own foreign exchange reserves of 10.5% of opening H (45% at end-Q3 minus 34.5% at end-Q2), and an equal reduction of its NDA (53.8% minus 43.3%), Table T8-5. NDAs fell as a result of the reduction of the government's dinar deposit by -19.3% of opening H, the rise of the NBS's liabilities to banks on the basis of sales of NBS papers of 24.5% of opening H, and the rise in other NDAs of 5.2% of opening H.

***... running down of the government deposit...***

***... and the withdrawal of dinars through the NBS repo market***

What these changes in the monetary base practically mean is that the NBS placed around 14 bn dinars by way of foreign exchange transactions in Q3 (purchases from exchange office and transactions with banks) and, at the same time, withdrew about 32 bn dinars through the repo market (Table T8-5). Simultaneously, the monetary base H was increased by the running down of the government (including local governments) deposit with the NBS by some 12 bn dinars, the amount of the deficit of the consolidated government sector balance in Q3 (Table T7-1, section Fiscal Flows and Policy). Other central bank NDAs rose by some 6.9 bn dinars and relate mainly to the reduction of the NBS's capital (Table T8-5).

*NBS actively withdraws dinars through the repo market in Q3...*

*... and does not intervene on the foreign exchange market...*

**Table T8-5. Serbia: NBS - Foreign Exchange Purchases and Dinar Sterilization, 2005–2007[1)]**

| | 2005 | | 2006 | | | | 2007 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sep | Dec | Mar | Jun | Sep | Dec | Mar | Jun | Sep |
| **FLOW** | | | | | | | | | |
| | | | | | in millions of dinars, cumulative from the beginning of the year | | | | |
| NBS own resreves[2)] | 48,293 | 63,136 | 4,628 | 49,014 | 78,899 | 145,315 | 15,055 | 46,176 | 60,267 |
| *NBS own reserves (in euros)* | *587* | *759* | *53* | *564* | *933* | *1,783* | *188* | *577* | *756* |
| NDA | -44,208 | -46,040 | -20,755 | -54,348 | -74,989 | -105,744 | -46,267 | -57,974 | -72,100 |
| Government, dinar credits | -5,506 | -6,077 | -1,595 | -1,856 | -1,858 | 120 | -710 | -735 | -735 |
| Government, dinar deposits | -14,796 | -18,576 | -4,789 | -14,422 | -10,572 | 17,540 | -30,939 | -56,748 | -44,985 |
| *o/w: municipalities* | -4,965 | -824 | -6,068 | -5,339 | -5,505 | -3,500 | -6,768 | -13,485 | -11,933 |
| Repo transactions[3)] | -19,804 | -16,829 | -14,258 | -39,152 | -63,335 | -132,903 | -16,675 | -2,094 | -34,961 |
| Other items , net[4)] | -4,102 | -4,558 | -113 | 1,082 | 776 | 9,499 | 2,057 | 1,603 | 8,581 |
| H | 4,085 | 17,096 | -16,127 | -5,334 | 3,910 | 39,571 | -31,212 | -11,798 | -11,833 |
| o/w: currency in circulation | 2,118 | 8,485 | -7,825 | -4,724 | -1,540 | 14,811 | -9,792 | -3,395 | -3,088 |
| o/w: excess liquidity | -1,753 | 3,518 | -8,643 | -7,916 | -2,106 | 16,516 | -13,061 | -3,309 | -6,293 |
| **INCREASE** | | | | | | | | | |
| | | | | | cumulative, in % of opening H[5)] | | | | |
| NBS own resreves[2)] | 72.4 | 93.4 | 7.9 | 52.5 | 73.5 | 135.1 | 11.2 | 34.5 | 45.0 |
| NDA | -67.1 | -71.2 | -25.0 | -58.1 | -69.4 | -93.2 | -34.6 | -43.3 | -53.8 |
| Government, dinar deposits | -19.2 | -24.0 | -5.1 | -15.3 | -11.2 | 19 | -23.1 | -42.4 | -33.6 |
| Repo transactions[3)] | -25.6 | -21.8 | -15.1 | -41.5 | -67.1 | -141 | -12.5 | -1.6 | -26.1 |
| Other items , net[4)] | -22.3 | -25.4 | -4.8 | -1.4 | 9.0 | 29 | 1.5 | 1.2 | 6.4 |
| H | 5.3 | 22.1 | -17.1 | -5.7 | 4.1 | 41.9 | -23.3 | -8.8 | -8.8 |
| o/w: currency in circulation | 2.7 | 11.0 | -8.3 | -5.0 | -1.6 | 16 | -7.3 | -2.5 | -2.3 |
| o/w: excess liquidity | -2.3 | 4.6 | -9.2 | -8.4 | -2.2 | 18 | -9.8 | -2.5 | -4.7 |
| **MEMORANDUM ITEMS** | | | | | | | | | |
| Gross fx reserves (flow, cumulative from | 1,167.5 | 1,860.0 | 387.7 | 1,420.9 | 2,945.0 | 4,083.1 | -233.3 | 193.9 | 482.7 |
| the beginning of the year, in euros) | 147.4 | 228.4 | 43.1 | 132.1 | 237.5 | 307.6 | 3.2 | 11.6 | 27.5 |
| Gross fx reserves (in % of opening H in euros) | 26.6 | 22.1 | 13.7 | 24.3 | 20.8 | 41.9 | 31.3 | 37.2 | 24.2 |
| H (growth rate, y-o-y, in %) | 11.4 | 18.8 | 16.4 | 15.6 | 10.2 | 27.6 | 28.0 | 33.0 | 25.5 |
| Currency in circulation (growth rate, y-o-y, in %) | | | | | | | | | |

Source: Table P-12. in Analytical Appendix.
1) Government include: Republic level and cities and municipalities.
2) Net own reserves definition - see Box 4 in QM5.
3) This category included NBS bills, and repo transactions.
4) Other domestic assets, net, include domestic credits (net claims on banks excluding NBS bills and repo transactions; net claims on enterprises together with other assets (capital, reserves and balance items; other assets and liabilities corrected by exchange rate differentials.
5) "Opening H" refers to stock of primary money (H) at the beginning of stated year (i.e. end of previous year).

The NBS did not intervene on the inter-bank foreign exchange market at all in Q3. Its sale of foreign exchange to banks related to the rechanneling of part of the inflow based on purchases from exchange offices, but at the most favorable rate on a given date so as to avoid any impact on the exchange rate. The NBS thereby contributed to the formation of the exchange rate being more in accordance with the total supply and demand of foreign exchange.

*The NBS withdrew a considerable amount of dinars through the repo market in Q2...*

*... in spite of the unchanged nominal repo rate*

## Box 1. The NBS Was More Restrictive in Q3 than in the First Half of 2007

The NBS did not alter the reserve requirement ratio from Q1 to Q3 2007. In October 2007, however, the ratio was lowered from 10% to 5% on part of the dinar base, namely dinar time deposits of over one month. The reference interest rate was raised in Q3 from 9.5% at which it stood from May 2007 to 9.75% in August. In late October, the repo rate was returned to 9.5%, remaining there until this issue of *QM* went into print. The exchange rate recorded a real appreciation in Q3 of 4.4% (more details in section 3, Prices and the Exchange Rate). When all these factors are taken into account (reserve requirement, NBS interest rate, and the foreign exchange rate), it may be concluded that monetary policy was more restrictive in Q3, primarily owing to the effect of the real appreciation of the dinar. Since monetary policy was less restrictive in the first two quarters of the year than in Q3, this was a minor change. Nonetheless, the tendency is toward relaxation.

## Table T8-6. Banks' Reserve Requirements with NBS[1)], 12/ 2004 -5/ 2007

| | 12/2004 | 05/2005 | 07/2005 | 10/2005 | 11/2005 | 03/2006 | 04/2006 | 05/2006 | 11/2006 | 12/2006 | 10/2007 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Rate on:** | | | | | | | | | | | |
| | | | | | | in % | | | | | |
| DINAR DENOMINATED BASE | 21 | 20 | 20 | 18 | 18 | 18 | 18 | 18 | 15 | 10 | 10 |
| more then 1 month dinar time deposits | | | | | | | | | | | 5 |
| non-resident accounts with maturity up to 2 years: | | | | | | | | 60 | 60 | | |
| non-resident accounts with maturity over 2 years: | | | | | | | | 40 | 40 | | |
| FX DENOMINATED BASE | 21 | 26 | 29 | 35 | 38 | 40 | 40 | 40 | 40 | 45 | 45 |
| foreign borrowing with maturity up to 2 years[2)] | | | | | | | 60 | 60 | 60 | 45 | |
| NEW FX SAVINGS DEPOSITS[3)] | 47 | 47 | 45 | 41 | 38 | 40 | 40 | 40 | 40 | 40 | 40 |
| SUBORDINATED CAPITAL | | | | | | 20 | 20 | 20 | 20 | 20 | 20 |
| Key regulation changes: | Introduction of required reserves on foreign borrowing | Separation of the dinar denominated from the fx denominated base | | | The 38% ratio applies to new fx savings deposits | Introduction of required reserves on subordinated debt | | | | | |

Source: NBS.

1) Applied to average daily book value of the base from the previous calendar month. Effective from the 10th of the next month. Bank is obliged to hold average daily reserve balance at the level of the accounted reserve during the entire accounting period.

2) Up to April 2006 and since December 2006, banks' foreign borrowing was treated equally, irrespective of the repayment period. This sub-category therefore is invalid until March 2006, i.e. the uniform fx base was applied to all foreign inflows on the basis of commercial banks' borrowing.

3) Up to December 2005, reserve requirements on new fx savings of households (fx deposits collected after 30 June 2001) were regulated by a special NBS decision. In December 2005, the regulation became uniform since the NBS introduced a unique reserve requirement rate for all commercial banks' fx accounts.

Note:

Under current regulations, banks' reserve requirements with the NBS include:

- dinar base: dinar deposits (including the government), dinar credits (including the government), securities and other dinar liabilities;
- fx base: fx deposits (including the government), fx-indexed dinar deposits, fx credits (including the government), subordinated capital, securities, other fx liabilities and other fx funds received from abroad for bank services on behalf and for the account of third persons.

Excluded from the dinar/fx-denominated base are: liabilities to the NBS; up to December 2005 – liabilities arising from household fx savings deposited after 30 June 2001; the amounts generated with the settlement of debts for FFCDs, and those arising in the rescheduling of debt to creditors from the Paris and London Clubs. Amount of long-term housing mortgage credits insured with the National Corporation for Housing Loan Insurance is deducted from the required reserves base.

## Table T8-7.Serbia: Foreign Exchange Reserves, Stock and Flow, 2005-2007

| | 2005 | | 2006 | | | | 2007 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sep | Dec | Mar | Jun | Sep | Dec | Mar | Jun | Sep |
| | | | | | stock, in millions of euros | | | | |
| NFA of Serbia | 2,548 | 2,544 | 2,303 | 2,674 | 4,403 | 5,164 | 5,413 | 6,130 | 6,347 |
| Commercial banks, net | -761 | -1,451 | -2,042 | -2,921 | -2,920 | -3,188 | -3,213 | -2,918 | -2,998 |
| Gross foreign reserves | 787 | 784 | 594 | 593 | 748 | 707 | 693 | 712 | 690 |
| Foreign liabilities | -1,548 | -2,235 | -2,636 | -3,514 | -3,668 | -3,895 | -3,906 | -3,630 | -3,688 |
| NBS, net | 3,309 | 3,995 | 4,345 | 5,595 | 7,323 | 8,352 | 8,626 | 9,048 | 9,345 |
| Gross foreign reserves | 4,276 | 4,969 | 5,357 | 6,390 | 7,914 | 9,052 | 8,819 | 9,246 | 9,535 |
| Foreign liabilities | -967 | -974 | -1,011 | -795 | -591 | -700 | -193 | -198 | -190 |
| IMF | -765 | -748 | -787 | -575 | -373 | -181 | 6 | 1 | 3 |
| Other liabilities | -202 | -226 | -225 | -220 | -218 | -519 | -200 | -199 | -193 |
| NBS, NET RESERVES-STRUCTURE | | | | | | | | | |
| 1. NBS, net | 3,309 | 3,995 | 4,345 | 5,595 | 7,323 | 8,352 | 8,626 | 9,048 | 9,345 |
| 1.1 Commercial banks deposits | -1,262 | -1,725 | -1,995 | -2,858 | -3,126 | -3,210 | -3,358 | -3,478 | -3,584 |
| 1.2 Government deposits | -170 | -220 | -247 | -123 | -1,213 | -1,309 | -1,247 | -1,160 | -1,172 |
| 1.3 **NBS own reserves** (1.3 = 1 - 1.1 - 1.2) | 1,878 | 2,050 | 2,103 | 2,614 | 2,983 | 3,833 | 4,021 | 4,410 | 4,589 |
| | | | | | in millions of euros, cumulative from the beginning of the year | | | | |
| NFA of Serbia | 540 | 535 | -240 | 131 | 1,859 | 2,620 | 249 | 967 | 1,183 |
| Commercial banks, net | -533 | -1,223 | -591 | -1,469 | -1,468 | -1,737 | -24 | 270 | 190 |
| Gross foreign reserves | -27 | -29 | -190 | -191 | -36 | -77 | -14 | 5 | -17 |
| Foreign liabilities | -506 | -1,194 | -401 | -1,278 | -1,433 | -1,660 | -10 | 266 | 207 |
| NBS, net | 1,072 | 1,758 | 350 | 1,600 | 3,328 | 4,357 | 274 | 696 | 993 |
| Gross foreign reserves | 1,167 | 1,860 | 388 | 1,421 | 2,945 | 4,083 | -233 | 194 | 483 |
| Foreign liabilities | -95 | -102 | -37 | 179 | 383 | 274 | 507 | 502 | 510 |
| IMF | -61 | -44 | -38 | 173 | 375 | 567 | 187 | 182 | 184 |
| Other liabilities | -34 | -58 | 1 | 6 | 8 | -294 | 320 | 320 | 327 |
| NBS, NET RESERVES-STRUCTURE | | | | | | | | | |
| 1. NBS, net | 1,072 | 1,758 | 350 | 1,600 | 3,328 | 4,357 | 274 | 696 | 993 |
| 1.1 Commercial banks deposits | -441 | -904 | -270 | -1,133 | -1,401 | -1,485 | -148 | -269 | -374 |
| 1.2 Government deposits | -45 | -95 | -27 | 97 | -993 | -1,089 | 63 | 149 | 137 |
| 1.3 **NBS own reserves** (1.3 = 1 - 1.1 - 1.2) | 587 | 759 | 53 | 564 | 933 | 1,783 | 188 | 577 | 756 |

Source: NBS.

Note: NBS fx liabilities are treated differently in the monetary survey and in NBS balance sheet. In the monetary survey, this category includes IMF credits and other foreign liabilities. In the NBS balance sheet, however, it also includes commercial bank's fx deposits (reserve requirements funds and other fx deposits).

# 9. Financial Markets

**Q3 2007 was marked by price and yield stagnation and a sharp drop in turnover on the domestic financial markets. Indices of the Belgrade Stock Exchange ranged within a relatively narrow band of 200 index points and lost less than half a percent of their value in Q3. Bond yields ranged within a band of 40 basis points, losing between 7 basis points and 17 basis points on the average, with the exception of yields on A2008 and A2009, which went up by 25 basis points and 5 basis points respectively. The volume on the stock market, measured by both the dinar-denominated turnover and the number of performed transactions, fell for the first time in the last two years by as much as 41% measured by the dinar- denominated turnover, and by 31% measured by the number of transactions. The continuous and discontinuous segments of the market contributed equally to the drop. All domestic investment funds, unlike the markets, had a slight increase in value in Q3. Despite a rise in the nominal yields on NBS repo operations by 25 basis points, real yields, measured relative to inflation, continued to decline. On the other hand, due to the appreciation of the dinar, real yields measured in relation to the dinar/euro rate went up, reaching the level of almost 30% in Q3.**

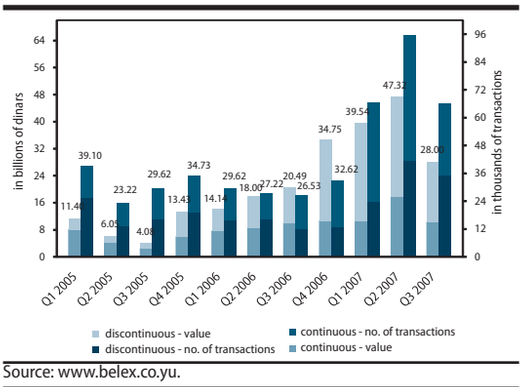
*Q3 sees a sharp drop in the volume on the stock market after a long growth trend*

In Q3 2007, the trend in the volume movements on the domestic stock market was reversed, measured by both the dinar-denominated turnover and the number of performed transactions (Graph T9-1). The volume of the stock market shrank for the first time after a long period.

The dinar-denominated turnover decreased after two years of uninterrupted growth. The total value of the turnover fell by as much as 40.83% relative to the previous quarter and amounted to around 28 bn dinars. A drop in the value was recorded on both the continuous and discontinuous trading segments, in approximately equal amounts. The part of the market where trading is carried out by using the continuous trading method lost 40.21% of the traded volume, while the dinar- denominated turnover on the discontinuous market fell by 41.87%.

The total number of performed transactions, relative to Q2, declined by 30.64%, so in Q3 a total of some 66,000 transactions were performed, or around 29,000 less than in the previous quarter. Fewer transactions were performed both by using the continuous trading method and on the discontinuous market segment, by 42.44% and 15.26% respectively in relation to the previous quarter.

**Graph T9-1. Stock Trading Volume, Value and Structure, 2005–2007**




Source: www.belex.co.yu.

On a y-o-y basis, the market grew, but considerably less than in the previous quarter. The value of turnover in dinars in Q3 went up by around 37% y-o-y, while in Q2 the y-o-y growth in turnover amounted to as much as 163%. The growth was driven by continuous trading, which went up by 69% relative to Q3 2006, as opposed to the discontinuous segment, which grew by a mere 2.7% relative to Q3 2006.

*The average transaction value continues to fall*

The average transaction value in Q3 was 423,600 dinars, which was by 14.7% less than in Q2. A continued "size reduction" of transactions indicates a further increase in the participation of smaller, individual investors on the stock market. That trend started at the beginning of the year when the value of an average transaction in Q1 fell by around 44% relative to Q4 2006.

*In Q3, trading with the five most active shares accounted for 62% of the turnover on the continuous market*

In Q3, too, the bulk of the trading was concentrated on a relatively small number of shares. The share of the basket of the five most active shares in total turnover on the continuous market segment was 62%. Out of that percentage, only one stock, of AIK Banka a.d. Niš (AIKBN), accounted for almost 25% of the turnover on the continuous market segment. The basket

comprising five shares, which in Q3 2007 were always close to the top of the market in terms of trading volumes, remained the same as in the previous quarter[1].

***Movements in stock exchange indices in Q3 calmed down after a turbulent Q2***

After a turbulent Q2, in Q3 the stock market and the values of indices, which ranged within a narrow band of 200 index points with a mild downward trend, calmed down (Graph T9-2). The BELEX15[2] and BELEXline[3] indices lost 0.23% and 0.13% respectively, while the SRX EUR index[4] fell by 0.88%. From the beginning of Q3, BELEX15 and SRX EUR grew to the end of July, when both indices reached their highs in Q3 with 2,917.29 and 1,646.09 index points respectively. A turnaround occurred at that point and indices started to lose value, up until the second decade of September, when a new period of growth started, to last until the end of the quarter. BELEXLine followed a similar path, except that the first stage of its growth lasted until mid-August, when the index reached its high for the observed period of 4,568.64 index points.

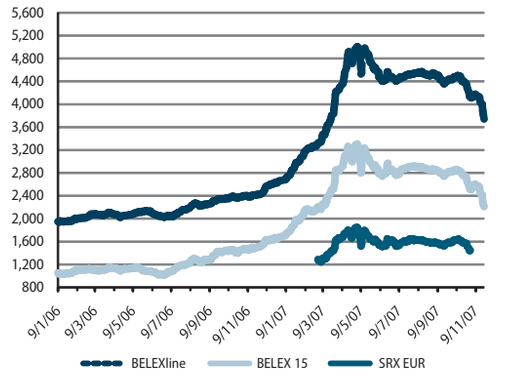
***A sharp drop in the value of both Belgrade Stock Exchange indices as of mid-October***

In early Q4, the BELEX15 and BELEXLine indices continued to grow for a short while, but in mid-October they slumped. From early October to mid-November BELEX15 and BELEXline lost 10.21% and 7.26%, respectively, while on 20 November BELEX15 lost 4.95% of its value in just one day, and BELEXline 3.05%. This was the sharpest daily fall for the Belgrade Stock Exchange indices since 9 May this year when BELEX15 lost 6.53% in one day. Unlike in May, when a sharp drop in indices was followed by an upward adjustment the next day, this did not happen in November. Indices continued to fall in the subsequent two days as well, though more gradually.

***Several other stock exchanges in the region also recorded a fall in Q3***

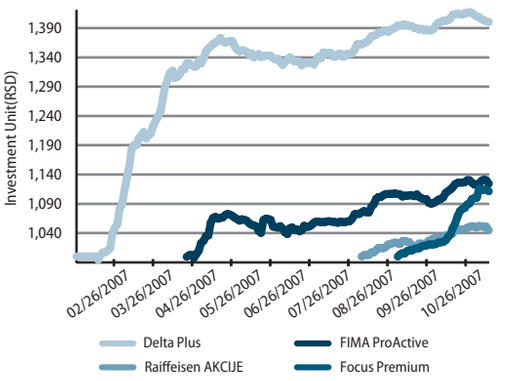
The Belgrade Stock Exchange was not alone in this downward trend during Q3. The indices of MOSTE, the Montenegrin stock market, BIRS, the Banja Luka Stock Exchange, and the Romanian BET lost 13.37%, 11.89% and 6.36% respectively. In comparison with them, the movements on the Belgrade Stock Exchange can be considered to be stagnation rather than a downward trend. On the other hand, the indices of Crobex, the Zagreb Stock Exchange, the Macedonian MBI-10 and the Bulgarian SOFIX recorded a growth of 4.83%, 28.58% and 25.5%, respectively.

**Graph T9-2. BELEXfm, BELEX15 and SRX EUR Indices, 2006–2007**




Source: www.belex.co.yu, www.wienerborse.at

**Graph T9-3. Delta Plus, FIMA ProActive, Raiffeisen AKCIJE and Focus Premium Investment Funds, 2007**




Source:www.deltainvestments.co.yu,www.fimainvest.com,www.focusinvest.biz, www.raiffeiseninvest.co.yu

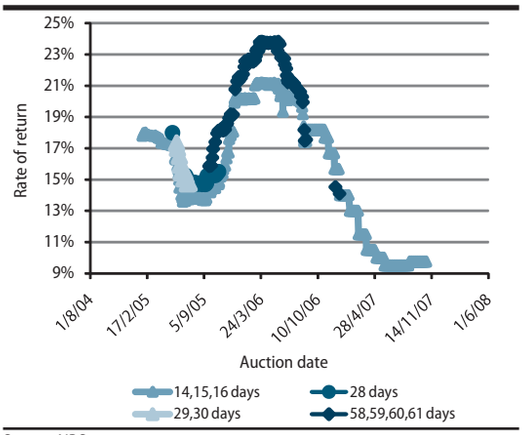
1 The basket comprises the following shares: AIKB (Aik Banka) , MTBN (Metals Banka), AGBN (Agrobanka), SJPT (Soja protein and ENHL (Energoprojekt holding), which in Q1, Q2 and Q3 2007 were continuously among the top ten shares in terms of the trading volume value.
2 The index of the most liquid shares of the Belgrade Stock Exchange.
3 The overall stock index of the Belgrade Stock Exchange.
4 The index of the 8 most liquid shares of the Belgrade Stock Exchange calculated by the Vienna Stock Exchange (Wiener Börse).

*In Q3, investment funds did not follow the movements of the Serbian market and their value grew*

In Q3 2007, unlike in the previous quarter, investments funds did not follow the developments on the Serbian capital market in losing value, recording a slight increase instead. During the quarter, the investment funds Delta Plus and Fima ProActive recorded a growth of the investment unit of 4.98% and 4.32% respectively, while in the same period the BELEX15 and BELEXLine indices lost 0.23% and 0.13%[5] respectively (Graph T9-3). In the second half of Q3, two newly opened investment funds commenced operations: Raiffeisen AKCIJE and Focus Premium. Both funds are growth funds by type. From their establishment to the end of Q3 they funds achieved returns of 3.12% and 2.13% respectively. If the period between 6 September and 30 October is observed, for which there is data on the movements in the value of the investment unit for all the funds, the funds Delta Plus, Fima ProActive, Raiffeisen AKCIJE and Focus Premium had returns of 0.44%, 1.59%, 2.15% and 10.56% respectively. Over the same period, the indices of the Belgrade Stock Exchange BELEX15 and BELXline – lost 12.31% and 8.31% of their value, respectively.

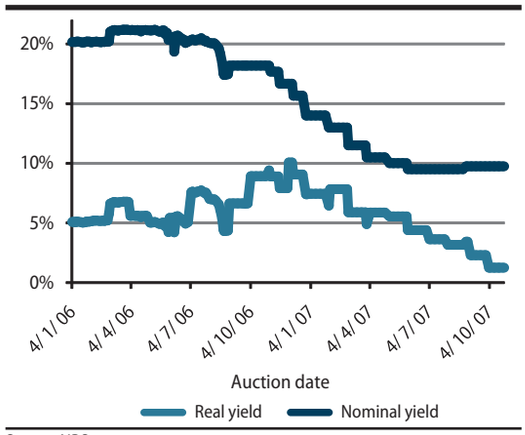
*NBS raises the rate on 2w repos by 25 basis points in late Q3*

**Graph T9-4. Repo Yields (by maturity), 2004–2007**




Source: NBS.

**Graph T9-5. Real (with regard to inflation) and Nominal Repo Yields, 2006–2007**




Source: NBS.

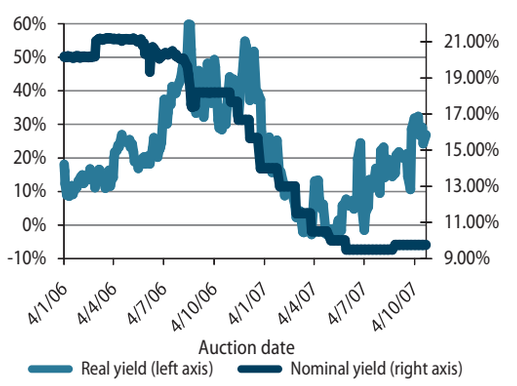
*Real yields on repos recorded a decline in Q3...*

The NBS raised the interest rate on 2w repo transactions in Q3. The reference interest rate, which was 9.5%, was increased by 25 basis points, to 9.75% in late August (Graph T9-4). In late October, the NBS brought the interest rate on 2w repos back to 9.5%.

Real yields in relation to the inflation rate continued to decline, despite a rise in the nominal rate (Graph T9-5). Real yields went down by 133 basis points from 3.63% in early Q3 to 2.3%, only to fall to 1.24% in the first half of Q4. Since the NBS raised the reference interest rate, the main reason for the further decline in real returns on repo operations was the continued acceleration of inflation.

*...but in relation to the dinar/euro rate, yields in Q3 had a noticeable growth*

**Graph T9-6. Real (with regard to exchange rate) and Nominal Repo Yields, 2006–2007**




Source: NBS.

On the other hand, real yields on repo operations relative to the movements in the dinar/euro rate (a change in the previous three months[6]) have been on the upward trend ever since May (Graph T9-6). Thus measured, real yields are much

5 The yield in Q3 was measured as ln(A/B) x 100% where A stands for the value of the investment unit of a fund or the value of the index on the first trading day in Q3, and B for that same value on the last trading day in Q3.

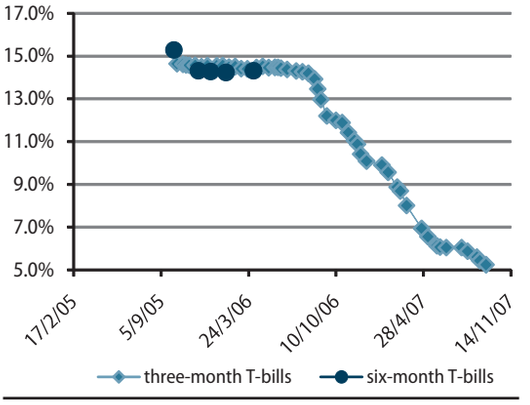
6 Yields calculated in relation to the change in the exchange rate are of relevance to investors starting from a foreign currency to invest in NBS securities. A detailed explanation of such an approach to the calculation of real rates of return is provided in the text Spotlight on 1: "The Exchange Rate and Policy of the National Bank of Serbia: 2002–2006", QM 5.

more volatile than those calculated relative to inflation; in Q3 they ranged within a band of -1.48% in early July, to 28.5% in late September. It is obvious that with the renewed dinar appreciation the thus calculated real yields on repo operations are going up, which in practice means that they are again very interesting to investors. Hence the stock of repo investments grew strongly again in Q3[7].

*Yields on T-bills fall by 80 basis points*

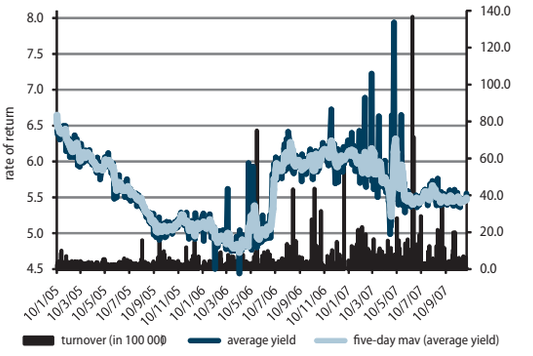
A constant fall in yields on T-bills of the Republic of Serbia continued in Q3 2007. (Graph T9-6). In the course of the quarter, the yields lost some 80 basis points and stood at around 5.20% at the end of Q3. As in the previous quarters, only 3-month T-bills were offered in auctions, and the issues were worth 400 mn, 800 mn or one billion dinars. The total nominal value of all T-bills issued during Q3 amounted to 3.8 bn dinars, or 700 mn dinars less than in Q2 2007.

**Graph T9-7. Yields in T-Bill Market, 2005–2007**



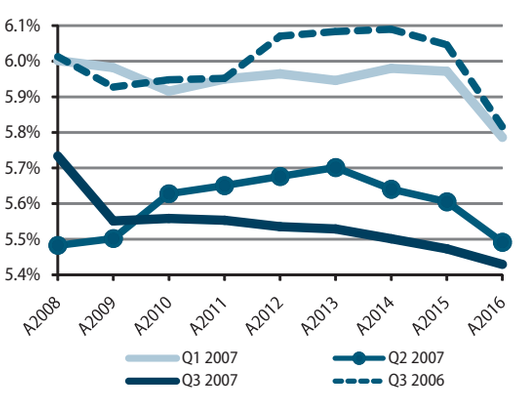

Source: Ministry of Finance.

**Graph T9-8. Average Yield on FFCD Bonds[1], 2005–2007**




Source: www.belex.co.yu.
1) The graph does not depict extraordinary yield of A2006 bond of 42% on March 10, 2006.
Note: The graph was derived as the weighted average yield on securities from A2006 to A2016. The turnover values for each of securities were used as weights. Left axis refers to average yield, while the right axis refers to total FFCD trade volume.

**Graph T9-9. FFCD Bond Average Yield Curves**




Source: www.belex.co.yu.

*Trade volume on the FFCD bond market go down in Q3*

*A sharp fall in turnover on the FFCD bond market as well*

On the FFCD bonds market, the volume and turnover declined relative to the previous quarter. In Q3, it amounted to around €51.3 mn, which was by 34.59% lower than in Q2, while the turnover, worth €36.8 mn, fell by 39.74%. Generally speaking, no trend can be detected in the changes of the FFCD bond volume and turnover. Q2 saw a rise relative to Q1 2007, but the volume and turnover had declined in Q1 2007 relative to Q4 2006. A more accurate description would be that the rise and fall are alternating through quarters (Graph T9-8).

*Yields on bonds with the shortest maturity are rising slightly, and gradually falling for other maturities*

Average yields on FFCD bonds were relatively stable during Q3 (Graph T9-8). The average yield on the entire market ranged within a band of 37 basis points, with the most volatile yields being those on A2008, A2009 and A2016, which ranged within bands of 105 basis points, 138 basis points and 116 basis points respectively. Unlike in the previous quarters, when the bonds with the shortest maturities had the highest drop in yields, in Q3 the average yield on A2008 went up by 25 basis points, and on A2009 by 5 basis points relative to Q2, while other bonds lost between 7 basis points and 17 basis points[8]

7 See Section 8 "Monetary Flows and Policy" in this issue of QM.
8 The band within which yields on certain bonds ranged over the observed quarter was measured as the difference between the maximum and minimum achieved yields over the observed period. Growth and/or a decline in average yields between two quarters for individual bonds was measured as the difference between the achieved average yields on a particular bond in the observed quarters.

on average.

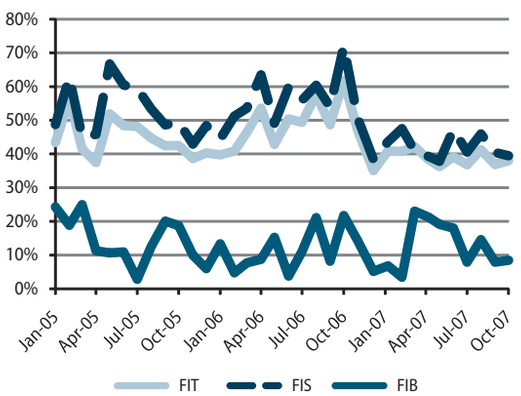
In Q3, the curve of average yields on FFCD bonds flattened (Graph T9-9). The entire curve was inverted[9] and for the maturity from two to seven years, almost flat[10] with a slight downward trend, as opposed to the previous quarter, when the curve was humped[11]. In theory, a flat yield curve shows the uncertainty in the economy, while an inverted curve indicates that investors expect a decline in interest rates in the future. An inverted curve may be an indicator of a slowdown in the economy, or even recession, but accompanied by a belief on the part of investors that inflation will remain low. On the other hand, higher risk and uncertainty on the market can cause a flight into safer investments and stronger demand for long-term bonds, which increases their price and reduces returns, resulting in an inverted yield curve.

Relative to Q1 2007 and Q3 2006, a parallel downward shift of the whole curve occurred. This decline in yields on all maturities can be explained by the poor performance of the stock market, which, after a period of rapid growth, saw a strong correction in the previous quarter, whose downward trend has continued – which makes it less attractive. In addition, the political uncertainty in the country is prompting investors to switch to safer securities, resulting in a rise in the prices of FFCD bonds and, consequently, a fall in returns.

***Foreign investors' participation on the stock market was stable, while it fell on the bond market***

On the stock market in Q3, the average foreign investors' participation remained approximately the same as in the previous quarter (the FIS curve, Graph T9-10). On the other hand, the foreign investors' participation on the bond market fell significantly in Q3 relative to the previous quarter (the FIB curve, Graph T9-10). On average, the foreign investors' share in FFCD bonds trading was 10.13% against 19.47% in the previous quarter. In July and September, the participation was a mere 7% roughly, while in August a short-lived rise in turnover also resulted in the doubling of foreign investors' participation.

**Graph T9-10. Foreign Investors' Participation Rates, 2005–2007**




Source: www.belex.co.yu.
Legend: FIT- Foreign Investors Participation in Total Turnover, FIS-Foreign Investors in Equity Market, FIB- Foreign Investors in Bond Market.

October saw a slight increase in foreign investors' participation on the entire market, to 38.01% against 36.85% in September (the FIT curve, Graph T9-10). But on the stock market the fall in the participation, initiated in September, continued, and now stands at 39.47%. The developments on the bond market moved in the opposite direction: a rise in foreign investors' participation, initiated in September, continued in October as well, so that their share amounted to 8.49%.

9 Yields on bonds with shorter maturities are higher than the yields on bonds with longer maturities.
10 Yields on bonds with different maturities are more or less the same.
11 Yields on bonds with shorter and longer maturities were more or less the same, while medium-term yields were the highest.

# SPOTLIGHT ON:

## Current Account Deficits in Serbia: Causes, Concerns and Consequences

Peter Sanfey*

**From the early stages of its transition, Serbia has had a relatively high current account deficit. This deficit has often caused public concern and discussions on whether we are heading for a BoP crisis. This paper describes the reasons behind the high CA deficit and shows that almost all transition countries in Eastern Europe have faced this particular problem. The root causes of the deficit lie in the combination of the following factors: (1) the economy was at depressed level when the transition started, (2) there are high investment requirements and low domestic savings rate and (3) government administration is oversized. We are arguing that the CA deficit is most likely not a problem in the short run, but in the medium run it should be reduced. In order to cut the deficit in the long run, we recommend systemic and structural solutions: ending the privatization process, reducing the size of government and implementing active policies for attracting greenfield FDI.**

### 1. Introduction

The current account deficit is constantly in the news these days in Serbia, or at least in that part of the news that is read by economists, business people and policy-makers. Among this group, many are worried about the deficit, fearing that it is too high and that it may even be unsustainable. Recently, the IMF warned that "the current account deficit…[will] remain large" and "the present unbalanced policy mix…would raise concerns about external stability."[a)] But what exactly is the current account deficit? When should it be considered "large" and what does "unsustainable" mean? What are the likely consequences of running a large current account deficit over several years? And should the government or the central bank take steps to address the situation, or simply leave it to the market to sort things out?

*a) IMF: "Serbia—2007 Article IV Consultation. Concluding Statement of the Mission, November 6, 2007."*

In this paper, I give a personal view of the current account deficit in Serbia, and I attempt to answer these questions. Some of them are relatively easy to answer, but others are not. In particular, economists disagree about whether large current account deficits are necessarily problematic, and even among those who think they are, there is no consensus on what to do. My view is that a medium-term perspective must be taken on the problem. In the short-run, Serbia is unlikely to encounter any kind of crisis associated with its current account deficit, although such an event cannot be ruled out, especially if the political situation takes a significant turn for the worse. Current account deficits arise naturally in open, growing economies in transition and can be sustained at seemingly high levels over a number of years. It is therefore misleading to refer automatically to an increase in the deficit as a "deterioration" and such normative language should be avoided. However, the Serbian economy faces a number of fundamental long-term challenges that, if not addressed now, will almost certainly lead to a sharp and painful current account reversal in the future.

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Paper prepared for the FREN Quarterly Monitor. I am grateful to Marko Atanasovsky for excellent research assistance and to Fabrizio Coricelli and Ivo Germann for comments on an earlier draft. The views expressed in this article are my own, and not necessarily those of the EBRD.

## 2. What is the Current Account?

The current account is a record of a country's sales and purchases of goods and services with other countries. In most countries, including Serbia, the main items are the exports and imports of *goods*, with the difference between the two referred to as the *trade deficit* if the value of imported goods exceeds the value of exported goods, and the *trade surplus* if the converse holds. The other components of the current account are the exports and imports of services, income receipts and payments, and transfers to and from abroad. The sum of the inflows minus the sum of the outflows is calculated to give an overall current account balance.

Table L1-1 shows the breakdown of the current account deficit in Serbia, calculated in US dollars, from 2000 to 2006. The table shows the dramatic increase in the size of the deficit over a relatively short space of time, from a mere US$ 153 million in 2000 to a record US$ 3,656 million last year. The deficit increased by more than 50 per cent last year, a fact that may explain the high degree of concern being expressed these days about its size. Also, Serbia is running an enormous trade deficit at present of more than US$ 6 billion in 2006. Encouragingly, however, export growth has been strong, even allowing for the substantial appreciation in recent years of the dinar vis-à-vis the US dollar. There are minor deficits also on the services and income accounts, but a large surplus on current transfers, most of which is remittances from Serbians living and working abroad.

**Table L1-1. Current Account in Serbia (millions of US dollars), 2000–2006**

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|---|
| I. CURRENT ACCOUNT | -153 | -285 | -1,247 | -1,420 | -2,869 | -2,224 | -3,656 |
| 1. Goods | -1,582 | -2,308 | -3,228 | -4,021 | -6,469 | -5,290 | -6,230 |
| 1.1. Exports | 1,645 | 1,821 | 2,212 | 3,319 | 4,082 | 4,970 | 6,486 |
| 1.2. Imports | -3,227 | -4,129 | -5,440 | -7,340 | -10,551 | -10,260 | -12,716 |
| 2. Services | 141 | 244 | 130 | 202 | 175 | -6 | -62 |
| 2.1. Export | 421 | 614 | 749 | 1,039 | 1,477 | 1,636 | 2,107 |
| 2.1. Import | -280 | -370 | -619 | -837 | -1,302 | -1,642 | -2,169 |
| 3. Income | -1 | 6 | -73 | -136 | -216 | -324 | -395 |
| 3.1. Receipts | 53 | 48 | 62 | 69 | 80 | 98 | 194 |
| 3.2. Payments | -54 | -42 | -135 | -205 | -296 | -422 | -589 |
| 4. Current transfers | 1,018 | 1,182 | 1,428 | 2,059 | 3,166 | 3,067 | 2,803 |
| 4.1. Receipts | 1,302 | 1,556 | 1,798 | 2,499 | 3,766 | 3,902 | 4,355 |
| 4.2. Payments | -284 | -374 | -370 | -440 | -600 | -836 | -1,552 |
| 5. Official transfers | 271 | 591 | 496 | 476 | 475 | 329 | 228 |

Source: National Bank of Serbia.

At this point, an analogy between countries and households can be helpful. Countries that run current account deficits are like families that spend more than they earn, and in that sense we can say that they are living beyond their means. Of course there is nothing inherently wrong with this as long as they do not attempt to behave this way indefinitely. Just as families have to pay the bills somehow, by borrowing or running down past savings, or perhaps selling off some of its assets (the "family silver"), countries also have to balance their accounts in the same way. How they do this is revealed by examining the capital account, which shows the purchase by, and sale to, foreigners of domestically-owned assets, as well as net borrowing from abroad (see Table L1-2).

As Table L1-2 shows, the surplus on the capital account has exceeded the current account deficit every year since 2000. Last year, the capital account surplus was well in excess of US$ 9 billion, so the overall balance (current plus capital account) was more than US$ 5.4 billion. If a family borrows or sells off assets and the proceeds more than cover the gap between spending and income, then the surplus goes into "savings". At the country level, this excess of revenue from capital sales or borrowing over the deficit on the current account goes towards increasing foreign reserves held by the country's central bank. Therefore, foreign reserves in Serbia have been rising every year since 2000 and, as of end-2006, stood at 11.9 billion dollars, an increase of 5.4 billion dollars over the previous year.

**Table L1-2. Capital Account in Serbia (millions of US dollars), 2000–2006**

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|---|
| II CAPITAL ACCOUNT | 339 | 788 | 2,048 | 2,518 | 3,089 | 4,720 | 9,361 |
| 1. For. dir. investment | 50 | 165 | 475 | 1,365 | 966 | 1,550 | 4,387 |
| 2. Medium and long | 234 | 216 | 680 | 997 | 1,560 | 2,198 | 2,844 |
| term investment | 245 | 265 | 756 | 1,189 | 2,171 | 2,959 | 5,411 |
| 2.1. Drawings | -11 | -49 | -76 | -192 | -611 | -761 | -2,567 |
| 2.2. Repayments | 0 | 0 | 0 | 0 | 0 | 0 | -1,135 |
| 3. Advance repayments | ... | ... | ... | ... | 0 | -16 | 41 |
| 4. Loans to abroad, net | 30 | 73 | 158 | 66 | 449 | 439 | 93 |
| 5. Short-term credits | 25 | 622 | 801 | 95 | 68 | 423 | 2,001 |
| 6. Other, net | 0 | -288 | -66 | -5 | 46 | 126 | -5 |
| 7. Commercial banks, net | -227 | -502 | -928 | -921 | -448 | -2,027 | -5,422 |

Source: National Bank of Serbia.

The capital account surplus is made up of a mixture of wealth-creating and debt-creating inflows, namely investment and borrowing from abroad. In recent years, one of the main sources of financing for the current account deficit has been net foreign direct investment (FDI). Last year, the level of net FDI reached a record US$ 4.39 billion, more than covering (for the first time this decade) the current account deficit. Net medium- and long-term loans have risen steadily to more than US$ 2.8 billion in 2006. What is interesting in this trend, however, is the shift over time from official sources of finance to private sources, mainly foreign-owned banks lending to their subsidiaries in Serbia. This aspect of the balance of payments is attracting increasing attention and concern, and will be discussed in more detail below.

## 3. How Large is the Deficit?

To compare current account deficits across countries, one needs a reference point for each country. The most common practice is to calculate the deficit as a percentage of GDP. In 2006, Serbia's current account deficit has been in double-digit levels (as a per cent of GDP) for several years, and close to 15 per cent of GDP in 2006, and it has risen further during 2007. It is currently above the regional average but not drastically out of line with the experience of other transition countries last year. To see this, Graph L1-3 presents the cross-country comparison for the whole region in 2006. The first thing to note is that current account deficits are pervasive in the CEB and SEE, but interestingly not in the CIS, where several resource-rich countries ran a current account surplus last year (and in previous years). Even in CEB, deficits are often large. In the Baltic states – all EU members since May 2004 and considered among the most advanced transition countries – they exceed 10 per cent of GDP in all cases (and over 20 per cent of GDP in Latvia). In SEE, only Macedonia's current account deficit last year could be deemed to be "small", whereas the deficit in Montenegro, at around 30 per cent of GDP, is the highest among all transition countries.

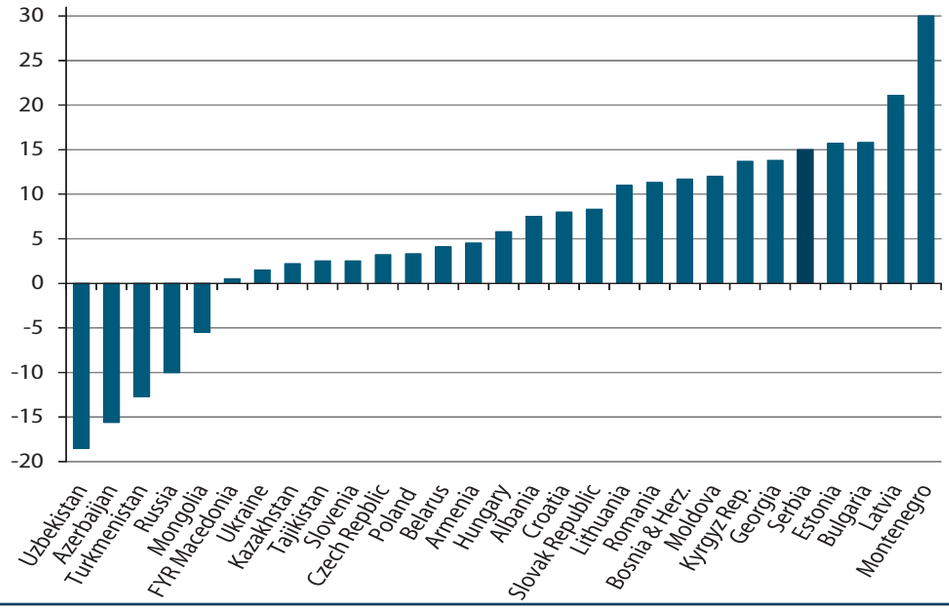
## 4. Why Do Current Account Deficits and Transition Go Together?

Current account deficits have been a feature of the transition over the past 15 years. To understand why, it is helpful first to keep in mind a couple of useful equations. The first (equation (1)) is an identity that is familiar to all students of introductory economics:

(1) $CAD \equiv (I-S) + (G-T)$,

where CAD stands for current account deficit, I is private investment, S is private saving, G is government spending and T is tax revenue. In words, a country's current account deficit is always equal to the sum of the gap between private investment and saving, and the government budget deficit. In the case of Serbia, where the government's budget is more or less in balance, we know from the fact that there is a large current account deficit that private investment is well

**Graph L1-3. Overview of the Current Account Deficit in the Transition Countries in 2006 (as a percentage of GDP)**




Source: EBRD.

above private saving. Note that we cannot assert that the deficit is necessarily "caused" by a low savings rate or excessive investment. The value of equation (1) is that it points us towards looking more deeply at investment and saving decisions in order to understand better why deficits are so high.

Equation (2) is more complex but even more insightful. As Obstfeld and Rogoff (1996) have shown, under certain general circumstances, the current account deficit can be written as follows:[1]

(2) $CAD = (Y^{*}-Y) - (I^{*}-I) - (G^{*}-G),$

where Y is output (GDP) and starred variables refer to "permanent" or long-run levels of the variable in question. That is, one may expect to see a country running a current account deficit if one or more of the following conditions holds: (a) output is below its permanent or long-run level, (b) investment is above its long-run level, and (c) government spending is above its long-run level.

Equation (2) can help us understand why current account deficits in transition economies are often high and persistent. Virtually all transition countries went through deep recessions in the early years of transition, but most are now growing strongly, outpacing the world economy.[b)] This suggests that output has been below its long-run level but is catching up. At the same time, transition countries faced huge investment needs, and for most countries, once they overcame the initial reform hurdles, lucrative investment opportunities arose and investment started to flow in. Therefore, in many cases, investment has been at levels that are most likely above the long-run level. And finally, the whole process of transition has been about dismantling the all-encompassing role of the state and lowering the size of government spending. But it takes time before government spending can be brought down to its long-run level.

*b) Real GDP growth across the whole transition region was a record high of 6.9 per cent in 2006 – see EBRD Transition Report 2007: People in Transition.*

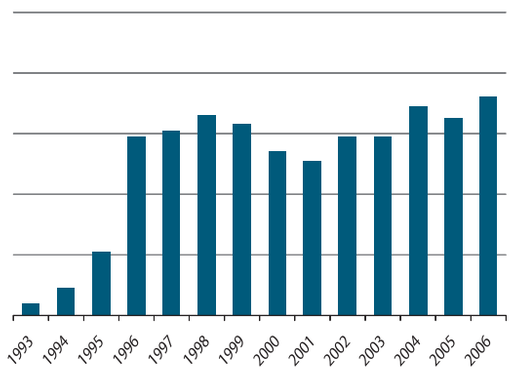
For the reasons outlines above, current account deficits are likely to be present in transition countries. Indeed, the combination of (initially) depressed economies, large investment needs and a bloated government suggests that these deficits could be expected to be large, as indeed

1 M. Obstfeld and K. Rogoff, *Foundations of International Macroeconomics*, MIT Press, 1996. See also S. Edwards (2001), "Does the Current Account matter?", NBER Working Paper No. W8275. The conditions for equation (2) to hold are: no borrowing constraints, a constant world interest rate and a world discount factor equal to the representative individual's subjective discount factor. If these conditions are relaxed, equation (2) becomes more complex but the basic insights remain the same.

they have been in many cases. It also suggests that they should decline over time as output recovers, investment demands moderate and government spending falls as the state sector shrinks. However, we already saw from Graph L1-3 that current account deficits are still sizeable across most of the region, even after more than 15 years of transition in most cases. It is therefore worth investigating further the patterns of current account deficits over time in the region.

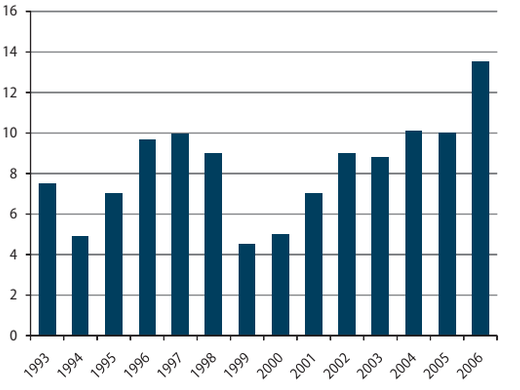
Graphs L1-4 and L1-5 show the evolution of the current account deficit, averaged across countries (simple averages, rather than weighted) in CEB and SEE. The idea that these deficits should rise first in the early years of transition and then fall gradually over time is not borne out by the data. Both regions show a similar pattern – rising deficits in the mid- to late-1990s, with some tailing off around the turn of the century, and then rising again to record levels in both regions in 2006. The deficits are particularly large in SEE – above 8 per cent of GDP on average since 2002 and almost 14 per cent of GDP last year. Associated with these deficits are strong investment flows into the region, reflecting the major opportunities for those who want to do business in the region.

**Graph L1-4. Average Current Account Deficit in Central Eastern Europe and the Baltics, 1993–2006**




Source: EBRD.

**Graph L1-5. Average Current Account Deficit in South-Eastern Europe, 1993–2006**




Source: EBRD.

## 5. Are Current Account Deficits Dangerous?

There is widespread disagreement among economists about the extent to which current account deficits are a problem for an economy. Some argue that the deficit should not be a cause of concern at all – it simply reflects the rational decisions of investors and savers and, provided the government's finances are in order, will be self-correcting over time. The alternative view is that deficits are worrying, especially if the deficit is financed mainly by new debt or by low-return investment, because a sustained current account deficit must eventually be followed by a reversal which may occur suddenly and in a way that causes significant output reductions and unemployment. In commenting on balance of payments developments, advocates of the latter view will usually refer to a rise in the deficit as a "worsening" or "deterioration" and, conversely, a lower deficit than before will be hailed as an "improvement" in the situation.

Sudden reversals in the current account have been rare so far in the transition region, making it difficult to draw direct lessons that might be applied to a country like Serbia that has a large deficit and is still in the less advanced group of transition countries. True, there have been financial and exchange rate crises, by far the biggest of which was the Russian crisis in 1998, when the Russian government abandoned the peg of the rouble and defaulted on a number of domestic debt obligations. Within days, the rouble-dollar exchange rate had moved from around 6 roubles/dollar to over 20:1. The crisis was followed by a huge outflow of capital over subsequent years, and the country has since been running large current account surpluses, also on the back of a much stronger economy and high commodity prices. It would be wrong to see the Russian

crisis as driven by a current account problem. In fact, the current account had been in modest surplus for several years before the crisis. Instead, it was mainly due to a failure of the authorities to implement meaningful tax and spending reform, and the build-up of a that, at some point, the Russian government would refuse to honour the onerous interest charges on debt that were being built up.

Other crises have occurred from time to time in the region, including in SEE. The Bulgarian and Romanian economies both suffered reversals in the mid- to late-1990s, while the Albanian economy imploded in 1997 after the collapse of a number of fraudulent pyramid schemes. In each case, however, the source of the problem can be traced back to weak policy-making capacity and slowness in reform, and not high current account deficits *per se*. In Bulgaria, for example, it was weak supervision over a number of banks that collapsed around 1996, triggering a wave of bankruptcies and a deep recession, while in Albania it was the absence of properly functioning banks, combined with opportunistic behaviour by an unregulated group of fraudsters who offered highly attractive returns that lured people into putting their money where they should not have. It should be noted, however, that all countries where reversal occurred recovered relatively quickly, with Bulgaria and Romania, both now members of the EU, being prime examples.

## 6. What Could Trigger a Crisis in Serbia?

To sum up so far, it is hard to find an example from the transition region of a crisis that can be attributed to (or at least was preceded by) a large current account deficit over a number of years. But crises could well occur in the future. Transition countries are increasingly integrated into global financial markets, and therefore are more vulnerable to contagion effects from global downturns. Investors are looking closely, and nervously, at some high current account deficit countries in the region. But what about Serbia – could investors lose confidence here also and trigger a crisis? We will answer this question first by looking at some of the factors that could lead to a sudden outflow of capital and a sharp decline in economic activity, and then at the likelihood of each one.

*General loss of confidence:* one of the things that distinguishes social sciences like economics from hard sciences is that, in the former, the beliefs of agents in the likelihood of something happening can, in some circumstances, make that event more likely to happen. This is particularly relevant in the case of currency crises. If a general belief takes hold that a current account deficit is unsustainable and that a large depreciation of the currency is imminent, then rational individuals who hold domestically-denominated assets will rush to remove them from the country or convert them to foreign currency, thus making the depreciation all the more likely.

A self-fulfilling depreciation in Serbia due to a run on the currency is highly unlikely at present. There is little sign that anyone expects a substantial depreciation, and the current combination of buoyant reserves and a tough and consistent monetary policy of the NBS gives comfort that it is not on the agenda at present.

*Global credit crunch:* at the time of writing, the sharp drop in global liquidity brought on by the crisis in sub-prime loans in the US has had little impact yet on financial markets in SEE, including Serbia. However, it is too early to rule out an important effect in the short- to medium-term. One way in which this effect might show up would be through a reduction in bank lending by parent banks in western Europe to their subsidiaries in Serbia. In recent years, the Serbian banking system has been transformed through a combination of radical (and often courageous) restructuring of the old system, the introduction of better legislation and supervisory standards, and the inflow of fresh capital and skills from abroad. As a result there is now fierce competition among banks for new customers, both businesses and households, and the rapid credit growth of recent years has helped to fuel the huge demand for imports.

There is no sign as yet that foreign banks wish to scale back their activities in Serbia – why should they when they are clearly so profitable? However, an overall credit crunch on global markets

may force some retrenchment on local subsidiaries, with the result that ordinary individuals and businesses in Serbia may find it harder to get affordable loans in the future. So, no crisis now, but perhaps more difficult conditions in the short-term for borrowers.

*Short-term debt liquidity problems:* while the ratio of the current account to GDP is usually the one of the first indicators that analysts of an economy's vulnerability will look at, another useful indicator of possible trouble ahead is the economy's ratio of short-term debt to reserves. The rationale for looking at short-term debt is obvious – crises are inherently hard to predict but, other things being equal, an economy that faces a large bill in the near term is more likely to run into difficulties soon than one which has the same level of debt (in net present value terms) spread out over a longer time period. Short-term debt has indeed been rising sharply in Serbia in recent years, but from a very low level – until a few years ago, virtually all foreign debt was official, long-term debt from bilateral donors and multilateral institutions. As a comparison, the ratio of short-term debt to reserves in Serbia is 0.1, compared to 0.6 in Croatia, 0.7 in Bulgaria and 0.6 in Romania. At present, therefore, the level of short-term debt seems manageable but it needs to be monitored carefully.

*Political turbulence and reform reversal:* perhaps the biggest imponderable in Serbia at present is how any possible political upheaval may affect the overall commitment to reform and progress towards European integration. It is well beyond the scope of this article to speculate about the outcome of Kosovo status talks and its impact on the Serbian political scene. However, it is clear that there are negative scenarios that could lead to nervousness on the part of investors and, in extreme cases, an outward flight of capital.

At the moment, regardless of what happens over Kosovo, a significant outward flow of capital is unlikely to occur. Most of the capital that has gone into Serbia in recent years has been in the form of direct investment, rather than portfolio investment. FDI is difficult to reverse at short notice, and investors who have taken a risk and put their money in Serbian businesses have most likely discounted political risk and turbulence already. Although there is often anecdotal evidence about businesses hesitating to come to Serbia because of the political risks, the large inflows of FDI in recent years suggest that these risks have not deterred serious investors.

## 7. Conclusion: What Is to Be Done?

For reasons outlined above, I believe that the current account deficit in Serbia at present is large by regional standards and unlikely to come down significantly in the near future, but I also believe that a major reversal, with associated disruption to the real economy is also unlikely in the short-run. But this does *not* mean we should not worry at all about the deficit. Sharp reversals can be like the famous Hobbesian definition of the human condition – nasty, brutish and short – but with long-lasting effects in terms of lost output and higher unemployment resulting from bankruptcies and business failures. Over time, the current account deficit must be brought down – otherwise the level of debt build-up will reach a level where the ability of the country to pay back its debts will be in doubt. At that point, investors may take fright, and then the country will be in trouble.

How can that be avoided? Short-term measures such as credit controls typically have a very limited effect. The country needs medium- and long-term solutions but needs to start addressing them now. Since 2001, reforms in Serbia have been somewhat "stop-go", with periods of rapid activity and progress followed by delays and inaction. Valuable time was lost earlier this year during the post-election hiatus. Sometimes there is an air of complacency about policy-makers in Serbia when it comes to economic issues – the economy is growing, inflation is in single-digit levels, foreign reserves are high and the fiscal accounts are close to balance, so what is the problem? The point I wish to emphasise here is that these benign macro figures will not last unless a fundamental restructuring of the economy takes place, something that will prove much more difficult than most of the reforms implemented to date.

Action is needed in three key areas:

*Finish privatisation:* It was disappointing that the programme for completion of privatisation was delayed beyond 2007, but encouraging that there is now a firm plan in place to finish it by the end of 2008. Adherence to this deadline is important for restoring confidence and for accelerating the restructuring of companies so that overall profitability (and hence corporate saving) in the enterprise sector can be increased.

*Reduce the size of the state:* the size of government spending in Serbia relative to GDP is still one of the highest in all transition countries. If this is not addressed, the country runs the risk of either "twin deficits", or the tax revenue squeeze on businesses will deter entrepreneurship and the growth of enterprises. Either way, if the role of the state is not reduced over the coming years, the economy's prospects will be diminished and the likelihood of a crisis will emerge.

*Greenfield FDI:* as noted, FDI figures in recent years have been impressive, and last year saw record inflows, more than covering the whole current account deficit. But most of this FDI is associated with privatisations and acquisitions, rather than new, "greenfield" investments. Once the country runs out of things to sell, it will be harder to sustain the existing level of FDI. If the trend towards financing the deficit by debt continues, it increases the risks of a hard landing. However, the challenge of attracting greenfield FDI is not insurmountable; central European countries such as the Czech and Slovak Republics have managed to attract enormous inflows of Greenfield FDI in recent years. However, these countries have the crucial advantages of geography and membership of the EU club. They are also much further advanced in market-oriented reforms than Serbia is. Opportunities exist in Serbia but the country has to work harder than others to realise them.

# Reforming Personal Income Tax: Think Global, Act Local

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Bojana Vesnić

**Personal Income Tax (PIT) systems implemented in practice usually represent a combination of elements resulting from economic theory and those resulting from social norms. The elements of two alternative approaches, the global and the schedular, are also usually intertwined in personal income taxation. This article attempts to clearly separate economic and social aspects of taxation, and to emphasize that contemporary economic developments significantly limit practical application of the global approach. Also, the article suggests that the PIT systems, on their own, are not capable of delivering a satisfactory degree of socially equitable income redistribution within a society; therefore, they need to be complemented by adequate social transfers and progressive public expenditure policies. In light of these facts, and taking into account significant administration and compliance costs that a switch to a global system would require, the authors recommend parametric reform and optimization of the existing system instead of a switch to a global system. The article considers one potential approach to parametric reform. The authors believe that the proposed approach could create a more competitive and stimulating tax environment, and be capable of achieving significant levels of income redistribution without additional administration costs and without constraining economic growth.**

## 1. Introduction

This article aims to investigate economic reasoning related to a potential Personal Income Tax (PIT) reform and the introduction of a global[1] system instead of the existing schedular system. Both economic theory and an increasing number of econometric studies suggest that direct income taxation constrains economic growth more significantly than indirect taxation of consumption (VAT, excises). Thus, the goal of PIT reform cannot be to increase fiscal revenues from this source, but to establish a more competitive tax system which would more significantly support economic growth, reduce the gray economy, and feature income redistribution elements to the extent allowed by existing economic circumstances.

The article is organized in the following manner: the first part addresses main features that tax experts take into account when analyzing various tax systems; the second part describes the development of two alternative approaches to personal income taxation, while the third part surveys contemporary world practices; the fourth part discusses the existing PIT system in Serbia, while the fifth analyzes the effects of a potential switch to the global system; the sixth section presents the conclusions and proposes an alternative approach to the reform of personal income taxation in Serbia.

## 2. Tax Design Issues

There are many issues to be considered when designing a tax system, or any of its constituting components. In general, economists and tax practitioners usually focus on the following issues

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1 In Serbia, the global PIT system is often referred to as **synthetic**, as it synthesizes income from various sources.

when analyzing and debating a particular tax system: *tax efficiency, compliance and administration costs, tax equity, and tax competitiveness.*

**Tax efficiency** refers to the theoretical concept of economic "Pareto efficiency." Namely, paid taxes represent a visible and tangible burden imposed upon taxpayers. However, in a less observable manner, tax systems also affect taxpayers' decision-making process. Tax-induced changes in taxpayers' behavior represent an additional (excess) burden to taxpayers, resulting in the loss of economic efficiency and suboptimal allocation of economic resources. Without going into technical details, as a general rule, it can be said that tax systems should be broad-based with uniform tax rates in order to minimize efficiency losses.[2]

**Compliance and administration costs** refer to the costs borne by the private sector in order to properly comply with the tax laws - expenses of tax accounting, filing of tax returns, making tax payments. These costs also include public sector resources required to successfully administer and enforce tax laws. Compliance and administration costs should be as low as possible in order to cause the least possible reallocation of resources from economic activity to the fulfillment of administrative and legal norms.

**Tax equity** refers to the social convention that an individual's tax burden should reflect his *ability to pay*. Usually, realized income is taken as an indicator of taxpayer's ability to pay taxes.[3] There are two dimensions to tax equity:

• **Horizontal Equity** principle states that individuals with the same or similar incomes should pay similar taxes, regardless of the manner in which income was earned. This principle suggests that incomes from different sources should be subject to the same tax treatment.

• **Vertical Equity** principle suggests that a certain degree of socially equitable income redistribution should exist in a society via progressive taxation[a)] - which implies higher tax rates for individuals with higher incomes.

*a) Progressive taxation implies the increase of average tax rate with the increase of taxpayer's income level. Proportional taxation exhibits constant tax rate regardless of the income level, while regressive taxation implies a decreasing tax rate as taxpayer's income increases.*

It is important to notice that horizontal equity is (mostly) a result of economic theory and is in accordance with the minimization of economic efficiency losses via uniform taxation. However, **progressive taxation implied by vertical equity is not a result of economic theory but of social norms** which in many countries prescribe that wealthy individuals should be subject to higher tax rates. Thus, individuals with high incomes who profit the most from the existing social *status quo* are expected to subsidize citizens with low incomes in order to alleviate social differences and prevent social clashes.

**Tax competitiveness** is becoming an increasingly important aspect of all tax systems due to accelerated globalization of world markets and increasing regional integration. For a small open economy such as the one in Serbia,, which is experiencing increased regional integration, it is very important to consider whether certain tax provisions will increase or decrease its regional competitiveness.

## 3. Alternative Approaches to Personal Income Taxation

There are two approaches to personal income taxation:

**Schedular approach** involves taxation of various classes of personal income separately, and possibly differently.

**Global approach** attempts to aggregate/synthesize all incomes a taxpayer earns during the year from various sources, and to tax this aggregated (synthetic) amount.

Although at first glance, the schedular and global approaches seem to be very much contrary to each other, they are not mutually exclusive however. On the contrary, the majority of tax systems implemented worldwide contain a mix of schedular and global elements.

2 Most often, the extent of excess burden is approximated with the square of the tax rate. For example, a tax rate of 20% causes approximately 4 times larger excess burden than a 10% rate.

3 It is important to note that a number of economists advocate for the realized consumption (instead of realized income) to be taken as the relevant indicator of ability to pay taxes.

The schedular approach, in its basic form, is not the most adequate to support vertical equity as it does not aggregate the incomes an individual earns from various sources during the year. However, the schedular approach can often be implemented with low compliance and administration costs. In particular, most income classes would be taxed at the source via withholding. **Withholding taxation** is the most effective and desirable form of tax collection, characterized by (apart from minimal compliance and administration costs) a relatively little opportunity for tax evasion.[b)] Furthermore, prescribing a uniform tax rate to various income classes results in horizontal equity. If applicable tax rate is comparable to surrounding countries, the schedular system can successfully capture and implement all major economic features of a tax system: low compliance and administration costs, horizontal equity, and regional competitiveness.

*b) Alternative approaches to tax collection in cases where withholding is not possible are: central-assessment by tax authorities which requires huge administrative resources, and self-assessment of taxpayers which requires significant compliance costs and auditing on behalf of tax authorities.*

**Global approach** aggregates all incomes a taxpayer earns during the year from various sources. In this manner, the global approach implicitly exhibits horizontal equity, while vertical equity is implemented via progressive tax rates. Advocates of the global approach emphasize the vertical equity as a necessary element of any PIT system - thus making the global approach *a priori* superior to the schedular one. However, the total fiscal system, taking into account both the revenue and expenditure side policies, should exhibit a certain degree of social equity and income redistribution. **Progressive global PIT systems are not the only approach to introducing vertical equity in a society.** Moreover, recent research efforts indicate that income redistribution via progressive global taxation is neither a sufficient nor an optimal approach to income redistribution. In order to establish a satisfactory level of socially equitable income redistribution, it is necessary to complement the PIT system with adequate progressive public expenditure policies directed toward social security, education, and health.

**Implementation of vertical equity via a global system requires significant compliance and administration costs** in order to perform costly and non-trivial income reconciliation at the end of the calendar year. The fact that aggregate global income/tax can be precisely known only at the year-end complicates tax collection during the year: tax collected during the year no longer represents "final" tax liability, but only an approximate advance payment applied towards the final tax liability to be determined at the end of the year. Also, progressive global systems are less able to rely on withholding than schedular systems.

Due to their social dimension, global systems integrate personal taxation with *tax expenditure programs* like tax credits for dependants and disabled, tax deductions for education and health expenses, etc. However, such legal provisions complicate the tax system and make it less accessible to an average taxpayer. Furthermore, the implementation of these provisions in practice requires significant administrative resources. Lastly, the shift toward more transparent public policies suggests a clear separation of tax and social policies as well as implementation of social objectives via public expenditure policies.

## 4. World Practices

Although the global approach to taxation has dominated economic thinking in western economies for decades, no country in the world has implemented a PIT system which fully observes the theoretical structure of the global system. The majority of western countries opted for systems which are basically global, but with a certain number of schedular elements introduced in order to ease the tax system implementation and/or achieve specific economic policy goals.

United States and Canada followed the global approach to taxation most closely when designing their systems. PIT systems in both countries are broad-based with basically all income classes being accounted for and subject to tax. However, both countries introduced a certain number of schedular elements, primarily with respect to the taxation of capital income. Preferential treatment of capital income is a result of its increased global mobility and the desire to support economic growth and improve competitiveness of national economies by stimulating savings and investments. In order to ease compliance enforcement and reduce possibilities for tax evasion, employers during the year withhold from employees approximate wage tax liabilities.

United States, Canada, and Australia are basically the only countries in the world that require all taxpayers to file annual tax returns. This provision results in enormous compliance and administration costs. For example, in 2001, out of 30 million residents of Canada, 21 million filed annual tax returns. A study done in Canada in the late nineties estimated compliance and administration costs to be over 7% of total PIT fiscal revenues. In the cost structure, administration costs accounted for 1%, and compliance costs 6% - out of which 2.5% was borne by employees and 3.5% by employers.

EU regulations condition certain design characteristics when it comes to Value Added Tax systems that member countries may choose to implement. However, there are no EU regulations conditioning the design of PIT systems in member countries.

The majority of "old" EU members have relatively complex global PIT systems with emphasized progressive structure and significant *tax expenditure programs*. Compared to United States and Canada, the "old" EU member countries have introduced more schedular elements and tax-exempt thresholds in order to reduce compliance and administration costs. In a majority of these countries, taxpayers earning income only from regular employment (and insignificant income from other sources) are not required to file annual tax returns. This is the case, for example, in the United Kingdom, Germany, Hungary, etc. Also, besides employers' withholding on wages, the European practice is to withhold taxes when distributing dividends and making interest payments. Even with the introduction of the described schedular elements, over 10% of taxpayers in the above mentioned countries are required file annual tax returns.

On the other hand, "new" EU member countries mostly have simpler PIT systems with less emphasized progressive rates. Capital and labor-force mobility within the EU are resulting in frequent discussions on inadequacy of tax systems employed by the "old" EU member countries.

In order to preserve the competitiveness of their tax systems, but also to retain a degree of vertical equity, Nordic countries (Denmark, Norway, Finland, Sweden) in the early nineties introduced a **Dual Income Tax** - a system that explicitly taxes capital and labor income separately. Capital income (interest, dividends, capital gains) is subject to proportional taxation according to a uniform and moderate tax rate in order to prevent capital outflows. Labor income (employment, self-employment, pensions) is taxed at higher, progressive tax rates.[c)] Since the vast majority of taxable personal income in any country originates from labor, subjecting only labor income to progressive taxation results in significant income redistribution. Also, separate tax treatment of capital and labor income allows for a simpler tax system design with more schedular elements and more significant reliance on withholding.

*c) Although violating the horizontal equity principle, Dual Income Tax systems closely follow economic reasoning behind the theory of optimal taxation and minimize efficiency losses in accordance with the "Ramsey's rule" which suggests taxing more-mobile tax base at a lower rate.*

The latest trend in personal income taxation seem to be **Flat-Rate** systems, implemented in countries like Slovakia, Russia, Estonia, Latvia, etc. Flat-rate systems are (progressive) global PIT systems with a relatively high annual tax-exempt threshold and a single tax rate applicable to income above the threshold. These systems have eliminated most of *tax expenditure programs* featured in traditional global systems and have made public expenditure policies more responsible for the fulfillment of social objectives. The simple design of flat-rate systems represents an attractive solution for countries such as Slovakia or Russia, which used to employ very complex global PIT systems hardly enforceable in practice. The studies on initial effects of the transition from global to flat-rate systems show a significant decrease in the scope of tax evasion and an increase of fiscal revenues.

**An increasing number of global approach features are becoming inadequate and inapplicable in the contemporary economic setting of the 21st century.[4] First and foremost, capital mobility prevents taxation of capital income at high tax rates. Also, regional integration and global competition limit significant progressiveness of labor income taxation.** While most European countries are simplifying their PIT systems in response to the mentioned trends, Serbia is faced

4 More broadly, the reliance on direct income taxation is diminishing in comparison to more efficient indirect taxation of consumption, which undermines competitiveness and constrains economic growth to a lesser extent.

with the following question: Should the existing schedular system be optimized via parametric reforms, or should a complete switch to a global system be undertaken instead?

## 5. Existing Serbian PIT System

As an integral part of extensive fiscal reforms, the Law on Personal Income Taxation was adopted in 2001. The Law established a schedular PIT system and prescribed a nominal tax rate of 20% for basically all income classes, except wages. Due to significant social-contributions burden, wages were taxed at a lower tax rate of 14%. **The schedular system enables 95% of fiscal revenues in Serbia to be collected via withholding.**

Although the introduction of a uniform nominal tax rate of 20% could seem to result in horizontal equity, the caveat is that the Law prescribes different tax-exempt allowances for different income classes. Prescribing different tax-exempt allowances to account for different acquisition and maintenance expenses incurred while earning taxable income is an important aspect of progressive global systems' laws. However, such legal provisions are not very relevant in the context of a schedular system such as Serbia's. It is the authors' belief that the PIT Law is not an adequate place to account for income-earning expenses. **Instead of tax regulations, it would be more appropriate to let the "invisible hand" of free markets regulate different income-earning expenses by adjusting equilibrium level of market returns.**

Different tax-exempt allowances result in significantly different effective tax rates. Moreover, tax-exempt allowances are prescribed to equal 20% (or more) of gross income for basically all income classes.[5] Thus, although the law prescribes the nominal tax rate of 20%, the real effective personal income tax rate is 16% (or less).

The effective tax rate is important to taxpayers, because it is the effective rate and not the nominal one that determines taxpayers' liability. However, nominal tax rates get quoted much more often in the media, since the general public can hardly be expected to be aware of all the details present in the existing tax laws. This is especially true in the case of foreign investors, which are not in a position to become familiar with tax regulation specifics of all the different countries in which they are investing. Thus, there is a possibility of multiple benefits from the elimination of tax-exempt allowances, so that nominal and effective tax rates are equalized. Such a change would simplify the PIT system and make it more accessible to an average Serbian citizen. Also, a simple and transparent system with a low tax rate would be in a better position to attract foreign investors' attention.[6]

Table L2-1 shows the effects on fiscal revenues if all tax-exempt allowances were to be eliminated and a uniform 10% tax rate introduced for all personal income classes, except for wages. Assuming constant level of tax evasions, total fiscal revenues should drop by only 0.2% of GDP. However, it is reasonable to expect that the tax rate reduction, accompanied with adequate enforcement of tax authorities, should result in a decrease in tax evasion and additional fiscal revenues. Since the Ministry of Finance has already announced the reduction of capital gains tax rate to 10% in 2008, **the authors conclude that a potential tax rate reduction to 10% for all personal income classes except wages could be undertaken without any tangible loss of fiscal revenues.**

The PIT Law establishes a scheduler system, but it also contains global elements in the form of an **Annual Surtax**. Namely, citizens with high annual income (close to 1% of taxpayers) are required to file annual surtax returns and are liable for a 10% surtax applicable to (net) income exceeding the tax-exempt threshold.[7] Since the annual surtax is an additional tax on top of other schedular taxes for which the taxpayers are liable during the year, its introduction has enabled

5 Capital gains and interest income are the most important income classes that are not granted any tax-exempt allowances.
6 Slovakia represents a good example of a country that managed to attract significant attention of European public and foreign investors by simplifying its tax system.
7 Tax-exempt threshold currently equals 3 average registered gross wages in the Republic of Serbia. Amendments to the Law adopted in 2006 introduced another progressive surtax rate of 15% for annual incomes exceeding 9 average gross wages. The introduction of a second surtax rate significantly complicated the annual taxation process (both for taxpayers and tax authorities), failing at the same time to achieve even the slightest increase of fiscal revenues or income redistribution.

a certain degree of vertical equity without hindering the simplicity of the Serbian schedular system. Although all income classes were originally subject to the annual surtax, amendments to the Law adopted in 2004 exempted financial capital income from annual taxation. The possible intention behind this action might have been to stimulate the development financial markets and/or to prevent capital outflows.

### Box 1 - Taxation of Life Insurance Income

The Ministry of Finance announced its intention to reduce capital gains tax rate to 10% and to simplify cumbersome collection procedures. These actions should provide significant incentives to the development of Serbian capital markets. However, existing legal provisions produce significant disincentives when it comes to the development of the life insurance industry, which is attracting large foreign direct investments at the moment. Namely, the Law prescribes a 20% tax rate on personal income received from endowment insurance in cases where an individual survives until the end of the insured period. As the majority of life insurance policies include endowment saving, the authors conclude that this legal provision will make saving via life insurance tax-uncompetitive with respect to alternative forms of saving, such as securities or investment funds. Also, taxation of the entire endowment payment (consisting of paid premiums and capital gains) represents double taxation since the premiums paid by policyholders to insurance companies are not exempted from personal income taxation.

**Table L2-1. Fiscal Effects of Introducing a 10% Tax Rate, 2006 Data ***

| Income class | Current effective tax rate | Collected tax in 2006, thousand of dinars | Collected tax in 2006, % of GDP | Loss of fiscal revenues, % of GDP | Loss of fiscal revenues, % of Republic budget |
|---|---|---|---|---|---|
| Self-employment | 10% | 3,238,212 | 0.15 | … | … |
| Royalties | 8%, 10%, 12% | 1,454,195 | 0.07 | … | … |
| Dividends | 10% | 3,847,183 | 0.18 | … | … |
| Interest | 20% | 1,077,457 | 0.05 | -0.03 | -0.11 |
| Real estate income | 16% | 1,920,956 | 0.09 | -0.03 | -0.14 |
| Capital gains | 20% | 1,647,995 | 0.08 | -0.04 | -0.17 |
| Games of chance | 20% | 323,237 | 0.02 | -0.01 | -0.03 |
| Professional sportsmen | 10% | 186,092 | 0.01 | … | … |
| Other personal income | 16% | 5,713,901 | 0.27 | -0.10 | -0.43 |
| **Total** | | | **0.91** | **-0.21** | **-0.88** |

* Wage tax revenues amounted to 97 billion dinars in 2006 – or 4.56% of GDP. Wage tax fiscal revenues were rather stable and equaled about 4.56% of GDP in the entire 2002-2006 period.

Over the years, nominal and effective tax rates have been adjusted with other tax laws and economic developments. Thus, the tax rate on income from self-employment has been reduced to 10% in order to equalize the tax treatment of entrepreneurs and owners of private corporations liable for 10% Corporate Income Tax. The most notable tax rate change (effective in 2007) was the reduction of wage tax rate from 14 to 12% along with the introduction of tax-exempt threshold of 5,000 dinars a month. Although fiscal conditions prevented the introduction of a more significant tax-exempt threshold, this development nonetheless represents the introduction of progressiveness and labor income redistribution that resembles the Dual Income Tax approach employed by the Scandinavian countries.

Wage fiscal burden is a separate topic that will not be dealt with in this article. However, **the authors wish to emphasize that wage income accounts for over 80% of registered taxable personal income in Serbia. Thus, progressive taxation of wage income alone (resembling Dual Income Tax systems) could result in a significant degree of income redistribution within the existing schedular system**. In order to support informed decision-making, on the basis of detailed tax data from the 2004-2006 period, the Foundation for the Advancement of Economics has developed a small software package that enables a detailed fiscal analysis of alternative wage tax burdens (http://www.fren.org.yu/docs/qm10/WageTaxation.xls).

Consider one hypothetical example of how more significant income distribution could be achieved within the existing system. Current wage tax treatment (12% tax rate, 5,000 dinars of tax-exempt threshold) is expected to yield fiscal revenues equal to 3.5% of GDP in 2007. Basically the same level of fiscal revenues could be achieved, with a significant degree of income redistribution, if the tax-exempt threshold were to be doubled to 10,000 dinars, the tax rate reduced to 10%, and a second 20% tax rate introduced applicable to wage income exceeding the officially registered average gross wage in Serbia.

## 6. Effects of Switching to a Global System

As mentioned, the implementation of a global approach requires significant resources on behalf of tax authorities. If Serbia were to follow the European practice where about 10% of taxpayers are required to file annual tax returns, this would represent a ten-fold increase compared to the existing situation where less than 1% of taxpayers are required to file annual surtax returns. Significant tax administration resources would have to be redirected toward PIT administration, which could lead to a performance deterioration of other tax forms.[d] Tax collection and tax evasion prevention during the year would also become more challenging within a global system.

*d) Total VAT revenues account for over 10% of GDP and are currently being generated by 70,000 VAT payers. On the other hand, the administration of 200,000 tax returns within the global system would not result in any additional fiscal revenues, but would only serve to redistribute the tax burden.*

Assuming that Serbia would introduce a truly global system which would exactly equally tax all income classes, the authors have simulated four alternative scenarios which should yield, *ceteris paribus*, revenue-neutral performance with the existing schedular system. The current system is expected to provide 4.6% of GDP of fiscal revenues in 2007.

**Table L2-2. Alternative, Revenue-Neutral Global PIT Systems**

| | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 |
|---|---|---|---|---|
| Tax-exempt threshold | 25% of average annual gross wage | 40% of average annual gross wage | 25% of average annual gross wage | 40% of average annual gross wage |
| Tax Rates | **16%** | **20%** | **15%** for income up to 2 average annual gross wages, **25%** for the remaining income | **15%** for income up to 1.5 average annual gross wages, **30%** for the remaining income |

Revenue-neutral tax rates from the Table L2-2 are evidently higher than the existing Personal Income Tax rates and Corporate Income Tax rate (10%). Thus, the *ceteris paribus* assumption is not quite appropriate since a tax-rate increase should cause a corresponding increase in tax evasion. Furthermore, tax arbitrage and tax avoidance opportunities would be created via registration of private corporations in the Republic or in *off-shore* states – which is a common practice encountered in countries employing high capital income tax rates.

**The authors conclude that a potential switch to a global system would introduce huge administration costs for tax authorities and significant compliance costs for taxpayers. If a potential global system were to feature a significantly progressive structure, it could hardly yield revenue-neutral performance. The extent of income redistribution and social equity achieved would be limited, since it would not be reasonable to expect that economic circumstances would allow progressive taxation of capital and self-employment income.**

## 7. PIT Reform Proposal

Economic developments have conditioned the world trend of simplified PIT systems in order to create more competitive tax environments and to stimulate economic growth. **The authors conclude that a switch from the existing schedular system to a complex global system would be opposite to regional trends and would have adverse results. Instead of introducing a global**

**system, the authors propose additional simplification and parametric optimization of the existing schedular system.**

Elimination of tax-exempt allowances and equalization of nominal and effective tax rates would significantly simplify the PIT system and make it more accessible to an average citizen. Introduction of a uniform, lower tax rate of 10% would make the Serbian tax system more competitive in the region. If additional income redistribution (besides the annual surtax) is required from the PIT system, the optimal approach would be more progressive, schedular wage taxation – by increasing the tax-exempt threshold for example.

It is possible (and desirable) to implement *tax expenditure programs* via public expenditure policies, regardless of whether or not a global system is implemented. More broadly speaking, modernization of tax authorities and public administration should enable improved targeting of social protection programs[8] and more significant income redistribution.

Regardless of the reform approach the competent authorities opt for, frequent legal amendments like the ones experienced since 2002 introduce unnecessary uncertainty in the economic environment. Thus, an economically viable and long-term sustainable PIT system should be established.

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8 The study conducted by the Ministry of Social Affairs and the World Bank in June 2006 identified ineffective targeting and insufficient coverage of existing programs as the major weakness of the social protection system in Serbia.

# Monetary Policy – Transmission Channels to Prices: a Year of Inflation Targeting

Jasna Dimitrijević*

**The article below presents a general overview of transmission channels of monetary policy in the inflation targeting regime (IT) and their specific features in Serbia. We conclude that during the first year of IT the main transmission channel was the exchange rate channel, while it proved difficult to influence the quantity of credit through monetary policy measures (interest rate channel and credit channel). Analyzing the current situation and perspectives of monetary policy transmission, we use the existing data observations on Serbia, as well as other countries' experiences. Our conclusions are supported through an econometric assessment of the NBS interest rate effect on the growth of credit in Serbia.**

## Introduction

Inflation in Serbia was 17.7% at end-2005, and 6.6% at end-2006, with core inflation standing at 14.6% in 2005 and 5.8% in 2006. For end-2007, the NBS targets core inflation in the interval from 4% to 8 %, while for end-2008 from 3% to 6%. The level of inflation in Serbia appears, for the second year in a row, rather a result of a systematic active policy of the NBS, entitled "the road to inflation targeting" when it was introduced in August 2006 (hereinafter: IT), than a result of circumstantial events or sporadic efforts by some institutions aimed at stabilization. Although this policy, whose main instrument is the repo interest rate under the direct control of the NBS, has been in force for more than a year, one can often find reactions and interpretations of monetary policy, which come even from professional circles, testifying to a lack of understanding of the mechanisms of its transmission to prices in Serbia. Thus, for instance, following an increase in the reference interest rate of the central bank, one can hear comments that it will cause a rise in interest rates on loans and a decline in borrowing by enterprises and households, which will then in turn adversely affect economic growth. Underlying such argumentation is correct but a purely theoretical interpretation of the impact of the central bank's interest rate on aggregate demand. This is only the so-called interest rate channel in the transmission of monetary policy, which is the most influential of the several parallel channels when it comes to developed countries. Is that a scenario that will indeed happen in Serbia? What are the specific features of the transmission of monetary policy in transition countries? What is the relationship between the exchange rate and the interest rate, as well as relative importance of the exchange rate in the transmission of monetary policy? These are the questions that we will attempt to answer in this article. The objective of this article is to, through a comprehensive account of it, point to the specific features of the transmission of monetary policy within the framework of IT in Serbia, and to highlight some critical points of that whole mechanism. This analysis represents our contribution towards the creation of a body of knowledge for public discussion with regard to the efficiency of monetary policy and the rationale for the use of individual instruments. This article will hopefully open topics for further analysis, which can contribute to even better understanding of the operation of monetary policy, a direction of research very scarce in Serbia so far.

We could summarize our main findings in this paper as follows. Although the period that we are looking at is brief and we lack complete relevant information that would give detailed evidence of the mechanism through which monetary policy in Serbia was reflected in its final objective

* I would like to thank to Aleksandra Nojković for her assistance in the application of the methodology for the empirical estimate in Section III; Anka Jakšić, Duško Vasiljević, Scott Calhoun, Boris Najman, Milojko Arsić for useful suggestions which contributed to the improvement of the text. The responsibility for all other omissions and mistakes remains exclusively with me.

– prices, we believe that all available collected information, combined with the experience of other transition countries, offers a complete picture after all. That picture speaks in favor of IT as a concept, because it introduces order and predictability into the sphere of monetary policy, thus additionally stabilizing inflationary expectations. Although the main transmission channel of monetary policy in the IT regime in developed countries is the interest rate channel through which this rate translates into other interest rates and affects aggregate demand and prices, in Serbia, as in other small and open economies at the stage of transition with a high degree of euroization, this channel has played a very secondary role. Likewise, it appears that the main role in the stabilization of inflation in the first year of IT in Serbia was played by the exchange rate channel. The exchange rate was influenced, in addition to independent foreign capital inflows to Serbia, by inflows that came for the purpose of investing in repo transactions of the NBS, in which manner the NBS practically indirectly – through its interest rate – impacted upon the flows on the foreign exchange market and on the exchange rate which was increasingly formed, in the course of time, without direct interventions of the NBS on the foreign exchange market. And finally, from the all-encompassing review of monetary policy in Serbia, it is possible to conclude that monetary policy could not impact upon the volume of lending to the domestic private sector significantly, particularly not through the NBS interest rate. Limited results with respect to the impact on credit growth were achieved by using high reserve requirement ratios or macroprudential measures aimed at reducing an increase in certain categories of bank loans and advances. All those results of efforts to contain credit growth often turned out to be short-lived, because a flexible financial system managed to find ways to meet high demand for loans, in the longer run, through an alternative channel, even if it meant through direct foreign loans extended to local companies in Serbia. This is how we gained an impression that credit growth, in the medium term, was determined primarily by demand for credit, which has remained high with just a limited space to influence it through monetary policy. Still, experiences of other countries suggest to us that the interest rate channel will strengthen over time, as will the possibility to change aggregate demand through other rates by changing the reference interest rate, and thus affect credit growth as well, while the significance of the exchange rate in the price fixing is expected to gradually weaken.

The following text has been structured as a three-section paper. The first section „Theoretical and Practical Framework for the Implementation of Monetary Policy in Serbia“ provides an overview of all main channels of transmission of monetary policy proposed by the theory and with specific features in evidence in Serbia. The main conclusion of the first section, that in the initial period of the switch to IT the main role in curbing inflation was played by the exchange rate, is corroborated in the second section of the text „Achievements of Monetary Policy Concerning the Impact on the Volume of Credit in the First Year of IT in Serbia“. With an empirical finding, we document here that there was no major impact on bank credit growth through the basic instrument of monetary policy – the interest rate of the central bank, based on the data from balance sheets of individual banks in the period from Q2 2004 to Q2 2007. The third section, “Conclusion”, systematizes the basic theoretical and empirical findings about the conduct of monetary policy with a special emphasis on the situation in Serbia.

## I. Theoretical and Practical Framework for the Implementation of Monetary Policy in Serbia

### 1. Concept of „ Inflation Targeting “: Basic Terms

Inflation targeting (IT) is a framework for the conduct of monetary policy to which the NBS[1] switched in August 2006. That regime, incidentally, has been in use in a large number of developed countries since the 1990s[2], and almost all transition countries in Europe have

1 The Memorandum of the National Bank of Serbia on the Principles of a New Monetary Policy Framework, 30 August 2006. The NBS has officially switched to a new monetary policy framework by virtue of this document, which has been announced as a „road toward inflation targeting“.

2 It was first introduced by New Zealand, followed by Canada, the UK, Sweden, Finland, Australia and Spain.

introduced it, one by one. The framework implies that the central bank announces in advance a defined target for inflation in the coming period, and then commits itself to the achievement of that objective. The main monetary policy instrument within this regime is the reference (repo) interest rate. The central bank, by using that rate on 2w repo agreements, withdraws liquidity from the system or vice versa, injects it back into the system through transactions with banks that appear on the market for reserve money, commensurate with the interest in short-term repos. The reserve requirement ratio is just an auxiliary instrument in the hands of the monetary authorities. IT also implies a flexible exchange rate, as well as marked transparency of monetary policy, which is achieved through frequent communication of the central bank with the public – sharing information on its work and intentions for the coming period regarding monetary policy. Likewise, it is believed that the expectations of the public vis-à-vis price stability are thus reinforced, by building confidence in the commitment on the part of the central bank to achieving the set target.

In addition to the repo interest rate set by the NBS through its decisions, which constitutes the basic monetary policy instrument, also in use are: (a) the reserve requirement ratio (hereinafter: RRR) on deposits of commercial banks, which has only an ancillary role[3] and (b) interventions on the foreign exchange market, which, after the adoption of the Memorandum, have, in principle, ceased to be a direct instrument of monetary policy; the exchange rate regime of free float is introduced, but the central bank has not ruled out the possibility to intervene, particularly if fluctuations over the short run threaten to jeopardize the financial stability of the market.

Since a central bank cannot directly influence prices, although its primary objective is price stability[4], it exerts influence, through direct control over the monetary policy instruments, on macroeconomic flows which, at the end of the day, produce a certain price level. One of the preconditions for successful conduct of monetary policy is, therefore, good knowledge of all transmission mechanisms that exist on the path from the interest rate of the central bank to prices and which can be influenced, to a certain degree and in a particular period of time, by monetary policy instruments. These so-called *transmission mechanisms of monetary policy* are complex and therefore often called in the economic literature the black box[5] since they consist of multiple parallel channels with *different and changeable lags* in the response of the final target (price) to the changes in the instrument controlled by the central bank (the short-term interest rate). Similarly, *different channels have different importance in the transmission of impulses originating from the same monetary policy instrument: (a) in different countries and (b) in different periods of the development of the economic system in a single country.*

## Box 1. Model for Projections and Analysis of Monetary Policy

Central banks rely on well elaborated econometric models which integrate within them, in the form of a number of related equations, the behavior over time and mutual influence of basic macroeconomic variables. Such a model (or sometimes several different models) is often combined with the „feeling"and „experience"of monetary policy decision-makers. By using the model, the central bank first arrives at a forecast for inflation in the coming period. Then, as the end-result, it obtains a simple instruction in terms of the necessary level of the reference interest rate (that it has the right to change by its own decisions) in order to bring the projected inflation for the coming period (inflation that would have happened without a change in the rate) to the level announced as a target for that same period. One such model has been developed in Serbia as well, as part of activities for the introduction of a new monetary policy framework (IT).

For the projection of inflation and analysis of monetary policy, the NBS uses the *structural model* based on short-term and medium-term interaction between monetary policy, output, inflation and the exchange rate. That model, as a result of simultaneous equations, gives to the central bank a basis for the adoption of a decision on monetary policy in the coming period. The model used by

3 The Memorandum of the National Bank of Serbia on the Principles of a New Monetary Policy Framework, 30 August 2006, p.6.
4 The statutorily defined primary objective of the NBS is to ensure price stability. Article 3, The Law on the NBS, RS Official Gazette no. 72/2003
5 Bernanke and Gertler (1995)

the NBS, which it develops and makes more complex over time, has three basic equations presented for the first time in the NBS Report on Inflation for Q1 2007.

As an illustration of the model for projections and analysis of monetary policy we shall present here another model that refers to Serbia. It consists of four equations (1 to 4) together with coefficients (Table L3-1). The model is taken over from a presentation (March 2007 at the NBS) of a working version of the material about the model for analysis of monetary policy in Serbia, by E. Mottu, a Senior Economist of the IMF European Department. As a methodological basis of the presented model another IMF working paper (Berg, A. Karam, Ph. and Laxton D, 2006) has served, which contains a summary of experiences from many countries in which those models are applied and instructions of the author for the specifications of such models and for the selection of values of coefficients. Although the model in the mentioned presentation refers to Serbia, neither the equations nor the coefficients are identical to those applied by the NBS in its model, but they constitute a good simulation in which account has been taken of the specific features of the Serbian economy and experiences of other comparable countries. The coefficients, both those in the simulated model and in the model applied by the NBS, were not obtained by means of an econometric estimate based on time series, but by means of a calibration procedure[1].

In four basic equations the most important relationships between the interest rate of the central bank, aggregate demand, supply, the exchange rate and inflation are contained. They include: (1) the equation of aggregate demand or the output gap (the so-called IS curve), (2) the price fixing equation (adjusted Philips's Curve which takes expectations into account), (3) the exchange rate equation – the so-called uncovered interest parity and (4) the equation of the monetary policy response – so-called Taylor's Rule.

(1) ***Aggregate demand: measured by the output gap –*** the variable *ygap* (by the deviation of the actual quarterly GDP from the medium-term trend)

$$ygap_t = \beta_1 ygap_{t+1} + \beta_2 ygap_{t-1} \_ \beta_3 RRgap_{t-1} + \beta_4 zgap_{t-1} + \beta_5 ygap_t^{EU} + \varepsilon_t^{ygap}$$

where *RRgap* constitutes a deviation of the real interest rate from the equilibrium value (which can be approximated by the medium-term trend), the variable *zgap* stands for the deviation of the real exchange rate from the medium-term trend, and ε random deviation.

(2) ***Core (targeted) and headline inflation: the Phillips curve, rational expectations***

$$\pi_t = \alpha_1 \pi_{t+4} + (1 - \alpha_1)\pi_{t-1} + \alpha_2 ygap_{t-1} + \alpha_3 (z_t - z_{t-1}) + \alpha_4 \pi_{rpoil,t} + \alpha_5 \pi_{rpoil,t-1} + \varepsilon_t^{\pi}$$

$$\pi_{core,t} = \alpha_{c1} \pi_{t+4} + (1 - \alpha_{c1})\pi_{t-1} + \alpha_{c2} ygap_{t-1} + \alpha_3 (z_t - z_{t-1}) + \alpha_{c4} (\pi_{t-1} - \pi_{c,t-1}) + \varepsilon_t^{\pi core}$$

(3) **The dinar exchange rate: the equation of the uncovered interest parity, the relationship between the differential of interest rates and the exchange rate**

$$z_t = \delta_1 z_{t+1} + (1 - \delta_1) z_{t-1} - (RR_t - RR_t^{EU} - \rho^*_t)/4 + \varepsilon^z_t$$

where *z* stands for the real exchange rate, $RR^{EU}$ the real interest rate on the money market of the euro area, and $\rho^*$ the premium for investing in Serbia.

On the basis of projected values for the period *t*, which arise from the relationships in the first three equations of the model, in the equation (4) the instruction for the central bank is obtained – the level of the nominal interest rate of the central bank *RS,* which is necessary to achieve the inflation target, i.e., to bring the forecast inflation, in the case of status *quo* with respect to monetary policy $\pi_{t+4}$, in the coming period, down to the targeted $\pi^*_{t+4}$.

(4) **Taylor's Rule: instructions for monetary policy**

$$RS_t = \gamma_1 RS_{t-1} + (1 - \gamma_1) * [RR_t^* + \pi_t + \gamma_2 (\pi_{t+4} - \pi^*_{t+4}) + \gamma_3 ygap_t] + \varepsilon_t^{RS}$$

where $RR^*$ stands for the equilibrium interest rate in Serbia over the observed period.

1 *Calibration* is a method for obtaining coefficients that are based on expected theoretical relationships among macroeconomic values, experiences from other countries and the feeling of the author of the model for real relationships in the country to which the model applies. One resorts to it due to short time-series and macroeconomic relationships, which are very unstable in a transition country and which change with undertaken reforms and policy changes, and prevent an efficient econometric estimate of causalities.

**Table L3-1 Definition of the Model and Values of Coefficients in Mottu's Simulation, 2007**

| Equation and variables | Coeficient | Range | | Serbia | Euro Zone | Czech Republic | Romania |
|---|---|---|---|---|---|---|---|
| | | From | To | | | | |
| (1) Output gap ($ygap_t$) | | | | | | | |
| Lagged output gap ($ygap_{t-1}$) | $\beta_2$ | 0.5 | 0.9 | 0.5 | 0.6 | 0.6 | 0.75 |
| Proizvodni jaz u narednom periodu ($ygap_{t+1}$) | $\beta_1$ | 0.05 | 0.15 | 0.1 | 0.1 | 0.1 | 0.1 |
| Realna kamatna stopa u prethodnom periodu ($RRgap_{t-1}$) | $\beta_3$ | zbir 0,1 | zbir 0,3 | 0.02 | 0.15 | 0.1 | 0.1 |
| Realni jaz deviznog kursa u prethodnom periodu ($ygap_{t-1}$) | $\beta_4$ | ... | ... | 0.08 | ... | 0.1 | 0.02 |
| Proizvodni jaz u Evropskoj Uniji ($ygap^{EU}_t$) | $\beta_5$ | ... | ... | 0.1 | ... | ... | 0.15 |
| (2a) Inflation ($p_t$) | | | | | | | |
| Expected inflation for the next period ($\pi_{t+1}$) | $\alpha_1$ | 0 | 1 | 0.4 | 0.2 | 0.2 | 0.25 |
| Lagged output gap ($ygap_{t-1}$) | $\alpha_2$ | 0.25 | 0.5 | 0.2 | 0.3 | 0.3 | 0.3 |
| Change in real exchange rate ($z_t - z_{t-1}$) | $\alpha_3$ | ... | ... | 0.8 | ... | 0.1 | 0.08 |
| Change in oil price ($p_{rpoil,t}$) | $\alpha_4$ | ... | ... | 0.01 | ... | ... | ... |
| Lagged change in oil price ($\pi_{rpoil,t-1}$) | $\alpha_5$ | ... | ... | 0.01 | ... | ... | ... |
| (2b) Core inflation ($\pi_{core,t}$) | | | | | | | |
| Expected inflation in the future period ($\pi_{t+4}$) | $\alpha_{c1}$ | 0 | 1 | 0.4 | 0.2 | 0.2 | 0.25 |
| Lagged output gap ($ygap_{t-1}$) | $\alpha_{c2}$ | 0.25 | 0.5 | 0.2 | 0.3 | 0.3 | 0.3 |
| Change in real exchange rate ($z_t - z_{t-1}$) | $\alpha_{c3}$ | ... | ... | 0.85 | ... | 0.1 | 0.08 |
| Difference between total inflaction and core inflation in the past period ($\pi_{t-1} - \pi_{core,t-1}$) | $\alpha_{c4}$ | ... | ... | 0.25 | 0.25 | 0.25 | 0.25 |
| (3) Foreign exchange rate ($z_t$) | | | | | | | |
| Expected real exchange rate in the next period ($z_{t+1}$) | $\delta_1$ | >0 | 1 | 0.4 | ... | 0.4 | 0.4 |
| (4) Monetary policy rule - Taylor rule ($RS_t$) | | | | | | | |
| Reference interest rate in the previous period ($RS_{t-1}$) | $\gamma_1$ | ... | ... | 0.7 | 0.5 | 0.5 | 0.4 |
| Gap between forcasted and targeted inflation for the future period ($\pi_{t+4} - \pi^*_{t+4}$) | $\gamma_2$ | ... | ... | 2 | 2 | 2 | 2.5 |
| Current output gap ($ygap_t$) | $\gamma_3$ | ... | ... | 0.5 | 0.5 | 0.5 | 0.5 |

Source: Mottu, 2007, presentation at the NBS.

## Box 2. Reserve Requirement – an Important Ancillary Monetary Policy Instrument

*The repo interest rate* is presented as the main monetary policy instrument in Serbia[1], and the *reserve requirement* as an ancillary instrument which will „contribute to the transmission of the reference rate to the market and to a balanced development of financial markets, without undermining the stability of the financial system[2]". However, the reserve requirement on the deposits of banks (dinar and foreign exchange deposits, which include dinar deposits indexed to foreign currencies), although not frequently changed, still constitutes an important anchor of monetary policy with, as it seems, a strong effect on financing flows through bank intermediation. This effect is owed to the level, i.e., a strong repressiveness of this rate which is applied to the foreign exchange base: 45%, except for new foreign exchange savings deposits 40%. On dinar deposits the reserve requirement ratio is considerably lower and amounts to 10% and 5% depending on the term of the deposit[3].

If we look at the period from 2001 to end-2007 and the use of the RRR which varied depending on the base, we can conclude that it had a changeable role, though still exerting influence on monetary aggregates: sometimes the role of a *monetary policy instrument* and sometimes of a *prudential control of the financial system*. When it used the RRR as a monetary policy instrument, the NBS was mostly mitigating bad consequences of the open capital account under the conditions of thin financial markets, when relatively low foreign capital inflows (through the mediation of locally present foreign banks) create a credit boom.

Thus the RRR on new foreign exchange savings deposits of households, which the NBS has maintained at a high level since 2001 when the accumulation of savings deposits started (from 50% in 2001 to 40% in 2007) – had an important prudential role to protect holders of savings deposits and strengthen their confidence in the banking system, by preventing banks from managing almost one half of the collected new savings deposits, which they have to deposit with the NBS.

The reserve requirement on other foreign exchange deposits of banks had a pronounced character of a monetary measure. Specifically, it hit foreign sources of banks, and among them especially borrowing by (foreign owned) local banks from their mother banks abroad – a significant source of funding for new investment in 2004, 2005, and the first half of 2006[4] – and foreign exchange de-

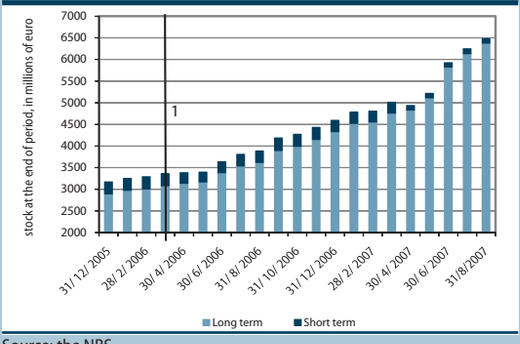
1 The Memorandum of the National Bank of Serbia on the Principles of a New Monetary Policy Framework, 30 August 2006.
2 Idem.
3 For more details on the changes in the base and rates see Box 1, Section 8 "Monetary Flows and Policy" and the Report on Inflation for Q2 2007, annex 1, the NBS.
4 See QM1–QM9, Section 8 "Monetary Flows and Policy", Table: Bank Funding, Credit and Investment Activity.

posits of non-residents and companies. The reserve requirement ratio on this part of the foreign exchange base related to the „imported foreign exchange for investment", started to diverge from the ratio on the dinar base and to go up in May 2005, when it was set at 26% and several times raised to 40%, which is its present level. The most dramatic change regarding the reserve requirement ratio on the foreign exchange base occurred in April 2006 when the ratio on foreign borrowing by local banks with the repayment period of up to two years was increased to 60%.

However, although it is difficult to establish a reliable causality, some data indicates that the tightening of the reserve requirement ratio on the foreign exchange base aimed at "severing" a channel of foreign financing inflows in fact opened another channel. Thus, after the introduction of the reserve requirement on foreign borrowing by banks, this type of borrowing faded out, but the capital of foreign banks started to increase (Table T8-4). Likewise, after May 2006, when the reserve requirement on the part of the foreign exchange base was increased to 60%, it was possible to observe a higher growth of direct foreign borrowing by local companies. For the past two years, those loans were going up at an annual rate of nearly 40%, thus reaching the level of 22% of GDP, which is the level of credit to enterprises from the domestic banking system; these loans have become a significant source of financing for local companies, as well as a challenge for the monetary authorities and financial supervision, since they are not a standard way of borrowing. For the mentioned reason, not very much is known in theory about them, and few registered experiences from international practice give us limited lessons.

Specifically, *direct foreign credit* is a phenomenon which exists in other transition countries and Latin American countries, too. Still, as the data on such credit is difficult to obtain, there are not many analyses which provide an in-depth review of causes and consequences of this phenomenon. It is well-known, however, that the inflow of direct foreign credit in transition countries was more intensive before foreign banks entered the domestic banking system,[5] while after the entry and expansion of the market of foreign banks the volume of such credit was reduced[6]! The above confirms the previously presented assumption that the accelerated inflow of such loans to Serbia in the last two years probably was a consequence of the high reserve requirement ratio on foreign borrowing by banks. From the standpoint of financial stability, on the experience of Latin America[7], it was recorded that in the periods of crises on local financial markets, foreign banks were withdrawing from these investments more rapidly than foreign banks which had invested locally through the domestic banking system!

**Graph L3-2. Direct Foreign Borrowing by Enterprises, Total Stock of Credit in Millions of Euros, 2005–007**




Source: the NBS
1) The introduction of the reserve requirement ratio of 60% on foreign borrowing by banks up to two years.

The second possible negative consequence of the high reserve requirement on foreign exchange sources of banks in Serbia – which is exactly linked to direct foreign borrowing by enterprises – is a distortion in access to loans for different types of companies. Namely, larger companies with better international reputation have access to direct foreign credit, while small- and medium-sized local companies have none. The only remaining option for them is funding from the domestic system, where the volume of credit supply for enterprises goes down considerably, because it is more expensive for banks due to the high and repressive reserve requirement ratio. In this manner, a danger is created in terms of a more favorable access to financing sources for larger companies, in which manner one can find himself in a situation, through their strengthening at the expense of small- and medium-sized companies, where there will be monopolies and potential sources of inflation of the so-called structural nature!

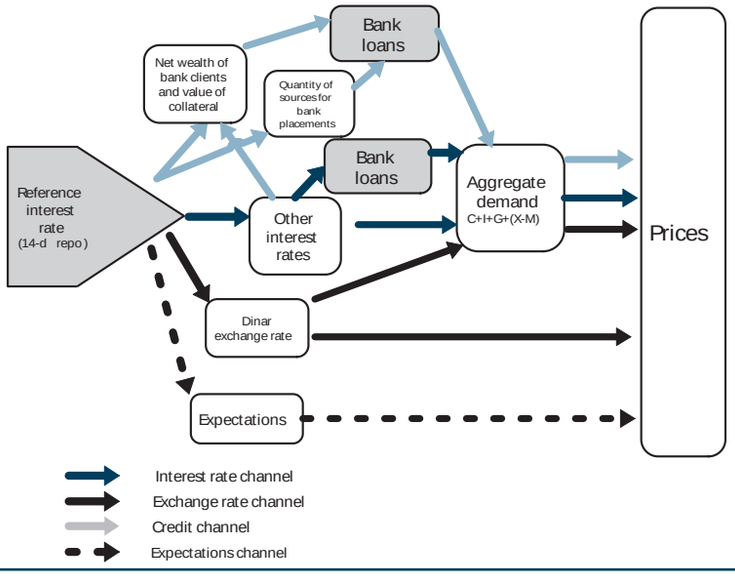
5 The entry and dominating position of foreign banks is immanent to all transition countries with the exception of Slovenia, where foreign banks took only a smaller segment of the market.
6 Haas R.T.A. and van Lelyveld I.P.P, 2004.
7 Peek J. and Rosengren E, 2000.

Still, long-term successful practice of many central banks in the world shows that it is possible to establish a framework/rule by which one can be guided in the conduct of monetary policy. That rule rests on good knowledge of the functioning of a specific economy and transmission mechanisms of monetary policy characteristic of that economy. That requires models which contain in themselves the basic macroeconomic relations in a country (Box 1).

## 2. Transmission Channels of Monetary Policy and Specific Features in Transition Countries and in Serbia

The theoretical and empirical research into transmission channels of monetary policy can be summarized in the form of four main channels through which prices are influenced (Figure L3-3): (1) the interest rate channel, (2) the exchange rate channel, (3) the credit channel and (4) the expectations channel. Empirical studies[6], on the other hand, indicate that there are certain specific features in transition countries and in small open economies when it comes to the already established transmission channels which operate in developed market economies. In most of the cases, these specific features also apply to the transmission of monetary policy in Serbia. The further text will discuss in more detail the characteristics of each of these channels, as well as their relevance in transition economies in general and in Serbia in particular.

**Figure L3-3. A Chart of Transmission of Monetary Policy, which Uses the Reference Interest Rate as an Instrument, to Prices**




Source: The author.

### 2.1. Interest Rate Channel

*The interest rate channel* is the main („textbook") channel which explains and studies the impact of the interest rate on prices. It consists of the following two stages: (1) transmission from the short-term nominal rate, which is under the influence of the central bank, to short-term and long-term *real interest rates and (2) the impact of the real interest rate on aggregate demand and* output.

More specifically, *first,* if real interest rates on the money market and real interest rates on bank credit are changed under the influence of the change in the nominal interest rate of the central bank, a change will occur in the components of aggregate demand (consumption and investment, C and I), which will give rise to a change in the use of resources, which will then exert an impact on the change in prices, with a time lag. Specifically, higher interest rates will result in reduced household spending, mostly because they act as an incentive to save and discourage households

6 For a more comprehensible and complete overview see Coricelli, Balasz and MacDouglas, 2006.

from taking out new loans. *Second*, an increase in interest rates will make companies more reluctant to make new investments, resulting in a drop in new investment in the coming period. Thus, due to a drop in both consumption and investment, total demand of households and companies will decline. Lower total demand will result in reduced economic activity. Likewise, the link between the level of economic activity and prices is explained by means of the so-called Phillips curve, according to which prices and wages normally grow more slowly at a lower level of production activity. This adjustment of prices and wages is usually not concurrent, that is, a decline in economic activity brings about a reduction in prices and wages only after a certain period of time, because they are not adjusted on a regular monthly basis but rather less frequently.

Accordingly, it follows from the previous theoretical explanation that the assumptions for the effect of the interest rate of the central bank on prices in a country (the operation of the interest rate channel) are the following: (1) that the short-term interest rate which is directly controlled by the central bank is transmitted to other interest rates and on loans and deposits with longer maturities (the so-called yield curve). In Serbia, this applies primarily to banks' interest rates, since neither the government nor companies issue dinar-denominated debt securities with longer maturities and (2) that this changed interest rate on savings deposits and long-term borrowing really constitutes an element in the decisions of citizens and companies about their consumption/saving and investments. In addition, it is necessary for the changed level of output to affect companies, i.e., their decisions on the level/change of prices and wages.

*The effect of the interest rate on economic activity* in a country can be observed in the simulated model (Mottu, 2007) presented in Box 1, in the output gap equation (1) through the coefficient with the variable – the real interest rate from the previous period (0.02 for Serbia, Table L3-1). At the same time, that channel can be observed in the price fixing equation (2) through the coefficient with the variable – the output gap from the previous period (0.2 for Serbia, Table L3-1). The values of these coefficients for Serbia are at the floor of the band within which they range in other countries, which suggests that the authors of the model presented in Box 1 assigned to this *monetary policy transmission channel* to prices a relatively low importance in Serbia.

The existing empirical research in countries of Central and East Europe has shown that *at the first stage of the interest rate channel* – the interest rate pass-through, which is under the direct control of the monetary authorities, *to* the interest rates on the money market and other interest rates in the country (on savings, loans, debt contracts with longer maturities) – at the beginning of IT is weak. This pass-through grows stronger with time so the long-term pass-through becomes ever more complete, that is, closer to one. Likewise, it has been noted that the response period of other interest rates to changes in the reference rate gets shorter with time (empirical estimates for the Czech Republic, Poland and Hungary for the period 1994–2002; Crespo-Cuaresma et al. 2004). Research has also shown that there is high heterogeneity in the adjustment of interest rates on loans to changes in the reference rate: between banks and within one bank among different types of loans. A higher pass-through was recorded in the case of banks that are less profitable and less capitalized, probably due to smaller room for maneuver, i.e., higher dependency on the money market and lower spreads (Chmielewski, 2003). A *higher pass-through* was established in: short-term than in long-term loans and in loans to enterprises than in loans to households (that can be explained by higher spreads of banks on loans to households). As for the *second stage* of this channel – i.e., the effect of changes in other interest rates, which are under the influence of the reference rate, on the real sector, that is, on economic developments, there are not enough analyses related to transition countries. In developed countries in Europe, it was empirically established that a rise in the reference interest rate results in a cut in investment by companies (Chatelain et al. 2001).

We shall list factors that could cause this *channel of monetary transmission* in Serbia in this period to produce *an incomplete* effect, and they include the following:

(a) A large number of banks are refinanced from foreign sources, in addition to domestic sources. To that extent, the interest rate of the central bank constitutes a potential investment for these

banks, rather than the price of the source. It, in turn, sets some kind of a floor for other interest rates charged by those banks, but it in no way affects the costs of funding sources of these banks to the extent to which the interest rate on the money market of the European Monetary Union (EURIBOR), for example, or the ultimate reference rate of the European Central Bank does. Likewise, a large portion of bank credit in Serbia (as much as 80% according to some estimates) has been invested as indexed to a foreign currency, which means that the revenue of banks from such loans is constant when converted into euros and almost insensitive to domestic monetary conditions if a bank has matched these loans with total liabilities in foreign exchange.

(b) The lack of competition among banks: interest rates of banks on loans and deposits do not respond fully to the changes on the money market due to incomplete competition among banks,[7] which operates in such a way that although refinancing costs go up (down), a bank does not have to change the interest rate because its spread is high. It is a conclusion on the basis of the results of a survey of banks on interest rates[8] that FREN conducted in 2005. The following was observed: an unusually high disparity in the recorded interest rates on the same type of loans in different banks, as well as unjustifiably high effective interest rates on certain types of loans in individual banks (e.g. 35.8% p.a. on a loan of up to 12 months for working capital, indexed to a foreign currency, for small- and medium-sized companies) which cannot be explained only by the higher risks of a particular type of the client, but, clearly, by a monopolistic position of banks and insufficiently sensitive demand to the price of financing.

(c) Demand of households for loans seems not to be sensitive to the interest rate, i.e., to the price. This applies in particular to short-term loans where interest rates are extremely high and the differences among banks unusually wide, as noted in the same survey by FREN of 2005. A survey of the general public in 2007 (by the agency Medium Gallup) on financial literacy in Serbia recorded that about 33% of the population who use loans consider that the key criterion in deciding on taking out a loan is the monthly installment (which, let us recall, declines with the extension of the repayment period although the interest rate remains high), while 29% sees as the key criterion the sum of money which has to be repaid, while a mere 26% of loan beneficiaries consider that the key criterion in deciding on borrowing is the interest rate. An anecdotal example is also a statement of a manager in a big bank in Serbia that the basic criterion for the majority of citizens is the speed at which a loan is extended, while the level of the interest rate plays a secondary role. In the same survey it was established that 48% of loan beneficiaries do not know what an indexed loan means (indexation of a loan to a foreign currency, which means that with the depreciation of the dinar rate the debt and the installment of the loan also go up, which often does not apply vice versa, in the case of appreciation), and 31% do not pay attention to the rate at which a bank calculates the amount borrowed.

(d) Companies are probably more sensitive to the costs of the interest rate, but under the following circumstances:

– only about 20% of financing sources are based on loans, which can ultimately depend on the interest rate of the central bank, while the rest they finance out of their own sources, direct foreign borrowing, arrears to suppliers, informal loans, Table L3-4. This finding is confirmed both by the data in the aggregated enterprise balance sheet for 2006, and the results of the World Bank's survey named BEEPS for 2005. (Beeps-at-a-glance 2005, Serbia, section Firm financing);

– part of companies can substitute the funding by bank loans, if, for instance, a domestic loan becomes more expensive, from one of the above sources, Table L3-4 (foreign borrowing).

7 Dimitrijević, J. and Najman, B. (2006) provide an explanation for lack of competition among banks due to the segmentation on the credit market in Serbia based on data from 2001 to 2006.

8 , J. Dimitrijević, "Interest Rates in Serbia", QM no. 2.

**Table L3-4 Bank Credit to Enterprises – Share in Total Liabilities**

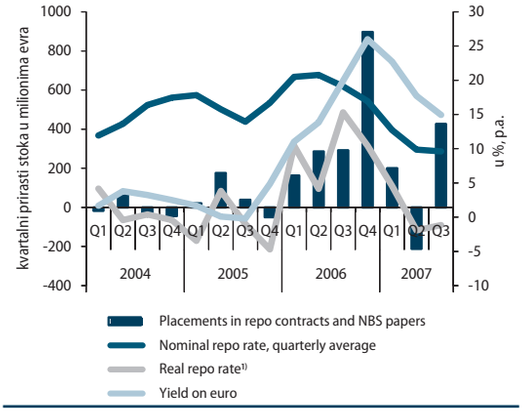
| | 2006 | 2005 | Incremental growth in 2006 | 2006 | 2005 | Incremental growth in 2006 |
|---|---|---|---|---|---|---|
| | in millions of euro | | | in % of GDP | | |
| Sources of financing of entreprises | | | | | | |
| Data from balance sheet of companies[1)] | | | | | | |
| Capital | 40,998 | 31,950 | 9,048 | 182.22 | 116.57 | 36.36 |
| Liabilities | 38,797 | 29,796 | 9,001 | 172.43 | 108.71 | 36.17 |
| Long term debt | 10,730 | 8,030 | 2,700 | 47.69 | 29.30 | 10.85 |
| Short term debt | 28,067 | 21,766 | 6,301 | 124.74 | 79.42 | 25.32 |
| Data from consolidated balance sheet of banks and from balance of payments for Serbia | | | | | | |
| Loans to enterprises from domestic banking sector | 4,652 | 4,205 | 447 | 20.68 | 15.34 | 1.79 |
| Short term loans | 2,448 | 2,332 | 116 | 10.88 | 8.51 | 0.46 |
| Long term loans | 2,204 | 1,873 | 331 | 9.80 | 6.83 | 1.33 |
| Loans from abroad | 4,593 | 3,166 | 1,427 | 20.41 | 11.55 | 5.73 |
| Short term | 259 | 271 | -11 | 1.15 | 0.99 | -0.05 |
| Long term | 4,334 | 2,895 | 1,439 | 19.26 | 10.56 | 5.78 |
| | in % of total liabilities of enterprises | | | | | |
| Banking loans in total liabilities of enterprises | 23.83 | 24.74 | 20.82 | | | |
| Loans from domestic banking sector | 6.98 | 8.74 | 1.16 | | | |
| Loans from abroad | 16.85 | 16.00 | 19.66 | | | |

Source: Statement about Actual Operating Results of Business Companies and Cooperatives in the Republic of Serbia, data from financial reports for 2006, the NBS; the NBS Statistical Bulletin.
1) Aggregated for 76,638 companies that submitted balance sheets for 2006, accounting for 86% of total registered business companies and cooperatives in 2006.

## 2.2. The Exchange Rate Channel

Although a central bank conducts monetary policy in the IT regime by relying on the reference interest rate as the main instrument – the effect of the exchange rate on prices is still possible, under the conditions of a flexible exchange rate, which is an integral part of IT. This, so-called exchange rate channel, is important in the transmission of monetary policy in open economies (Svensson 2000). It is even more important in those economies in which there is a high level of „dollarization" (Leiderman et al, 2006), i.e., „euroization" in the case of Serbia, when a large number of transactions, prices, claims and liabilities are calculated and denominated in a foreign currency.

**Graph L3-5 Nominal, Real Repo Rate and Yield in Euros (the right axis) and an Increase in Repo Investments (the right axis)**




Source: the NBS, author's calculations.
1) The retail price index was used for the calculation of the real rate, quarterly annualized.

The National Bank of Serbia can exert influence on the exchange rate by means of direct interventions on the foreign exchange market, which are rare in the IT concept and reduced to the cases of excessive volatility of the exchange rate and which can threaten the stability of the financial system. Moreover, the NBS can also indirectly influence the exchange rate by means of the interest rate. If the repo interest rate in Serbia is higher than the interest rate in some other country, that attracts foreign investors who later on – in order to invest in domestic securities with a higher interest rate, create additional demand for the domestic currency, which in the short run causes appreciation of the domestic currency. It is the so-called uncovered interest parity (equation (3) in Box 1.), and this type of transaction is known as „carry trade".

Although the shortness of the observation period does not permit the establishment of a clear connection, there still are clear indications that over the last year in which inflation was targeted, the reference interest rate of the NBS exerted influence on the exchange rate. That phenomenon was recorded in the experiences of other open economies as well, where inflation is targeted by

using the nominal interest rate as the main instrument. Specifically, we can notice that over the past year the episodes of accelerated inflows of investment into the NBS (repo) securities coincided with the high nominal repo interest rate and concurrent nominal appreciation of the dinar which was increasing the yield on investments for investors who come from a foreign currency (the curve „yield on the euro-Aug") and invest dinars through the repo market (Graph L3-5). The foregoing is particularly evident in Q4 2006 and Q3 2007.

Changes in the nominal exchange rate – both those caused by the activity of the NBS, and those spontaneous, which result only from supply and demand on the foreign exchange market – can have an effect on prices. This is a transmission channel which, if it exists in an economy, unlike the interest rate channel, operates in a very short period of time. It operates primarily in that import prices and the prices of domestic products which are competing with imported goods – are adjusted in a specific proportion, in line with the changes in the nominal exchange rate. Then headline inflation – the price index – also changes, to the extent to which it includes these products. Thus, with the dinar depreciation (appreciation), the prices go up (down), since then for the same price of an imported good in euros one needs to pay a higher (lower) amount in dinars.

The importance of the exchange rate channel and the speed of its response to prices is, as one can conclude, very much conditional upon: (a) the operation of competition on the market for imported goods and their competing domestic counterpart products, if there are any, (b) the method of price fixing used by sellers – in euros or in dinars and (c) the direction in which the exchange rate is changing – the operation of this channel, namely, probably is not of the same intensity in depreciation as in appreciation of the domestic currency, because prices can exhibit higher inertia when it comes to the adjustment in one direction compared to the opposite one.

Likewise, in addition to the above described direct impact on prices, in an open economy, the exchange rate also exerts an indirect influence, by affecting exports and imports (if the Marshall-Lerner Condition operates) – thus also net exports ($X$–$M$) which constitute one component of total demand ($C$+$I$+$G$+$X$-$M$).

And last but not least, in a highly euroized economy such as ours, it is possible that the changes in the dinar rate affect the creditworthiness of clients and thus affect the volume of new loans and total aggregate demand (Leiderman et al, 2006). Specifically, the dinar depreciation in the circumstances where about of 80% of total credit is indexed to a foreign currency increases the liabilities of companies and households and reduces their ability to borrow further.

Empirical studies into the existence and intensity of the operation of this channel – which is measured by the so-called *exchange rate pass-through to prices* – in transition countries, have shown that it is higher to producer prices than to consumer prices. An important finding of those studies is that over time, from the mid-1990s onwards, the intensity of the transmission of changes in the exchange rate to prices has been diminishing in those countries. The above is associated with stabilization, i.e., the curbing of inflation in those countries, which contributed to a decline in the exchange rate pass-through (Frankel et al, 2005 and Bitans, 2004).

The exchange rate pass-through to the index of core prices (the prices set freely by the market and the NBS uses them as a target rate) in Serbia is relatively high and amounts to around 50% (Table L3-6).

At least some 30% of all prices in the basket of products, which are included in the core inflation index – are of an imported origin and on the assumption of a competitive market, depreciation (appreciation) of the domestic currency automatically produces higher (lower) costs to importers, hence an increase (decrease) in the prices of products they import and sell on the domestic market. The pass-through was empirically established in that it was calculated on the basis of the data in the period when prices were going up and the dinar depreciated in nominal terms. Now when the dinar often appreciates in nominal terms, the pass-through certainly exists, but the question remains of whether there is any asymmetry in the response, since in appreciation, which creates room for price cuts, the degree of competition on the market also comes to the

fore, because the room is also created for the operation of monopolistic forces. In other words, if there is no competition on the market there will be less interest in reducing dinar prices due to lower purchase prices of imported goods denominated in dinars, caused by appreciation.

**Table L3-6. Overview of the Exchange Rate Pass-Through to Prices in Transition Countries**

| Country | Import prices | Manufacturing prices | Consumer prices |
|---|---|---|---|
| | average of results from all available studies for each specific country, in % | | |
| *Average for the sample of 12 transition countries* | *70* | *52* | *33* |
| Czech Republic | 65 | 41 | 23 |
| Hungary | 87 | 57 | 30 |
| Poland | 84 | 60 | 31 |
| Slovakia | 101 | 73 | 35 |
| Slovenia | 40 | 78 | 53 |
| Croatia | ... | 17 | 22 |
| Russia | ... | 23 | 40 |
| Serbia | | | 40-52*[1)] |

Source: Coricelli F, E.Balazs and R. MacDonald, 2006; * Petrović, Mladenović, 2005.
1) The core price index was used, not the CPI. Period 2001-2005.

## 2.3. Credit Channel

Unlike the interest rate channel, where the interest rate changes demand and thus affects the volume of new bank credit, there is another channel which changes the price of raising funds for banks through the interest rate of the central bank, resulting in a change in supply of credit. That other channel is called the *credit channel*[9] *in the narrow sense* or the *bank lending channel*. The previous mechanism operates in the circumstances where there are companies which depend on banks for financing (they cannot substitute bank financing by issuance of bonds on the capital market), as well as provided that banks cannot perfectly substitute loans by some other type of investment in their balance sheets. Likewise, there is the *credit channel in the broad sense* or the *balance sheet channel*. It is reflected in the phenomenon that a rise in real interest rates caused by an increase in the reference interest rate can result in reduced profitability of companies and a lower net value of their assets. For that reason to banks – companies become less attractive for lending and they reduce the total volume of new credit.

It is believed that banks which have a higher asset/equity ratio, then banks with higher total assets and those with better liquidity are less susceptible to the operation of the credit channel since they have room for maneuver to avoid a rise in the price of fund raising for new investment being reflected to the same degree in the volume of credit they extend.

The existence of the balance sheet channel was empirically confirmed in developed countries. Two major studies are the best known,[10] based on data with balance sheets of individual banks in the USA, which indirectly determined the existence of this channel. Specifically, on a sample that comprised some 13,000 banks the research has shown that, in addition to the fact that changes in monetary policy, i.e., the reference interest rate, affect credit growth in all banks – monetary policy acts differently on credit growth depending on certain characteristics of banks: the amount of their equity, size and liquidity. Thus it was concluded that banks which have better coverage by capital, larger banks and banks with better liquidity contain their credit growth as a consequence of the tightening of monetary conditions to a lower extent, because they can better neutralize a drop in liquidity owing to the position which implies a lower degree of dependency on the money market. Numerous studies into the existence of the balance sheet channel in other

9 The credit channel was first introduced in the theoretical debate about the transmission of monetary policy in the papers by Bernanke and Blinder (1988) when it was established that just the interest rate channel is not sufficient to explain the changes in aggregate demand, because its response to changes in long-term interest rates (costs of financing new investment) is not strong enough. According to them, the credit channel is the channel which intensifies the operation of the interest rate channel.

10 Kashian A. and J.C.Stein (2000) and Kishan R.P. and Opiela Th.P. (2000).

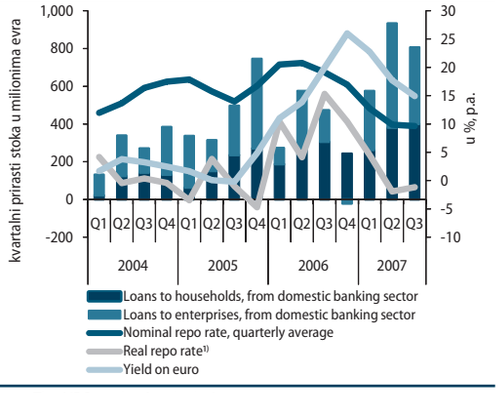
developed countries followed, which used a similar methodology. Recent studies in the euro area countries, have shown that the reference rate of the central bank has a general influence on credit growth (the interest rate channel) – but that only liquidity of banks brings about different distribution of the effects of monetary policy among banks, which would point to the possible existence of the credit channel. Research in transition countries often shows contradictory results and scarcely evidences the existence of the credit channel. Specifically, some research into that channel shows that larger banks and foreign banks respond more through a change in credit supply after a change in the reference interest rate in the country.[11] Such finding of the research often remains inconclusively corroborated.

### 2.4. Expectations Channel

Expectations regarding inflation in the coming period are an important factor in the setting of wages and prices in enterprises. Specifically, in addition to inflation in the current period, it has been established that economic agents, in the setting of wages and prices, take into account, *inter alia*, all currently available information on the price movements in the coming period. In other words, if economic agents in Serbia are convinced that the central bank will take all available measures in the coming period to maintain price stability, despite some current threats to increase prices, they will not calculate into their decisions on prices and wages in the coming period a complete materialization of these threats. If the expectations, however, go above the target announced by the central bank in its policy, it is a positive sign for the central bank that it has to respond even more through its monetary policy to the existing threats to price stability in order for inflation over the upcoming period to be in line with the target. This is the origin of the importance of inflationary expectations, i.e., the importance of their stabilization. This is where an important role is played by an integral part of the IT concept, which refers to constant communication of the NBS with the public, the publication of the targeted inflation rate and the commitment of the NBS to meet it, as well as the strengthening of the transparency in the work of the central bank.

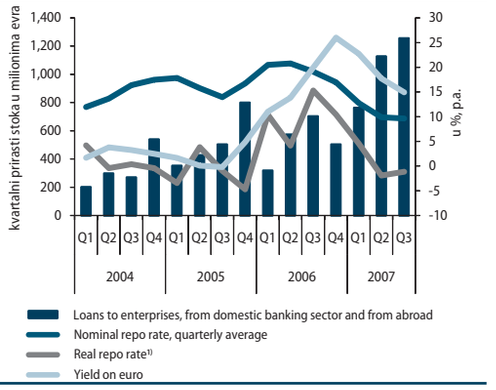
Thus in the model for projection and monetary policy analysis (Box 1), the price fixing equation (2), inflation in the current period depends, *inter alia,* on inflation in the previous period (the coefficient $\alpha_{\pi ld}$ to which the value of 0.4 was assigned) and the expected inflation in the coming period (the coefficient $1-\alpha_{\pi ld}$ which in this case amounts to 0.6). Characteristics of *expectations* vary from country to country, and within one and the same country they evolve in time. It is believed that if the coefficient $\alpha_{\pi ld}$ is close to 1 the economy in question is very inert and inadequately

**Graph L3-7. Total New Loans from the Domestic Banking System to Enterprises and Households and the Reference Interest Rate: 2004–2007**




Source: The NBS, author's calculations.
1) In calculating the real rate the RPI was used, quarterly annualized.

**Graph L3-8. Total Inflows of Credit to Enterprises from the Domestic Banking System and from Abroad: 2004–2007**




Source: The NBS, author's calculations.
1) In calculating the real rate the RPI was used, quarterly annualized.

11 Schmitz (2004) for the countries of Central and East Europe accessing the European Union, or Pruteanu (2007) for the Czech Republic.

adjusts its *expectations* regarding the inflation rate in the coming period to the impulses created by the information on the changes in the economic sphere related to the upcoming period, but rather relies on the experience from the past period. And vice versa, if the coefficient is closer to 0, the economy in question is such that prices change quickly on just a weak impulse, i.e., information which can affect expectations vis-à-vis inflation in the coming period, because past experiences are much less important.

## II. Achievements of Monetary Policy Concerning the Impact on the Volume of Credit in the First Year of IT in Serbia, Empirical Estimate

As described in the first section of this paper, the volume of newly approved loans can change under the influence of the reference interest rate. In theory, changes occur in that, on the one hand, credit demand changes due to a change in other rates (the interest rate channel) and in that credit supply by banks changes due to an increase in the price of banks' sources for new investment (the credit channel), on the other hand. The question is, however, whether these theoretical principles operate in the initial period of the use of the repo rate of the NBS within the new monetary policy framework in Serbia in its first year. Aggregated data for the entire banking sector on investment in retail and corporate loans, Graph L3-7, suggests that the total increase in loans from the domestic banking system to enterprises and households exhibited high volatility in the past two years, with corporate loans being particularly volatile - in some quarters negative, while in others extremely high. At the same time, an impression that can be gained visually is that the inflow of loans is in no way correlated to the changes in the nominal, real repo rate and the rate calculated as yield on euros invested in repo papers in the dinar equivalent.

The data on total inflows of credit to enterprises – both from the domestic banking system and from abroad (Graph L3-8) – nevertheless indicate that the inflow of loans to enterprises has an upward trend with slight seasonal changes (if Q2 2007 is adjusted by the big loan to Telekom). Although it is difficult to make definite conclusions on the basis of the graph on the mutual relationship between these two series, at first glance one gets an impression that the inflow of new loans is not strongly linked to the interest rate of the NBS as the main instrument of monetary policy.

We have empirically tested the impact of the reference interest rate as the main instrument monetary policy in Serbia on the volume of loans extended through the domestic banking system during the first year of IT. For estimating this phenomenon we used panel data[12] which is quarterly and which originates from balance sheets of 38 different banks for the period Q1 2004–Q2 2007, making a total of 387 individual observations. We tested the existence of the general impact of interest rates on loans (both on credit demand through the interest rate channel, and on credit supply through the credit channel) – by means of the equation (1) on the data which refers to the period of four quarters, from Q2 2006 to Q2 2007, and we checked the same relationship on a three-year period, since the reference rate existed in the past as well, but – although nominally high – the real rate and yield on the euro were too low in order for this market to be active and attractive for banks.

In the literature, to test for the existence of the interest rate channel a model is used like the model presented in the equation (1), which will be used here.

$$\Delta ln\, K_{it} = \alpha\, \Delta ln\, K_{i(t-1)} + \beta\, \Delta MP_t + \gamma \pi_t + \delta\, \Delta ln\, BDP_t + \lambda D_{q406} + \mu_i + \varepsilon_{it} \qquad (1)$$

Where $\Delta ln\, K_{it}$ represents the y-o-y growth rate of total bank credit $i$ in quarter $t$; $\Delta ln\, K_{i(t-1)}$ stands for the value of the same variable over the period $t-1$, $\Delta MP_t$ represents a change in the instrument of monetary policy in quarter $t$ relative to the previous quarter; $\pi_t$ is the y-o-y inflation rate in quarter $t$; $\Delta ln\, BDP_t$ is the y-o-y GDP growth in quarter $t$; $D_{q406}$ is a dummy which equals 1 in

12 The *panel data* is a set of time series for the same phenomenon in *t* points in time observed on *n* different individuals. The problem of the short observation period is mitigated and the number of observations (*t x n)* increased by methods of econometric estimates on the panel data.

the pre-election quarter Q4 2006, while in other periods it equals 0; $\mu_i$ is related to the individual effect specific for each bank; $\varepsilon_{it}$ stands for error.

We used as an indicator of monetary policy: the change in the nominal repo rate relative to the previous quarter; we shall try to use instead of it a change in the real interest rate from quarter to quarter and the change in the *index of monetary policy restrictiveness*. We calculate this index as a weighted sum of the change in the nominal repo rate and the change in the nominal dinar rate relative to the previous quarter, where the weight assigned to the interest rate is 0.3 and that assigned to the exchange rate 0.7. The weights have been assigned based on a free estimate of the author on relative importance of changes in the interest rate and the exchange rate for monetary policy stance[13].

In estimating coefficients of the model we have used the Generalized Method of Moments (GMM, according to Arellano-Bond 2002), which enables the application of the dynamic model – with the shift of the dependent variable on the right hand side (the credit growth rate in the previous period in the estimated model) on the panel data, and the avoidance of the problems of endogeneity and the omitted variable in the model.

The results of the estimate of the model (Table L3-9) show that, when observed on both periods, bank credit did not exhibit any response to all three monetary policy indicators – the nominal reference interest rate, the real reference interest rate and the monetary policy restrictiveness index. Although the period from the introduction of IT is short, the results of the estimate on a one-year period suggest that at the beginning of IT the interest rate channel is not particularly important, which is consistent with experiences of other countries. Still, one could expect that in the course of time this channel will begin to gain importance.

**Table TL3-9. Results of the Estimate of Monetary Policy Impact on Credit Growth (the Generalized Method of Moments GMM)**

| | Dependent variable: year-on-year growth of credit to private sector | | | | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Period | Q2 2004 - Q2 2007 | Q2 2006 - Q2 2007 | Q2 2004 - Q2 2007 | Q2 2006 - Q2 2007 | Q2 2004 - Q2 2007 | Q2 2006 - Q2 2007 |
| Laged year-on-year credit growth | 0,8420*** | 0,9309*** | 0,8786*** | 0,9297*** | 0.8418*** | 0,9304*** |
| | *0,0737* | *0,0809* | *0,0732* | *0,0916* | *0,0737* | *0,0812* |
| Inflation | 0,0035 | -0,0016 | | | 0,0035 | -0,0014 |
| | *0,0034* | *0,0060* | | | *0,0033* | *0,0061* |
| GDP growth, y-o-y | -0,9572 | 0,7078 | 0,4432 | 0,5102 | -0,1022 | 0,6701 |
| | *0,6338* | *0,9330* | *0,3677* | *0,4440* | *0,6335* | *0,9461* |
| Dummy variable for Q4 2006 | -0,7899** | -0,9799** | -0,0740* | -0,0764** | -0,0785** | -0,0977** |
| | *0,3665* | *0,0425* | *0,0324* | *0,0386* | *0,0367* | *0,0428* |
| Change in reference interest rate (repo) | -0,0068 | -0,0009 | | | | |
| | *0,0078* | *0,0104* | | | | |
| Change in real reference rate | | | -0,0070* | -0,0054 | | |
| | | | *0,0042* | *0,0044* | | |
| Change in monetary policy stance index | | | | | -0,0174 | -0,0036 |
| | | | | | *0,0195* | *0,0265* |
| Number of observations | 387 | 185 | 387 | 185 | 387 | 185 |
| p-value, Sargan test | 0,448 | 0,731 | 0,292 | 0,444 | 0,451 | 0,707 |
| p-value, AR1/AR2 | 0,005/0,042 | 0,008/0,179 | 0,004/0,048 | 0,007/0,181 | 0,005/0,042 | 0,008/0,179 |

Notes: *,**,*** denotes the level of importance of 10%, 5% and 1%. Values below written in italics apply to the standard error.

## III. Conclusion

Although the main monetary policy instrument in the IT regime, which has been in force in Serbia for a year now – the repo interest rate, the exchange rate has played in important role in that initial period of IT as a monetary policy anchor. The exchange rate can be influenced in a very short run by the repo rate, in that banks invest capital they have imported from abroad in the repo market, when yields (which depend on the repo rate, as well as on the change of the exchange rate in the period of investment) become attractive. Changes in the exchange rate are then transmitted further, through the exchange rate channel, to prices. Experiences from other transition countries, which have been using the IT concept for more than a decade now, also show that *the exchange rate channel* is important in small open economies, but that one could expect its impact to grow weaker in time. The interest rate through the *interest rate channel* is transmitted

13 The NBS in the Report on Inflation for Q2 2007 introduces the monetary restrictiveness index. It constructs is as a sum of deviations of the real exchange rate index and the real repo rate index from the trend, with the exchange rate having a weight of 0.8, and the interest rate of 0.2.

to prices in not such a short period of time as the exchange rate. The interest rate channel can be observed, *inter alia,* on bank loans for which demand slackens due to changes in other rates as well, under the influence of the reference rate. That channel is stronger in developed countries, and in other transition countries it was growing stronger over time, although at the beginning of IT it was relatively weak. Empirical data for Serbia has confirmed that in the initial period of one year, during which IT has been used, and in a somewhat longer period of the previous three years, since the introduction of the repo rate – it has not had a more significant impact on growth of credit to enterprises and households extended by banks from the domestic system. In other words, credit is, relative to the interest rate of the central bank, an exogenous category most probably determined by demand. It is probably possible to exert influence on the volume of credit from the domestic banking system in the short run by some more direct measure of monetary policy (the reserve requirement ratio or a change in macroprudential norms, which are occasionally used in the achievement of monetary objectives as well). In the long run, however, it is even more certain that the total volume of credit received by the domestic private sector – both through the domestic banking system, and through direct foreign borrowing, is determined – by demand for credit, which seems to be able to always find an avenue to be met, despite monetary policy measures. The reason for that is probably a relatively low level of indebtedness of the entire private sector. In time, one can expect the strengthening of the interest rate channel, i.e., ever higher dependency of the price of credit on the reference rate of the central bank and ever higher sensitivity of clients to changes in interest rates of banks. Experiences from other transition countries substantiate that assumption. When it comes to the *expectations channel*, one could say that expectations had every reason to be more firmly tied to the targeted inflation rate over the past year, since the NBS intensively informs the public about its work and its commitment to the achievement of the set objective.

We have confirmed by empirical results that in the past three and a half years the interest rate of the central bank did not have a strong effect on bank credit growth, when the entire banking system in Serbia is observed. This applies both to the whole period from Q2 2004 to Q2 2007, and for the period from Q2 2006 to Q2 2007– when the repo rate had more importance and the NBS used it more intensively.

The IT concept has proven itself to be a good framework in many countries where it is applied, because it had successful policies as a result (although often expensive in the initial years), which managed to bring down inflation and keep it at a low level, although deviations from the target always occurred in certain periods of application. Still, it is important to know that for the degree of successfulness of its implementation, according to reputable authors who study IT in the world, several prerequisites need to be met. We shall mention the following four[14]: (1) independence of the central bank, (2) elasticity of the economy to changes in the interest rate and in the exchange rate, (3) the existence of an econometric model and of good understanding of transmission mechanisms of monetary policy and (4) tight and **responsible fiscal policy**. Only the third condition, and to a certain extent the first one, are under the control of the central bank which is, clearly, if it is trying to fight for stable inflation by itself, in the absence of a tight fiscal policy, doomed to pay a far higher price for that, while the IT concept only helps it to efficiently attain the set target on inflation in the upcoming period.

If fiscal policy, through its expansiveness, makes the job of monetary policy in endeavoring to keep prices under control more difficult, that in the described circumstances, where the exchange rate continues to be a significant anchor of monetary policy, results not only in more expensive monetary policy reflected in high paid interest on repo operations of the NBS, but also in a higher required degree of appreciation of the domestic currency so that prices can be rapidly brought down, with a view to consistently meeting the set target of the NBS regarding annual inflation. Obviously, this strong appreciation, which diverges from its fundamental determinants, in time becomes an enemy of the competitiveness of the Serbian economy, exports and the current account balance in the balance of payments.

14 Amato and Gerlach (2001)

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# ANALYTICAL APPENDIX

## Table P-1. Serbia: Retail Price Index (RPI), 2003–2007

| | RPI | | | RPI components | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | GOODS | Agricultural products | Industrial foodproducts | Industrial non-foodproducts | SERVICES |
| | base index (avg. 2005 =100) | y-o-y growth | cumulative index[1] | y-o-y growth | | | | |
| | | | | **annual indices[2]** | | | | |
| **2003** | 77,7 | 111,7 | 107,7 | 107,4 | 107,2 | 99,8 | 111,1 | 125,0 |
| **2004** | 85,3 | 110,1 | 113,8 | 110,0 | 103,4 | 112,4 | 109,6 | 110,2 |
| **2005** | 100,0 | 116,5 | 117,7 | 114,9 | 125,3 | 117,4 | 113,8 | 120,7 |
| **2006** | 112,7 | 112,7 | 106,6 | 112,4 | 117,6 | 111,2 | 112,3 | 113,3 |
| | | | | **quarterly indices[2]** | | | | |
| **2005** | | | | | | | | |
| Q1 | 95,1 | 116,9 | 105,1 | 114,9 | 112,7 | 116,6 | 114,7 | 122,6 |
| Q2 | 97,9 | 117,2 | 108,0 | 115,5 | 127,8 | 117,0 | 115,0 | 121,9 |
| Q3 | 101,4 | 117,1 | 111,8 | 114,9 | 130,9 | 114,4 | 115,1 | 123,2 |
| Q4 | 105,6 | 117,9 | 117,7 | 115,4 | 130,5 | 115,4 | 115,1 | 124,6 |
| **2006** | | | | | | | | |
| Q1 | 109,2 | 114,8 | 102,2 | 114,6 | 134,4 | 113,2 | 114,4 | 115,4 |
| Q2 | 113,1 | 115,6 | 105,7 | 115,7 | 123,6 | 112,2 | 117,1 | 115,4 |
| Q3 | 114,0 | 112,5 | 106,1 | 112,3 | 108,8 | 112,4 | 111,9 | 112,8 |
| Q4 | 114,3 | 108,2 | 106,6 | 107,6 | 105,8 | 107,4 | 106,5 | 109,8 |
| **2007** | | | | | | | | |
| Q1 | 115,5 | 105,8 | 101,2 | 105,1 | 101,1 | 104,8 | 103,2 | 107,5 |
| Q2 | 118,5 | 104,8 | 104,2 | 103,4 | 92,9 | 102,7 | 102,5 | 108,2 |
| Q3 | 121,5 | 106,6 | 106,9 | 105,8 | 113,8 | 103,8 | 104,5 | 108,5 |
| | | | | **monthly indices** | | | | |
| **2005** | | | | | | | | |
| March | 96,1 | 117,4 | 105,1 | 115,9 | 118,3 | 117,6 | 115,4 | 121,7 |
| June | 98,8 | 116,8 | 108,0 | 114,9 | 127,2 | 116,7 | 114,0 | 122,1 |
| September | 102,3 | 116,6 | 111,8 | 114,1 | 122,1 | 113,3 | 115,1 | 123,3 |
| December | 107,6 | 117,7 | 117,7 | 115,3 | 136,1 | 115,8 | 114,0 | 124,1 |
| **2006** | | | | | | | | |
| January | 108,1 | 115,1 | 100,4 | 114,9 | 136,6 | 114,4 | 114,0 | 115,6 |
| February | 109,6 | 115,0 | 101,9 | 114,9 | 135,6 | 113,2 | 115,0 | 115,2 |
| March | 110,0 | 114,4 | 102,2 | 114,1 | 131,4 | 112,1 | 114,3 | 115,3 |
| April | 111,9 | 115,5 | 104,0 | 115,8 | 126,0 | 112,1 | 117,1 | 115,1 |
| May | 113,7 | 116,1 | 105,7 | 116,2 | 125,5 | 112,2 | 117,7 | 116,0 |
| June | 113,7 | 115,1 | 105,7 | 115,1 | 119,6 | 112,2 | 116,5 | 115,2 |
| July | 113,6 | 112,8 | 105,6 | 112,5 | 108,9 | 112,8 | 112,1 | 113,4 |
| August | 114,4 | 113,1 | 106,3 | 113,2 | 107,9 | 112,9 | 113,4 | 112,7 |
| September | 114,1 | 111,6 | 106,1 | 111,3 | 109,6 | 111,5 | 110,4 | 112,3 |
| October | 113,7 | 109,3 | 105,7 | 108,4 | 102,5 | 108,7 | 107,2 | 111,6 |
| November | 114,6 | 108,8 | 106,5 | 107,8 | 108,5 | 107,6 | 106,3 | 111,6 |
| December | 114,7 | 106,6 | 106,6 | 106,7 | 106,2 | 106,0 | 105,9 | 106,3 |
| **2007** | | | | | | | | |
| January | 115,1 | 106,5 | 100,4 | 106,8 | 104,6 | 105,2 | 105,6 | 106,0 |
| February | 115,3 | 105,2 | 100,5 | 104,1 | 100,5 | 105,0 | 101,4 | 108,1 |
| March | 116,1 | 105,6 | 101,2 | 104,5 | 98,4 | 104,2 | 102,7 | 108,4 |
| April | 117,1 | 104,7 | 102,1 | 103,2 | 99,6 | 103,6 | 101,2 | 108,2 |
| May | 118,8 | 104,5 | 103,5 | 103,0 | 92,5 | 102,7 | 102,1 | 108,2 |
| June | 119,5 | 105,1 | 104,2 | 104,0 | 86,7 | 101,9 | 104,2 | 108,1 |
| July | 120,2 | 105,9 | 104,8 | 104,6 | 99,2 | 101,1 | 104,9 | 109,1 |
| August | 121,6 | 106,3 | 106,0 | 105,5 | 117,3 | 103,4 | 103,9 | 108,5 |
| September | 122,6 | 107,4 | 106,9 | 107,3 | 125,0 | 106,9 | 104,7 | 107,9 |
| October | 123,3 | 108,5 | 107,5 | 108,7 | 127,7 | 108,4 | 106,9 | 107,7 |

Source: SBS.

1) Cumulative is the ratio of given period and December of previous year.

2) Twelve-month averages for annual data, three month averages for quarterly data.

## Table P-2. Serbia: Selected Price Indices, 2003–2007

| | Retail Price Index | | Consumer price index | | Industrial producers' price index | | Agricultural producers' price index | |
|---|---|---|---|---|---|---|---|---|
| | base index (avg. 2005 =100) | y-o-y growth | base index (avg. 2005 =100) | y-o-y growth | base index (avg. of previous year =100) | y-o-y growth | base index (avg. of previous year =100) | y-o-y growth |
| | | | | | **annual indices**[1] | | | |
| **2003** | 77.7 | 111.7 | 77.6 | 109.9 | 104.6 | 104.6 | 100.5 | 100.5 |
| **2004** | 85.3 | 110.1 | 86.1 | 111.4 | 109.1 | 109.1 | 110.0 | 110.0 |
| **2005** | 100.0 | 116.5 | 100.0 | 116.2 | 114.2 | 114.2 | 115.6 | 115.6 |
| **2006** | 112.7 | 112.7 | 111.7 | 111.7 | 113.3 | 113.3 | 109.2 | 109.2 |
| | | | | | **quarterly indices**[1] | | | |
| **2005** | | | | | | | | |
| Q1 | 95.1 | 116.9 | 94.8 | 115.9 | 108.2 | 113.5 | 113.2 | 106.4 |
| Q2 | 97.9 | 117.2 | 98.7 | 116.4 | 111.0 | 113.3 | 114.7 | 104.4 |
| Q3 | 101.4 | 117.1 | 101.0 | 115.5 | 116.0 | 114.1 | 116.9 | 109.5 |
| Q4 | 105.6 | 117.9 | 105.5 | 116.6 | 121.6 | 115.7 | 120.4 | 109.9 |
| **2006** | | | | | | | | |
| Q1 | 109.2 | 114.8 | 108.7 | 114.6 | 108.9 | 114.3 | 105.0 | 105.9 |
| Q2 | 113.1 | 115.6 | 112.7 | 114.2 | 113.3 | 116.2 | 107.0 | 107.0 |
| Q3 | 114.0 | 112.5 | 112.6 | 111.4 | 115.7 | 114.6 | 110.9 | 110.0 |
| Q4 | 114.3 | 108.2 | 113.0 | 107.1 | 115.2 | 108.4 | 111.0 | 107.0 |
| **2007** | | | | | | | | |
| Q1 | 115.5 | 105.8 | 113.9 | 104.8 | 101.8 | 105.5 | 101.9 | 105.2 |
| Q2 | 118.5 | 104.8 | 116.4 | 103.3 | 104.9 | 104.4 | 101.8 | 103.1 |
| Q3 | 121.5 | 106.6 | 120.0 | 106.6 | 106.9 | 105.1 | … | … |
| | | | | | **monthly indices** | | | |
| **2005** | | | | | | | | |
| March | 96.1 | 117.4 | 96.2 | 116.9 | 109.1 | 113.8 | 115.0 | 105.9 |
| June | 98.8 | 116.8 | 99.8 | 115.8 | 111.7 | 112.9 | 114.8 | 104.6 |
| September | 102.3 | 116.6 | 101.7 | 114.8 | 118.2 | 114.5 | 120.0 | 108.2 |
| December | 107.6 | 117.7 | 107.0 | 117.1 | 122.3 | 115.4 | 121.7 | 111.8 |
| **2006** | | | | | | | | |
| January | 108.1 | 115.1 | 107.8 | 115.3 | 108.0 | 114.5 | 104.7 | 108.2 |
| February | 109.6 | 115.0 | 108.9 | 114.8 | 109.0 | 113.9 | 104.6 | 104.6 |
| March | 110.0 | 114.4 | 109.5 | 113.8 | 109.6 | 114.4 | 105.8 | 104.9 |
| April | 111.9 | 115.5 | 111.2 | 114.5 | 112.2 | 116.0 | 105.4 | 106.2 |
| May | 113.7 | 116.1 | 113.4 | 114.5 | 113.8 | 116.5 | 107.1 | 106.2 |
| June | 113.7 | 115.1 | 113.4 | 113.7 | 114.0 | 116.2 | 108.4 | 108.7 |
| July | 113.6 | 112.8 | 112.4 | 111.7 | 115.5 | 115.6 | 108.7 | 110.0 |
| August | 114.4 | 113.1 | 112.7 | 111.9 | 115.8 | 115.2 | 111.5 | 111.4 |
| September | 114.1 | 111.6 | 112.6 | 110.7 | 115.8 | 112.9 | 112.4 | 108.7 |
| October | 113.7 | 109.3 | 112.2 | 107.9 | 115.5 | 110.0 | 109.7 | 106.5 |
| November | 114.6 | 108.8 | 113.3 | 107.5 | 115.1 | 108.0 | 111.0 | 107.3 |
| December | 114.7 | 106.6 | 113.4 | 106.0 | 114.9 | 107.3 | 112.3 | 107.3 |
| **2007** | | | | | | | | |
| January | 115.1 | 106.5 | 114.0 | 105.8 | 101.6 | 106.2 | 102.7 | 107.5 |
| February | 115.3 | 105.2 | 113.7 | 104.5 | 101.6 | 105.1 | 101.7 | 104.6 |
| March | 116.1 | 105.6 | 114.1 | 104.2 | 102.2 | 105.1 | 101.2 | 103.4 |
| April | 117.1 | 104.7 | 115.0 | 103.4 | 103.0 | 103.7 | 99.3 | 101.8 |
| May | 118.8 | 104.5 | 116.9 | 103.1 | 105.5 | 104.5 | 101.6 | 102.7 |
| June | 119.5 | 105.1 | 117.3 | 103.5 | 106.2 | 104.9 | 104.5 | 104.8 |
| July | 120.2 | 105.9 | 117.0 | 104.1 | 106.1 | 104.2 | 109.1 | 110.2 |
| August | 121.6 | 106.3 | 120.5 | 106.9 | 106.8 | 104.9 | 120.5 | 118.0 |
| September | 122.6 | 107.4 | 122.6 | 108.9 | 107.7 | 106.1 | … | … |
| October | 123.3 | 108.5 | 123.2 | 109.8 | … | … | … | … |

Source: SBS.

1) Twelve-month averages for annual data, three month averages for quarterly data.

## Table P-3. Serbia: Euro / Dinar Exchange rate, 2003–2007

| | Nominal | | | | | Real | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Exchange rate (FX)[1] | Base index (avg. 2005=100) | y-o-y index | cumulative index[2] | USD/EUR | real FX[3] (avg. 2005=100) | y-o-y index | cumulative index[2] | CPI in Euro area[4] (avg. 2005 = 100) |
| | | | | | annual exchange rate[5] | | | | |
| **2003** | 64.9743 | 78.4 | 107.1 | 110.5 | 1.1241 | 96.8 | 97.6 | 104.5 | 95.9 |
| **2004** | 72.6215 | 87.6 | 111.8 | 115.6 | 1.2392 | 100.5 | 103.8 | 103.9 | 97.9 |
| **2005** | 82.9188 | 100.0 | 114.2 | 109.3 | 1.2433 | 100.0 | 99.5 | 94.9 | 100.0 |
| **2006** | 84.1879 | 101.5 | 101.5 | 91.7 | 1.2537 | 92.1 | 92.1 | 87.9 | 102.2 |
| | | | | | quarterly exchange rate[5] | | | | |
| **2005** | | | | | | | | | |
| Q1 | 80.2421 | 96.8 | 115.9 | 102.7 | 1.3145 | 100.6 | 101.2 | 98.1 | 98.8 |
| Q2 | 81.8942 | 98.8 | 115.7 | 105.0 | 1.2606 | 100.9 | 100.7 | 98.3 | 99.9 |
| Q3 | 83.8302 | 101.1 | 114.2 | 107.5 | 1.2199 | 100.0 | 99.8 | 97.8 | 100.3 |
| Q4 | 85.7085 | 103.4 | 111.3 | 109.3 | 1.1898 | 98.8 | 96.6 | 94.9 | 100.9 |
| **2006** | | | | | | | | | |
| Q1 | 87.0875 | 105.0 | 108.5 | 101.4 | 1.2031 | 97.1 | 96.6 | 99.6 | 101.0 |
| Q2 | 86.8674 | 104.8 | 106.1 | 101.0 | 1.2552 | 94.8 | 94.0 | 97.0 | 102.3 |
| Q3 | 83.2482 | 100.4 | 99.3 | 96.7 | 1.2745 | 90.3 | 90.3 | 92.6 | 102.6 |
| Q4 | 79.5486 | 95.9 | 92.8 | 91.7 | 1.2893 | 86.4 | 87.5 | 87.9 | 102.9 |
| **2007** | | | | | | | | | |
| Q1 | 79.9849 | 96.5 | 91.8 | 102.7 | 1.3105 | 86.2 | 88.7 | 101.9 | 103.2 |
| Q2 | 81.0734 | 97.8 | 93.3 | 103.0 | 1.3482 | 86.3 | 91.0 | 100.3 | 104.5 |
| Q3 | 80.0302 | 96.5 | 96.1 | 100.8 | 1.3741 | 83.2 | 92.1 | 95.9 | 104.7 |
| | | | | | monthly exchange rate | | | | |
| **2005** | | | | | | | | | |
| March | 80.7498 | 131.2 | 116.1 | 102.7 | 1.3074 | 100.6 | 100.9 | 98.1 | 99.3 |
| June | 82.5172 | 134.1 | 115.3 | 105.0 | 1.2180 | 100.8 | 100.7 | 98.3 | 100.1 |
| September | 84.4958 | 137.3 | 113.6 | 107.5 | 1.2265 | 100.3 | 99.9 | 97.8 | 100.7 |
| December | 85.9073 | 139.6 | 109.3 | 109.3 | 1.1861 | 97.3 | 94.9 | 94.9 | 101.0 |
| **2006** | | | | | | | | | |
| January | 86.9033 | 141.2 | 108.8 | 101.2 | 1.2122 | 97.6 | 96.7 | 100.3 | 100.6 |
| February | 87.2558 | 141.8 | 108.9 | 101.6 | 1.1960 | 96.9 | 96.8 | 99.6 | 100.9 |
| March | 87.1033 | 141.5 | 107.9 | 101.4 | 1.2013 | 96.9 | 96.3 | 99.6 | 101.4 |
| April | 86.5391 | 140.6 | 106.4 | 100.7 | 1.2239 | 95.2 | 94.3 | 97.9 | 102.1 |
| May | 87.3023 | 141.8 | 106.7 | 101.6 | 1.2750 | 94.8 | 94.1 | 97.5 | 102.4 |
| June | 86.7609 | 140.9 | 105.1 | 101.0 | 1.2677 | 94.4 | 93.6 | 97.0 | 102.5 |
| July | 83.7931 | 136.1 | 101.0 | 97.5 | 1.2684 | 91.1 | 91.7 | 93.7 | 102.4 |
| August | 82.8893 | 134.7 | 98.7 | 96.5 | 1.2803 | 89.7 | 89.3 | 92.2 | 102.6 |
| September | 83.0621 | 134.9 | 98.3 | 96.7 | 1.2748 | 90.1 | 89.8 | 92.6 | 102.7 |
| October | 80.9242 | 131.5 | 95.0 | 94.2 | 1.2615 | 88.2 | 88.5 | 90.6 | 102.7 |
| November | 78.9404 | 128.2 | 91.7 | 91.9 | 1.2876 | 85.4 | 86.0 | 87.8 | 102.8 |
| December | 78.7812 | 128.0 | 91.7 | 91.7 | 1.3210 | 85.5 | 87.9 | 87.9 | 103.2 |
| **2007** | | | | | | | | | |
| January | 79.6587 | 96.1 | 91.7 | 101.1 | 1.2993 | 85.8 | 87.9 | 100.3 | 102.8 |
| February | 79.3993 | 95.8 | 91.0 | 100.8 | 1.3075 | 85.6 | 88.4 | 100.2 | 103.1 |
| March | 80.8968 | 97.6 | 92.9 | 102.7 | 1.3246 | 87.1 | 89.9 | 101.9 | 103.7 |
| April | 80.5768 | 97.2 | 93.1 | 102.3 | 1.3516 | 86.5 | 90.9 | 101.2 | 104.3 |
| May | 81.4770 | 98.3 | 93.3 | 103.4 | 1.3512 | 86.5 | 91.2 | 101.2 | 104.6 |
| June | 81.1665 | 97.9 | 93.6 | 103.0 | 1.3420 | 85.8 | 90.9 | 100.3 | 104.7 |
| July | 80.6204 | 97.2 | 96.2 | 102.3 | 1.3716 | 84.5 | 92.7 | 98.8 | 104.4 |
| August | 80.0703 | 96.6 | 96.6 | 101.6 | 1.3622 | 83.0 | 92.6 | 97.1 | 104.6 |
| September | 79.3999 | 95.8 | 95.6 | 100.8 | 1.3884 | 82.0 | 91.0 | 95.9 | 105.0 |
| October | 77.6627 | 93.7 | 96.0 | 98.6 | 1.4227 | 80.1 | 90.9 | 93.7 | 105.5 |

Source: NBS, SBS, Eurostat (www.epp.eurostat.cec.eu.int)

1) Monthly average, official daily NBS mid rate.

2) Cumulative index: ratio of given period and December of previous year.

3) Real fx calculation includes Euro area inflation. See footnote 5) in Table T3-14.

4) Harmonized indices of consumer prices.

5) Twelve-month averages for annual data, three-month averages for quarterly data.

## Table P4. Serbia: Registered Employment, 2004–2007

| | Total No. of employed (employees and entrepreneurs) | Employees in legal entities | Entrepreneurs | | | Total No. of employees |
|---|---|---|---|---|---|---|
| | | | Total | No. of entrepreneurs | No. of employees with entrepreneurs | |
| | 1 (=2+3) | 2 | 3 (=4+5) | 4 | 5 | 6(=2+5) |
| | | | **quarterly data - in thousands** | | | |
| **2004** | 2,047 | 1,574 | 473 | 210 | 263 | 1,837 |
| Q1 | 2,036 | 1,576 | 460 | 207 | 253 | 1,829 |
| Q2 | 2,061 | 1,593 | 468 | 208 | 259 | 1,853 |
| Q3 | 2,051 | 1,576 | 475 | 209 | 266 | 1,842 |
| Q4 | 2,041 | 1,552 | 489 | 216 | 273 | 1,825 |
| **2005** | 2,056 | 1,535 | 521 | 228 | 293 | 1,828 |
| Q1 | 2,050 | 1,543 | 507 | 225 | 283 | 1,825 |
| Q2 | 2,062 | 1,544 | 518 | 228 | 289 | 1,833 |
| Q3 | 2,057 | 1,530 | 527 | 229 | 298 | 1,828 |
| Q4 | 2,055 | 1,521 | 533 | 230 | 304 | 1,825 |
| **2006** | 2,028 | 1,472 | 556 | 236 | 320 | 1,791 |
| Q1 | 2,035 | 1,500 | 535 | 228 | 307 | 1,806 |
| Q2 | 2,031 | 1,481 | 550 | 234 | 316 | 1,797 |
| Q3 | 2,031 | 1,462 | 569 | 242 | 327 | 1,789 |
| Q4 | 2,014 | 1,444 | 571 | 241 | 329 | 1,773 |
| **2007** | | | | | | |
| Q1 | 2,002 | 1,432 | 567 | 240 | 328 | 1,759 |
| Q2 | 1,999 | 1,433 | 566 | 239 | 327 | 1,760 |
| Q3 | 1,989 | 1,423 | 566 | 239 | 327 | 1,750 |
| | | | **monthly data - in thousands** | | | |
| **2006** | | | | | | |
| January | 2,037 | 1,506 | 534 | 229 | 305 | 1,811 |
| February | 2,029 | 1,497 | 535 | 228 | 307 | 1,804 |
| March | 2,032 | 1,496 | 536 | 228 | 308 | 1,804 |
| April | 2,023 | 1,487 | 543 | 231 | 312 | 1,799 |
| May | 2,016 | 1,481 | 550 | 234 | 316 | 1,797 |
| June | 2,011 | 1,475 | 557 | 237 | 320 | 1,795 |
| July | 2,008 | 1,472 | 564 | 240 | 324 | 1,796 |
| August | 2,002 | 1,467 | 571 | 243 | 328 | 1,795 |
| September | 2,019 | 1,447 | 572 | 242 | 330 | 1,777 |
| October | 2,020 | 1,448 | 572 | 242 | 330 | 1,778 |
| November | 2,015 | 1,443 | 570 | 241 | 329 | 1,772 |
| December | 2,012 | 1,440 | 570 | 241 | 329 | 1,769 |
| **2007** | | | | | | |
| January | 2,005 | 1,432 | 568 | 240 | 328 | 1,760 |
| February | 1,997 | 1,425 | 568 | 240 | 328 | 1,753 |
| March | 2,004 | 1,438 | 566 | 239 | 327 | 1,765 |
| April | 2,002 | 1,436 | 566 | 239 | 327 | 1,763 |
| May | 1,999 | 1,433 | 566 | 239 | 327 | 1,760 |
| June | 1,995 | 1,429 | 566 | 239 | 327 | 1,756 |
| July | 1,993 | 1,427 | 566 | 239 | 327 | 1,754 |
| August | 1,987 | 1,421 | 566 | 239 | 327 | 1,748 |
| September | 1,987 | 1,421[1)] | 566[2)] | 239 | 327 | 1,748 |

Source: Semi-annual Report on the Employed and Wages RAD-1/P; Additional Survey to the Semi-annual RAD-1 Report; Semi-annual Report on Small Businesses and Their Employees RAD-15.

Notes by column:

1) The total number of employed (employees and entrepreneurs) includes those employed by legal entities (enterprises, organizations, institutions) - Column 2, and small businesses i.e. entrepreneurs - Column 3 (including store owners, self-employed professionals, etc., and those working for them). Employees of the Ministry of Defense of Serbia-Montenegro, and the Serbian Ministry of Internal Affairs are not included.

2) Employees in legal entities (companies, organizations, institutions).

3) Owners of small businesses and self-employed persons (entrepreneurs) and their employees (Column 4 + Column 5).

4) Entrepreneurs, i.e. owners of small businesses.

5) Employees with entrepreneurs, i.e. in small businesses.

Footnotes:

1) Data on employees in legal entities are for August 2007; September data are not available yet.

2) The last available data on entrepreneurs and their employees are from March 2007.

## Table P-5. Serbia: Employees by Activities, 2004–2007

| | 2004 | 2005 | 2006 | 2006 | | | | | | | | | | | | 2007 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep[1)] |
| Employees in enterprises, institutions and organizations, by sections of activities | in thousands | | | | | | | | | | | | | | | | | | | | | | | |
| Agriculture, hunting and forestry | 69 | 64 | 58 | 61 | 60 | 60 | 59 | 59 | 59 | 58 | 58 | 57 | 57 | 56 | 56 | 56 | 56 | 55 | 55 | 56 | 55 | 54 | 54 | 54 |
| Fishing | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mining and quarrying | 32 | 31 | 27 | 29 | 29 | 28 | 28 | 28 | 28 | 28 | 28 | 29 | 25 | 24 | 24 | 24 | 23 | 23 | 23 | 23 | 23 | 24 | 24 | 24 |
| Manufacturing | 484 | 460 | 419 | 439 | 434 | 432 | 429 | 425 | 421 | 419 | 415 | 409 | 407 | 403 | 400 | 400 | 396 | 399 | 395 | 391 | 388 | 387 | 384 | 384 |
| Electricity, gas and water supply | 46 | 46 | 45 | 45 | 45 | 45 | 45 | 44 | 44 | 44 | 44 | 43 | 47 | 46 | 46 | 46 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 |
| Construction | 88 | 88 | 86 | 87 | 86 | 86 | 86 | 86 | 86 | 86 | 85 | 85 | 86 | 86 | 86 | 84 | 83 | 83 | 82 | 82 | 82 | 82 | 82 | 82 |
| Wholesale and retail trade, repair | 208 | 205 | 198 | 201 | 202 | 203 | 202 | 202 | 200 | 200 | 201 | 192 | 192 | 193 | 193 | 192 | 191 | 197 | 197 | 196 | 196 | 196 | 195 | 195 |
| Hotels and restaurants | 28 | 27 | 25 | 26 | 26 | 25 | 25 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 23 | 23 | 24 | 24 | 24 | 24 | 24 | 23 | 23 |
| Transport, storage and communications | 119 | 116 | 110 | 113 | 111 | 112 | 111 | 111 | 110 | 110 | 110 | 109 | 108 | 108 | 108 | 107 | 109 | 109 | 109 | 108 | 108 | 109 | 108 | 108 |
| Financial mediation | 29 | 29 | 30 | 29 | 30 | 30 | 29 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 |
| Real estate, renting activities | 59 | 63 | 67 | 66 | 66 | 67 | 67 | 67 | 67 | 67 | 68 | 68 | 67 | 67 | 67 | 63 | 63 | 65 | 67 | 67 | 67 | 67 | 67 | 67 |
| Public administration and social insurance | 71 | 71 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 68 | 68 | 68 | 69 | 69 | 69 | 69 |
| Education | 131 | 129 | 127 | 128 | 127 | 126 | 126 | 126 | 126 | 126 | 125 | 125 | 128 | 129 | 129 | 130 | 130 | 130 | 130 | 130 | 130 | 129 | 129 | 129 |
| Health and social work | 165 | 166 | 158 | 160 | 160 | 159 | 157 | 158 | 158 | 158 | 158 | 157 | 156 | 155 | 156 | 155 | 156 | 156 | 156 | 157 | 157 | 156 | 156 | 156 |
| Other communal, social and personal services | 49 | 51 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 51 | 51 | 51 | 51 | 51 | 51 | 52 | 52 | 52 | 52 | 53 | 52 | 52 |

Source: Semi-annual Report on the Employed and Wages RAD-1/P; Additional Survey to the Semi-annual RAD-1 Report; Semi-annual Report on Small Businesses and Their Employees RAD-15.
Notes:
1) The data we use for September are August 2007 data.

## Table P-6. Serbia: Average Monthly Wage and Wage Index (SBS), 2005–2007

| | Average monthly wage (SBS) | | | Average Monthly Wage Real Index, y-o-y | |
|---|---|---|---|---|---|
| | Total labor costs, in dinars | Gross, in dinars | Net, in dinars | Gross | Net |
| **2005** | | | | | |
| August | 30,951 | 26,252 | 17,928 | 108.9 | 109.2 |
| September | 31,618 | 26,818 | 18,345 | 110.6 | 110.6 |
| October | 31,503 | 26,720 | 18,265 | 107.1 | 107.4 |
| November | 32,280 | 27,379 | 18,696 | 106.6 | 106.6 |
| December | 38,014 | 32,243 | 22,078 | 108.5 | 108.7 |
| **2006** | | | | | |
| January | 31,365 | 26,603 | 18,191 | 110.4 | 110.6 |
| February | 33,787 | 28,657 | 19,567 | 111.5 | 111.5 |
| March | 34,624 | 29,367 | 20,094 | 111.2 | 111.3 |
| April | 36,044 | 30,572 | 20,887 | 106.2 | 106.1 |
| May | 35,730 | 30,305 | 20,713 | 108.3 | 108.2 |
| June | 37,568 | 31,864 | 21,777 | 109.9 | 109.8 |
| July | 37,419 | 31,738 | 21,774 | 110.3 | 110.6 |
| August | 37,844 | 32,098 | 21,925 | 109.3 | 109.3 |
| September | 38,382 | 32,555 | 22,259 | 109.7 | 109.6 |
| October | 38,516 | 32,668 | 22,340 | 113.4 | 113.4 |
| November | 39,959 | 33,892 | 23,148 | 115.1 | 115.1 |
| December | 48,686 | 41,294 | 28,267 | 120.9 | 120.8 |
| **2007** | | | | | |
| January | 39,815 | 33,770 | 24,122 | 120.0 | 125.3 |
| February | 41,523 | 35,219 | 25,228 | 117.6 | 123.4 |
| March | 42,618 | 36,148 | 25,960 | 118.1 | 124.0 |
| April | 43,761 | 37,117 | 26,632 | 117.4 | 123.3 |
| May | 44,411 | 37,668 | 26,981 | 120.6 | 126.4 |
| June | 45,882 | 38,916 | 27,882 | 118.0 | 123.7 |
| July | 45,641 | 38,712 | 27,752 | 117.2 | 122.4 |
| Avgust | 46,337 | 39,302 | 28,143 | 114.5 | 120.1 |
| Septembar | 46,344 | 39,308 | 28,161 | 110.9 | 116.2 |
| October | 47,257 | 40,082 | 28,720 | 111.7 | 117.1 |

Source: Serbian Bureau of Statistics (SBS).

**Table P-7. Serbia: Average Monthly Total Labor Costs - Public Sector, 2004–2007**

| | From the budget | | | Public enterprises | | Serbia average |
|---|---|---|---|---|---|---|
| | Administration - all levels | Education and culture | Health and social work | National public | Local public | |
| | | | in dinars | | | |
| **2004** | 28,268 | 22,944 | 23,120 | 29,104 | 27,943 | 20,555 |
| **2005** | 34,783 | 28,261 | 26,984 | 33,987 | 33,353 | 25,565 |
| **2006** | 42,386 | 33,812 | 33,150 | 42,052 | 38,385 | 31,801 |
| **2005** | | | | | | |
| Q1 | 31,221 | 25,153 | 22,942 | 31,275 | 31,143 | 22,166 |
| Q2 | 34,371 | 28,137 | 26,612 | 32,530 | 32,633 | 25,035 |
| Q3 | 34,146 | 29,023 | 27,222 | 35,080 | 33,693 | 26,280 |
| Q4 | 39,395 | 30,731 | 31,159 | 37,065 | 35,946 | 28,781 |
| **2006** | | | | | | |
| Q1 | 39,906 | 32,032 | 26,887 | 39,030 | 34,607 | 28,209 |
| Q2 | 40,118 | 32,390 | 31,322 | 40,731 | 38,295 | 30,914 |
| Q3 | 41,106 | 33,700 | 31,849 | 42,379 | 38,572 | 32,130 |
| Q4 | 48,413 | 37,127 | 42,542 | 46,070 | 42,067 | 35,951 |
| **2007** | | | | | | |
| Q1 | 46,633 | 37,797 | 35,345 | 53,092 | 41,294 | 35,046 |
| Q2 | 49,166 | 39,908 | 42,550 | 50,030 | 41,368 | 37,900 |
| Q3 | 58,941 | 49,428 | 51,048 | 59,964 | 50,499 | 46,108 |
| October | 60,542 | 51,127 | 53,037 | 60,385 | 52,548 | 47,257 |

Source: SBS.

Note: This table shows only the wage share paid out from the budget. The wages of those employed in the public sector are in fact higher because they are partially financed from own proceeds.

## Table P-8. Serbia: Balance of Payments, 2003–2007[1)]

| | 2003 | 2004 | 2005 | | | | 2006 | | | | 2007 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dec | Dec | Mar | Jun | Sep | Dec | Mar | Jun | Sep | Dec | Mar | Jun | Sep |
| | flows, cumulative from the beginning of the year, in millions of euros | | | | | | | | | | | | |
| **CURRENT ACCOUNT** | **-1,355** | **-2,197** | **-324** | **-615** | **-1,134** | **-1,805** | **-680** | **-1,155** | **-1,780** | **-2,892** | **-1,169** | **-1,971** | **-3,282** |
| **GOODS AND SERVICES** | **-3,621** | **-5,156** | **-708** | **-1,755** | **-2,970** | **-4,284** | **-1,132** | **-2,384** | **-3,536** | **-4,999** | **-1,433** | **-2,943** | **-4,405** |
| Goods | -3,808 | -5,311 | -683 | -1,772 | -2,987 | -4,279 | -1,101 | -2,357 | -3,524 | -4,950 | -1,439 | -2,943 | -4,422 |
| Exports , f.o.b.[2)] | 2,447 | 2,991 | 813 | 1,824 | 2,843 | 4,006 | 1,039 | 2,282 | 3,662 | 5,146 | 1,391 | 2,980 | 4,726 |
| Imports , f.o.b. | -6,415 | -8,302 | -1,496 | -3,596 | -5,830 | -8,285 | -2,140 | -4,638 | -7,186 | -10,096 | -2,830 | -5,923 | -9,148 |
| *Exports/ Imports (%)* | *38.1* | *36.0* | *54.3* | *50.7* | *48.8* | *48.4* | *48.5* | *49.2* | *51.0* | *51.0* | *49.1* | *50.3* | *51.7* |
| Services | 187 | 155 | -25 | 17 | 17 | -5 | -31 | -27 | -12 | -49 | 6 | 0 | 17 |
| Receipts | 906 | 1,171 | 251 | 594 | 951 | 1,319 | 306 | 697 | 1,188 | 1,670 | 490 | 992 | 1,569 |
| Expenditures | -719 | -1,016 | -276 | -577 | -934 | -1,324 | -338 | -724 | -1,200 | -1,719 | -484 | -992 | -1,552 |
| Income, net | -3,621 | -5,156 | -708 | -1,755 | -2,970 | -4,284 | -1,132 | -2,384 | -3,536 | -4,999 | -1,433 | -2,943 | -4,405 |
| Earnings | 3,513 | 4,162 | 1,063 | 2,418 | 3,794 | 5,326 | 1,345 | 2,978 | 4,850 | 6,816 | 1,881 | 3,972 | 6,295 |
| Payments | -7,134 | -9,319 | -1,772 | -4,173 | -6,764 | -9,610 | -2,477 | -5,362 | -8,386 | -11,815 | -3,314 | -6,915 | -10,700 |
| Current transfers | -180 | -172 | -59 | -141 | -198 | -260 | -58 | -155 | -236 | -314 | -98 | -205 | -342 |
| Private remittances, net | 61 | 64 | 12 | 32 | 53 | 80 | 32 | 66 | 105 | 154 | 42 | 89 | 133 |
| Inflow | -241 | -235 | -71 | -174 | -250 | -339 | -91 | -221 | -341 | -468 | -139 | -294 | -475 |
| Outflow | 2,020 | 2,728 | 410 | 1,200 | 1,886 | 2,471 | 474 | 1,302 | 1,868 | 2,240 | 320 | 1,096 | 1,333 |
| F/X accounts of non-residents | 332 | 340 | 35 | 167 | 225 | 281 | -21 | 90 | 120 | 110 | -17 | 148 | 115 |
| F/X purchases, net | 1,106 | 1,592 | 320 | 884 | 1,329 | 1,631 | 289 | 882 | 1,166 | 1,447 | 196 | 608 | 811 |
| Other[3)] | 274 | 228 | 17 | 41 | 73 | 99 | 23 | 54 | 87 | 123 | 30 | 65 | 104 |
| Official grants | 425 | 403 | 33 | 82 | 148 | 268 | 36 | 82 | 124 | 181 | 42 | 80 | 132 |
| **ERRORS AND OMISSIONS** | **44** | **168** | **-184** | **-75** | **-205** | **-384** | **-31** | **-63** | **-147** | **-165** | **-158** | **-202** | **-127** |
| **CAPITAL AND FINANCIAL ACCOUNT** | **1,898** | **2,377** | **710** | **1,173** | **2,276** | **3,863** | **1,100** | **2,687** | **4,935** | **7,353** | **1,135** | **2,387** | **4,081** |
| Financial account | 1,898 | 2,377 | 710 | 1,173 | 2,276 | 3,863 | 1,100 | 2,687 | 4,935 | 7,353 | 1,135 | 2,387 | 4,081 |
| Foreign direct investment (FDI) | 1,198 | 773 | 262 | 502 | 998 | 1,248 | 164 | 738 | 2,409 | 4,077 | 617 | 611 | 1,153 |
| Other investment | 701 | 1,604 | 448 | 671 | 1,278 | 2,615 | 936 | 1,949 | 2,526 | 3,276 | 518 | 1,776 | 2,927 |
| Medium/long term loans[4)] | 628 | 1,221 | 159 | 602 | 988 | 1,820 | 443 | 1,685 | 2,456 | 3,140 | 511 | 1,484 | 2,125 |
| Government | 206 | 229 | 15 | 44 | 108 | 192 | 73 | 84 | 132 | 132 | 28 | 8 | 39 |
| Commercial banks | 106 | 417 | 68 | 209 | 292 | 729 | 146 | 1,122 | 1,346 | 1,484 | 37 | -162 | -275 |
| Other | 317 | 574 | 74 | 348 | 588 | 886 | 224 | 479 | 979 | 1,523 | 446 | 1,637 | 2,362 |
| Short-term loans | 14 | 164 | 94 | 28 | 33 | 330 | 212 | -189 | 25 | 170 | -199 | -99 | 25 |
| Extraordinary debt and interest repayment[5)] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -189 | -377 | -1,060 | -145 | -100 | -100 |
| Other assets and liabilities | 18 | 187 | 120 | 11 | 186 | 378 | 136 | 115 | 446 | 839 | 349 | 452 | 847 |
| Commercial banks F/X reserves (increase,-) | -3 | 33 | 77 | 30 | 71 | 100 | 144 | 146 | -25 | 1 | 3 | 40 | 30 |
| **NBS reserves, net[4)], (increase,-)** | **-587** | **-349** | **-202** | **-483** | **-937** | **-1,675** | **-390** | **-1,469** | **-3,008** | **-4,296** | **193** | **-214** | **-672** |
| IMF disbursements | 246 | 192 | 0 | 0 | 151 | 151 | 75 | 75 | 75 | 75 | 0 | 0 | 0 |
| IMF amortization[6)] | 0 | -188 | -47 | -93 | -133 | -166 | -22 | -22 | -22 | -32 | -19 | -29 | -29 |
| **PRO MEMORIA** | | | | | | | | | | | | | |
| NBS reserves excl. com. banks deposits | -765 | -293 | -51 | -422 | -668 | -1,335 | -92 | -433 | -613 | -2,811 | 296 | -175 | -498 |
| | | | | | | | in % GDP | | | | | | |
| Exports of goods and services | 19.5 | 21.1 | 23.2 | 24.9 | 24.9 | 25.2 | 26.0 | 26.8 | 27.4 | 27.4 | 29.1 | 29.1 | 29.5 |
| Imports of goods and services | -39.6 | -47.2 | -38.7 | -43.0 | -44.4 | -45.5 | -47.8 | -48.3 | -47.4 | -47.5 | -51.2 | -50.7 | -50.1 |
| Balance of goods and services | -21.1 | -26.9 | -14.9 | -18.3 | -19.6 | -20.3 | -21.3 | -21.2 | -19.9 | -19.9 | -22.2 | -21.6 | -20.7 |
| Current account | -7.5 | -11.1 | -7.1 | -6.3 | -7.5 | -8.6 | -13.1 | -10.4 | -10.1 | -11.6 | -18.1 | -14.5 | -15.4 |
| GDP in euros[7)] | 18,008 | 19,723 | 4,578 | 9,703 | 15,220 | 21,108 | 5,181 | 11,095 | 17,675 | 24,886 | 6,469 | 13,639 | 21,362 |

Source: NBS, SBS.

1) Original US dollars monthly data are converted to euros using monthly averages of official daily NBS mid rates.

2) Exports f.o.b. corrected for unregistered exports.

3) Includes payments settlement with Kosovo.

4) Excluding IMF tranches.

5) Includes extraordinary repayment of principal and interests on WB and IMF loans.

6) Principal repayments.

7) Cumulative from the beginning of the year. GDP for 2006. and Q1, Q2 and Q3 2007: FREN estimate.

## Table P-9. Serbia: Consolidated General Government Fiscal Operations[1)], 2004–2007

| | 2004 | 2005 | | 2006 | | | | | 2007 | | | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Total | Q3 | Total | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | | | |
| | in bil. of dinars | | | | | | | | | | | % in GDP | | |
| **I TOTAL REVENUE** | **589.4** | **701.6** | **177.0** | **825.0** | **175.3** | **201.6** | **207.5** | **240.6** | **215.1** | **228.1** | **238.7** | **41.2** | **40.1** | **38.9** |
| *o/w: Public revenues excluding government VAT liabilities and offsets with SDF[2),3)]* | *580.6* | *679.0* | *172.7* | *816.7* | *176.8* | *199.5* | *205.3* | *235.1* | *213.7* | *225.3* | *237.6* | *41.2* | *38.8* | *38.4* |
| 1. Current revenue | 583.4 | 693.7 | 174.9 | 814.7 | 173.2 | 199.3 | 204.9 | 237.3 | 212.0 | 225.4 | 236.2 | 40.8 | 39.6 | 38.4 |
| Tax revenue | 540.8 | 638.9 | 162.6 | 751.3 | 159.4 | 185.1 | 188.5 | 218.2 | 195.0 | 208.8 | 215.3 | 37.8 | 36.5 | 35.4 |
| Personal income tax | 76.9 | 94.3 | 24.1 | 118.5 | 25.8 | 29.2 | 29.2 | 34.3 | 24.9 | 28.2 | 29.1 | 5.4 | 5.4 | 5.6 |
| Corporate income tax | 6.9 | 10.3 | 1.8 | 18.3 | 7.9 | 2.9 | 3.5 | 4.0 | 11.7 | 5.6 | 4.6 | 0.5 | 0.6 | 0.9 |
| Value added tax and retail sales tax | 159.1 | 215.9 | 54.3 | 225.2 | 46.3 | 57.9 | 57.0 | 64.0 | 60.5 | 65.0 | 66.9 | 11.1 | 12.3 | 10.6 |
| *o/w: Net VAT and retail sales tax[2)]* | *159.1* | *198.8* | *50.8* | *224.7* | *47.9* | *55.7* | *58.7* | *62.1* | *59.1* | *62.3* | *65.8* | *11.1* | *11.4* | *10.6* |
| Excises | 69.1 | 71.3 | 19.8 | 81.7 | 14.7 | 21.1 | 21.7 | 24.2 | 19.1 | 22.8 | 24.5 | 4.8 | 4.1 | 3.9 |
| Custom duties | 34.3 | 39.0 | 10.4 | 45.2 | 9.6 | 12.7 | 9.9 | 13.1 | 12.0 | 13.9 | 14.6 | 2.4 | 2.2 | 2.1 |
| Social contributions | 159.0 | 184.0 | 46.4 | 232.2 | 48.5 | 54.1 | 59.4 | 70.2 | 58.9 | 65.0 | 67.8 | 11.1 | 10.5 | 10.9 |
| *o/w: contributions excluding offsets with SDF[3)]* | *150.2* | *179.1* | *45.7* | *222.7* | *48.4* | *54.1* | *55.5* | *64.7* | *58.8* | *64.9* | *67.8* | *10.5* | *10.2* | *10.5* |
| Other tax | 35.5 | 24.1 | 5.7 | 30.1 | 6.5 | 7.2 | 7.9 | 8.5 | 7.9 | 8.3 | 7.9 | 2.5 | 1.4 | 1.4 |
| Non-tax revenue | 42.6 | 54.8 | 12.4 | 63.4 | 13.8 | 14.2 | 16.3 | 19.1 | 17.0 | 16.7 | 20.9 | 3.0 | 3.1 | 3.0 |
| 2. Capital revenue | 6.1 | 7.9 | 2.1 | 10.3 | 2.1 | 2.3 | 2.6 | 3.3 | 3.2 | 2.6 | 2.5 | 0.4 | 0.5 | 0.5 |
| **II TOTAL EXPENDITURE** | **-572.0** | **-667.8** | **-167.1** | **-813.0** | **-174.9** | **-185.1** | **-197.6** | **-255.4** | **-202.9** | **-211.2** | **-242.6** | **-40.0** | **-38.2** | **-38.3** |
| 1. Current expenditure | -535.0 | -634.8 | -159.4 | -749.1 | -167.6 | -174.3 | -184.4 | -222.8 | -187.4 | -196.1 | -221.8 | -37.4 | -36.3 | -35.3 |
| Wages and salaries | -138.0 | -166.3 | -41.5 | -198.6 | -46.1 | -45.8 | -47.1 | -59.6 | -51.9 | -56.2 | -57.9 | -9.6 | -9.5 | -9.4 |
| *o/w: wages and salaries excluding severance payments[4)]* | *-0.3* | *-1.3* | *-0.5* | *-3.2* | *-1.5* | *-0.3* | *-0.4* | *-0.9* | *0.3* | *0.4* | *0.4* | *-1.0* | *-0.1* | *-0.2* |
| *o/w: Health Insurance Bureau severance payments[5)]* | *0.0* | *-2.2* | *0.0* | *-2.3* | *-0.9* | *0.0* | *-1.4* | *0.0* | *0.0* | *0.0* | *0.0* | *-1.0* | *-0.1* | *-0.1* |
| Expenditure on goods and services | -78.3 | -92.2 | -23.1 | -114.1 | -22.4 | -25.3 | -29.0 | -37.5 | -25.6 | -31.1 | -35.5 | -5.5 | -5.3 | -5.4 |
| Interest payments | -24.6 | -24.5 | -5.8 | -28.9 | -5.7 | -4.9 | -8.8 | -9.4 | -5.7 | -3.1 | -4.2 | -1.7 | -1.4 | -1.4 |
| Subsidies | -63.8 | -54.5 | -14.1 | -54.4 | -10.1 | -12.7 | -13.6 | -18.0 | -9.3 | -10.4 | -17.8 | -4.5 | -3.1 | -2.6 |
| Social transfers | -217.0 | -281.5 | -70.8 | -335.8 | -79.8 | -81.1 | -81.7 | -93.1 | -91.1 | -91.8 | -101.8 | -15.2 | -16.1 | -15.8 |
| *o/w: pensions[6)]* | *-151.1* | *-186.1* | *-46.9* | *-227.7* | *-52.7* | *-55.7* | *-58.5* | *-60.8* | *-62.0* | *-63.3* | *-64.9* | *-10.6* | *-10.6* | *-10.7* |
| Other current expenditure | -13.3 | -15.8 | -4.2 | -17.4 | -3.5 | -4.6 | -4.1 | *-5.2* | -3.9 | -3.4 | -4.6 | -0.9 | -0.9 | -0.8 |
| 2. Capital expenditure[7)] | -37.0 | -33.0 | -7.8 | -63.9 | -7.3 | -10.8 | -13.2 | -32.6 | -15.5 | -15.1 | -20.8 | -2.6 | -1.9 | -3.0 |
| **III "OLD" DEBT REPAYMENT AND GOVERNMENT NET LENDING** | **-25.2** | **-36.7** | **-8.9** | **-49.1** | **-4.4** | **-17.1** | **-10.1** | **-17.5** | **-14.1** | **-14.6** | **-8.1** | **-1.8** | **-2.1** | **-2.3** |
| 1. Debt repayment - FFCDs and LRS | -18.9 | -21.9 | -5.1 | -21.7 | -1.0 | -14.6 | -4.8 | -1.4 | -4.6 | -13.3 | -6.5 | -1.3 | -1.3 | -1.0 |
| 2. Pensions[8)] | -4.5 | -9.8 | -1.4 | -20.3 | -1.6 | -1.7 | -4.0 | -13.0 | -8.9 | 0.0 | 0.0 | -0.3 | -0.6 | -1.0 |
| 3. Budget credits, net[9)] | -1.8 | -4.9 | -2.3 | -7.1 | -1.8 | -0.8 | -1.3 | -3.2 | -0.6 | -1.2 | -1.7 | -0.1 | -0.3 | -0.3 |
| **IVa CASH BALANCE (I+II), MoF definition[10)]** | **17.5** | **33.8** | **9.8** | **12.0** | **0.4** | **16.5** | **9.9** | **-14.8** | **12.2** | **16.9** | **-3.9** | **1.2** | **1.9** | **0.6** |
| Republic budget | -0.8 | 26.8 | 6.0 | 3.3 | -9.1 | 7.5 | 4.9 | 0.0 | 2.2 | 14.0 | -4.5 | -0.1 | 1.5 | 0.2 |
| Pension and Disability Insurance Employee Fund | -0.8 | -0.5 | 1.2 | 5.0 | 1.8 | 1.4 | 0.1 | 1.7 | -2.2 | -1.6 | 0.1 | -0.1 | 0.0 | 0.2 |
| Pension and Disability Insurance Self-employed Fund | 2.7 | 2.5 | -0.1 | 5.2 | 0.6 | 1.2 | 1.3 | 2.1 | 1.3 | 1.0 | 1.4 | 0.2 | 0.1 | 0.2 |
| Pension and Disability Insurance Farmers Fund | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Health Insurance Fund | 1.4 | -0.5 | 1.1 | 3.1 | 1.0 | 2.4 | 1.8 | -2.1 | 3.5 | 0.8 | 1.5 | 0.1 | 0.0 | 0.1 |
| National Employment Service | 0.8 | 0.8 | -0.4 | 0.2 | 0.3 | 0.8 | 0.2 | -1.2 | -0.6 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 |
| Vojvodina budget | -0.6 | -1.8 | -0.1 | -2.7 | 0.7 | 0.0 | -1.1 | -2.3 | 0.7 | 0.0 | -0.4 | 0.0 | -0.1 | -0.1 |
| Local government | .. | 3.8 | 1.3 | 1.3 | 5.7 | 3.4 | 0.3 | -8.2 | 7.5 | 2.9 | -2.0 | .. | 0.2 | 0.1 |
| **IVb OVERALL BALANCE (IVa+III.3.), IMF definition, MoF data[11)]** | **15.7** | **28.9** | **7.5** | **4.9** | **-1.4** | **15.7** | **8.6** | **-18.0** | **11.6** | **15.7** | **-5.6** | **1.1** | **1.6** | **0.2** |
| **IVc ANALYTICAL BALANCE (I+II+III), FREN's definiton[12)]** | **-7.7** | **-2.9** | **0.8** | **-37.2** | **-4.0** | **-0.6** | **-0.2** | **-32.3** | **-1.9** | **2.4** | **-12.0** | **-0.5** | **-0.2** | **-1.8** |
| **V FINANCING (FREN's definition)** | **23.9** | **27.8** | **11.8** | **121.8** | **8.5** | **1.4** | **103.2** | **8.7** | **24.9** | **8.0** | **-0.3** | **1.7** | **1.6** | **5.7** |
| Grants[13)] | 0.9 | 0.2 | 0.1 | 0.7 | 0.1 | 0.1 | 0.2 | 0.3 | 0.1 | 0.1 | 0.2 | 0.1 | 0.0 | 0.0 |
| Privatization receipts[14)] | 14.2 | 21.7 | 14.0 | 106.1 | 9.1 | 1.3 | 103.0 | -7.3 | 26.6 | 8.6 | 3.3 | 1.0 | 1.2 | 5.0 |
| Domestic financing[15)] | 5.9 | 5.0 | 0.7 | 21.0 | 1.4 | 0.2 | 1.4 | 18.0 | 0.5 | 0.5 | 0.0 | 0.4 | 0.3 | 1.0 |
| Foreign financing[16)] | 7.4 | 6.7 | 1.9 | 2.0 | -0.4 | 1.4 | 1.0 | 0.1 | -0.4 | -0.3 | -0.3 | 0.5 | 0.4 | 0.1 |
| Expenditures for principal repayments to domestic and foreign creditors[17)] | -4.5 | -5.8 | -4.9 | -8.1 | -1.7 | -1.7 | -2.4 | -2.3 | -1.8 | -0.8 | -3.5 | -0.3 | -0.3 | -0.4 |
| **VI ACCOUNT BALANCE CHANGE (IVc+V)** | **16.2** | **24.9** | **12.6** | **84.6** | **4.5** | **0.7** | **103.0** | **-23.7** | **23.0** | **10.4** | **-12.3** | **1.1** | **1.4** | **4.0** |

Source: Public Finance Bulletin (PFB), IMF Country Report No. 06/58, FREN's estimates, Memorandum on the Budget and Economic Policy for 2006 with Projections to 2009 and for 2007with projections to 2009.

1) Includes all levels of government (central, provincial and municipal) and their budget beneficiaries and social security organizations (Serbian Pension and Disability Insurance Funds, Health Insurance Funds, National Employment Office, but not public enterprises and the NBS.

2) VAT revenue excluding government VAT liabilities given in Memorandum items (see footnote16).

3) Contributions revenue reduced by the item "Offsets with SDF" in the Memorandum items.

4) Account 414 - Social benefits for employees, including sick benefits, expenditure for training employed persons, and severance payments. This item refers only to the Republic budget.

5) FREN's estimate based on media reports and the MoF website, which tallies with item on receipts from borrowing (Account 91) Serbian Health Insurance Bureau from PFB.

6) Expenditures on current pensions, adjusted for the payment of the "old debt" and debt incurred through the delay in pension payments starting in December 2005 . (See item III.2 and footnote 8).

7) Capital expenditure figures for 2003 and 2004 were taken from the Memorandum on the Budget and Economic Policy for 2006 with Projections to 2009. (see footnote 16).

8) In December 2002, payment started of the "old debt" to pensioners which was incurred in the April 1994-June 1995 period when only 83% of the due pension amounts was paid. Payment was envisaged in 43 installments (mid-2006). In addition, the delay in pension payments inherited from the 1990s was eliminated at the end of last year, with payment of the 1.5 pension arrears starting in December 2005.

9) The item corresponds to the item "Outlays for acquisition of financial assets" in the PFB, i.e. to the item "net lending" in the IMF presentation. This refers exclusively to credits deemed to be for public policy purposes. It comprises loans to students, financing of the National Corporation for Housing Loan Insurance and the like. A large amount in 2003 can probably be explained by the shift in financing of government spending for the period

of the temporary budget in the first months of 2004.
10) Cash surplus/deficit under (GFS 2001) represents the difference between current revenue and receipts from the sale of non-financial property (i.e. capital revenues) and current expenditures and spending on acquisition of non-financial property (i.e. capital expenditures). See discussion on methodology in Box 1, QM 3 for more details. The unconsolidated (total of results at all levels of government) and consolidated results should, by definition, agree but differences exist due to inconsistencies in the fiscal data.
11) Overall fiscal balance (GFS 2001) - Cash surplus/deficit adjusted for transactions in assets and liabilities that are deemed to be for public policy purposes (i.e. lending minus repayment - GFS 1986), or what we named "budget credits". See discussion on methodology in Box 1, QM 3 for more details.
12) Under FREN's definition, the analytical balance includes on the expenditure side the payment of old (domestic) debts, specifically payments for FFCDs, the Serbia Reconstruction Loan, debt to pensioners, etc. Defined in this way, the result measures the liquidity effect government transactions have on the economy.
13)Information from IMF CR 06/58. There is no data on grants in the PFB.
14) Estimate based on the reported republic's privatization proceeds, increased by 10% an account of the statutory allocations to the Pension Fund and the Restitution Fund. We have no explanation for the negative privatization proceeds in the PFB in Q4 2005.
15) Financing through the issuance of T-bills of the Republic of Serbia. There is a possibility that new loans to the government extended by domestic banks are included here, in which case they should be excluded from the item: "Change in Government Net Position in the Banking System on the basis of data from commercial bank's balance sheets (NBS data)" in Memorandum items.
16) Foreign financing in the budget of the Republic has been increased by 30% (an allowance for unknown local financing).
17) Expenses for debt amortization from the PFB, which are not included in Section III.

## Table P-10. Serbia: Monetary Survey, 2005–2007

| | 2005 | | | | 2006 | | | | 2007 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mar | Jun | Sep | Dec | Mar | Jun | Sep | Dec | Mar | Jun | Sep |
| | in millions dinars, end of period[1] | | | | | | | | | | |
| **Net Foreign Assets (NFA)** | **162,488** | **183,484** | **216,183** | **218,886** | **200,462** | **229,984** | **360,685** | **407,565** | **441,048** | **484,388** | **500,302** |
| Net Foreign Assets (NFA) (in euros) | 2,005 | 2,217 | 2,552 | 2,560 | 2,307 | 2,674 | **4,399** | 5,159 | 5,407 | 6,130 | 6,344 |
| Assets | 332,844 | 371,427 | 428,842 | 491,883 | 517,118 | 600,522 | 710,311 | 770,999 | 775,921 | 786,952 | 806,345 |
| *Assets (in euros)* | *4,107* | *4,487* | *5,063* | *5,753* | *5,951* | *6,983* | *8,662* | *9,759* | *9,512* | *9,958* | *10,225* |
| NBS | 274,136 | 304,386 | 362,216 | 424,844 | 465,497 | 549,529 | 648,946 | 715,114 | 719,381 | 730,668 | 751,920 |
| *NBS (in euros)* | *3,382* | *3,677* | *4,276* | *4,969* | *5,357* | *6,390* | *7,914* | *9,052* | *8,819* | *9,246* | *9,535* |
| Commercial banks | 58,708 | 67,041 | 66,626 | 67,039 | 51,621 | 50,993 | 61,365 | 55,885 | 56,540 | 56,284 | 54,425 |
| *Commercial banks (in euros)* | *724* | *810* | *787* | *784* | *594* | *593* | *748* | *707* | *693* | *712* | *690* |
| Liabilities (-) | -170,356 | -187,943 | -212,659 | -272,997 | -316,656 | -370,538 | -349,626 | -363,434 | -334,873 | -302,564 | -306,043 |
| *Liabilities (-) (in euros)* | *-2,102* | *-2,271* | *-2,511* | *-3,193* | *-3,644* | *-4,309* | *-4,264* | *-4,600* | *-4,105* | *-3,829* | *-3,881* |
| NBS | -72,187 | -73,162 | -81,569 | -81,873 | -87,575 | -68,368 | -48,845 | -55,692 | -16,275 | -15,716 | -15,183 |
| *NBS (in euros)* | *-891* | *-884* | *-963* | *-958* | *-1,008* | *-795* | *-596* | *-705* | *-200* | *-199* | *-193* |
| Commercial banks | -98,169 | -114,781 | -131,090 | -191,124 | -229,081 | -302,170 | -300,781 | -307,742 | -318,598 | -286,848 | -290,860 |
| *Commercial banks (in euros)* | *-1,211* | *-1,387* | *-1,548* | *-2,235* | *-2,636* | *-3,514* | *-3,668* | *-3,895* | *-3,906* | *-3,630* | *-3,688* |
| **Net Domestic Assets (NDA)** | **168,841** | **190,622** | **206,257** | **239,985** | **272,642** | **285,856** | **207,195** | **231,055** | **234,991** | **224,279** | **291,193** |
| Domestic credits | 370,019 | 407,795 | 446,299 | 490,467 | 516,435 | 557,316 | 490,539 | 509,110 | 537,098 | 583,321 | 642,488 |
| Net credits to goverment[2] | -6,864 | -1,602 | -10,242 | -27,831 | -31,129 | -33,954 | -124,159 | -100,061 | -128,909 | -149,081 | -144,385 |
| Credits | 46,961 | 41,744 | 43,492 | 40,106 | 40,311 | 37,919 | 31,415 | 34,896 | 29,559 | 25,652 | 24,605 |
| Dinar credits | 30,237 | 25,285 | 23,313 | 21,272 | 18,381 | 16,408 | 15,322 | 18,271 | 16,193 | 16,102 | 16,073 |
| NBS | 22,123 | 17,524 | 16,901 | 16,330 | 14,735 | 14,474 | 14,472 | 16,450 | 15,740 | 15,715 | 15,715 |
| Commercial banks | 8,114 | 7,761 | 6,412 | 4,942 | 3,646 | 1,934 | 850 | 1,821 | 453 | 387 | 358 |
| Fx credits | 16,724 | 16,459 | 20,179 | 18,834 | 21,930 | 21,511 | 16,093 | 16,625 | 13,366 | 9,550 | 8,532 |
| *Fx credits (in euros)* | *206* | *199* | *238* | *220* | *252* | *250* | 196 | *210* | *164* | *121* | *108* |
| NBS | 0 | 0 | 0 | 181 | 184 | 182 | 0 | 0 | 0 | 0 | 0 |
| *NBS (in euros)* | *0* | *0* | *0* | *2* | *2* | *2* | *0* | *0* | *0* | *0* | *0* |
| Commercial banks | 16,724 | 16,459 | 20,179 | 18,653 | 21,746 | 21,329 | 16,093 | 16,625 | 13,366 | 9,550 | 8,532 |
| *Commercial banks (in euros)* | *206* | *199* | *238* | *218* | *250* | *248* | 196 | *210* | *164* | *121* | *108* |
| Deposits (-) | -53,825 | -43,346 | -53,734 | -67,937 | -71,440 | -71,873 | -155,574 | -134,957 | -158,468 | -174,733 | -168,990 |
| Dinar deposits | -32,060 | -29,868 | -34,581 | -43,604 | -43,860 | -55,057 | -50,760 | -27,047 | -51,975 | -78,392 | -72,442 |
| NBS | -30,245 | -28,235 | -32,797 | -40,718 | -39,439 | -49,801 | -45,785 | -19,678 | -43,849 | -62,941 | -52,730 |
| Commercial banks | -1,815 | -1,633 | -1,784 | -2,886 | -4,421 | -5,256 | -4,975 | -7,369 | -8,126 | -15,451 | -19,712 |
| Fx deposits | -21,765 | -13,478 | -19,153 | -24,333 | -27,580 | -16,816 | -104,814 | -107,910 | -106,493 | -96,341 | -96,548 |
| *Fx deposits (in euros)* | *-269* | *-163* | *-226* | *-285* | *-317* | *-196* | *-1,278* | *-1,366* | *-1,305* | *-1,219* | *-1,224* |
| NBS | -18,088 | -6,571 | -14,392 | -18,806 | -21,464 | -10,586 | -99,498 | -103,443 | -101,705 | -91,685 | -92,463 |
| *NBS (in euros)* | *-223* | *-79* | *-170* | *-220* | *-247* | *-123* | -1,213 | *-1,309* | *-1,247* | *-1,160* | *-1,172* |
| Commercial banks | -3,677 | -6,907 | -4,761 | -5,527 | -6,116 | -6,230 | -5,316 | -4,467 | -4,788 | -4,656 | -4,085 |
| *Commercial banks (in euros)* | *-45* | *-83* | *-56* | *-65* | *-70* | *-72* | *-65* | *-57* | *-59* | *-59* | *-52* |
| Credit to the non-government sector | 376,883 | 409,397 | 456,541 | 518,298 | 547,564 | 591,270 | 614,698 | 609,171 | 666,007 | 732,402 | 786,873 |
| Households | 72,489 | 86,340 | 108,053 | 132,146 | 150,290 | 172,185 | 190,378 | 203,631 | 230,775 | 254,803 | 286,000 |
| Enterprises | 304,394 | 323,057 | 348,488 | 386,152 | 397,274 | 419,085 | 424,320 | 405,540 | 435,232 | 477,599 | 500,873 |
| Other item, net[3] | -201,178 | -217,173 | -240,042 | -250,482 | -243,793 | -271,460 | -283,344 | -278,055 | -302,107 | -359,042 | -351,295 |
| o/w: Capital and Reserves (-) | -160,723 | -169,226 | -177,165 | -181,772 | -187,095 | -216,178 | -220,712 | -242,254 | -256,429 | -289,801 | -316,438 |
| NBS | -39,068 | -38,085 | -36,571 | -41,450 | -42,531 | -42,364 | -27,662 | -7,454 | -15,993 | -9,923 | -6,189 |
| Commercial banks | -121,655 | -131,141 | -140,594 | -140,322 | -144,564 | -173,814 | -193,050 | -234,800 | -240,436 | -279,878 | -310,249 |
| **Broad money: M2[4]** | **331,331** | **374,106** | **422,441** | **458,870** | **473,103** | **515,840** | **567,881** | **638,620** | **676,039** | **708,667** | **791,495** |
| Dinar denominated M2[5] | 143,768 | 160,351 | 180,043 | 192,180 | 189,911 | 208,606 | 232,506 | 283,116 | 282,299 | 288,329 | 326,341 |
| M1 | 110,073 | 120,481 | 134,727 | 144,949 | 137,800 | 148,694 | 158,452 | 200,090 | 193,187 | 205,564 | 218,393 |
| Currency outside banks | 39,368 | 42,316 | 47,283 | 53,650 | 45,825 | 48,926 | 52,110 | 68,461 | 58,669 | 65,066 | 65,373 |
| Demand deposits (households and economy) | 70,705 | 78,165 | 87,444 | 91,299 | 91,975 | 99,768 | 106,342 | 131,629 | 134,518 | 140,498 | 153,020 |
| Time and savings deposits (households and economy) | 33,695 | 39,870 | 45,316 | 47,231 | 52,111 | 59,912 | 74,054 | 83,026 | 89,112 | 82,765 | 107,948 |
| Fx deposits (households and economy) | 187,563 | 213,755 | 242,398 | 266,690 | 283,192 | 307,234 | 335,375 | 355,504 | 393,740 | 420,338 | 465,154 |
| *Fx deposits (households and economy), in euros* | *2,314* | *2,582* | *2,862* | *3,119* | *3,259* | *3,572* | 4,090 | *4,500* | *4,827* | *5,319* | *5,898* |
| o/w: households[6] | 124,107 | 141,477 | 162,667 | 190,136 | 207,609 | 222,105 | 243,328 | 260,661 | 293,195 | 307,783 | 336,109 |
| *o/w: households[6] (in euros)* | *1,531* | *1,709* | *1,921* | *2,224* | *2,389* | *2,583* | 2,967 | *3,300* | *3,594* | *3,895* | *4,262* |

Source: NBS: Statistical bulletin.

1) Unless otherwise indicated.

2) Government does not include cities and municipalities, these are treated as a non-government sector.

3) As mentioned in footnote 3 in Table T-22: Enterprises also include non-profit and other non-government economic entities.

4) M2 refers to M3 in accepted methodology in Serbia, and it includes: currency outside banks; demand deposits of households and enterprises; time and savings dinar deposits of households and enterprises; and time and savings fx deposits of households and

5) M2 dinar refers to M2 in accepted methodology in Serbia, and it includes: currency outside banks; demand deposits of households and economy; and time and savings dinar deposits of households and economy.

6) Household savings.

## Table P-11. Serbia: Commercial Banks Balance Sheet, 2005–2007

| | 2005 | | | | 2006 | | | | 2007 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mar | Jun | Sep | Dec | Mar | Jun | Sep | Dec | Mar | Jun | Sep |
| | in millions dinars, end of period[1] | | | | | | | | | | |
| **Net foreign reserves** | **-39,461** | **-47,740** | **-64,464** | **-124,085** | **-177,460** | **-251,177** | **-239,416** | **-251,857** | **-262,058** | **-230,564** | **-236,435** |
| Net foreign reserves (in euros) | -487 | -577 | -761 | -1,451 | -2,042 | -2,921 | -2,920 | -3,188 | -3,213 | -2,918 | -2,998 |
| Gross foreign reserves | 58,708 | 67,041 | 66,626 | 67,039 | 51,621 | 50,993 | 61,365 | 55,885 | 56,540 | 56,284 | 54,425 |
| *Gross foreign reserves (in euros)* | *724* | *810* | *787* | *784* | *594* | *593* | *748* | *707* | *693* | *712* | *690* |
| Gross reserve liabilities (-) | -98,169 | -114,781 | -131,090 | -191,124 | -229,081 | -302,170 | -300,781 | -307,742 | -318,598 | -286,848 | -290,860 |
| *Gross reserve liabilities (-) (n euros)* | *-1,211* | *-1,387* | *-1,548* | *-2,235* | *-2,636* | *-3,514* | *-3,668* | *-3,895* | *-3,906* | *-3,630* | *-3,688* |
| **Net Domestic Assets (NDA)** | **39,461** | **47,740** | **64,464** | **124,085** | **177,460** | **251,177** | **239,416** | **251,857** | **262,058** | **230,565** | **236,435** |
| Domestic credits | 206,895 | 230,533 | 263,230 | 331,378 | 375,536 | 481,132 | 483,067 | 509,090 | 534,592 | 569,540 | 573,534 |
| Net claims on goverment[2] | 10,731 | 3,600 | 7,558 | 5,838 | 4,295 | -3,369 | -8,219 | -2,492 | -9,261 | -18,611 | -23,546 |
| Claims | 25,948 | 25,396 | 28,062 | 25,803 | 27,837 | 26,044 | 20,745 | 23,479 | 19,134 | 15,314 | 15,097 |
| Dinar credits | 9,220 | 8,932 | 7,878 | 7,145 | 6,086 | 4,710 | 4,652 | 6,854 | 5,768 | 5,764 | 6,565 |
| Fx credits | 16,728 | 16,464 | 20,184 | 18,658 | 21,751 | 21,334 | 16,093 | 16,625 | 13,366 | 9,550 | 8,532 |
| *Fx credits (in euros)* | *206* | *199* | *238* | *218* | *250* | *248* | *196* | *210* | *164* | *121* | *108* |
| Liabilities (-) | -15,217 | -21,796 | -20,504 | -19,965 | -23,542 | -29,413 | -28,964 | -25,971 | -28,395 | -33,925 | -38,643 |
| Dinar deposits | -11,506 | -14,859 | -15,702 | -14,399 | -17,382 | -23,171 | -23,630 | -21,496 | -23,592 | -29,212 | -34,522 |
| Fx deposits | -3,711 | -6,937 | -4,802 | -5,566 | -6,160 | -6,242 | -5,334 | -4,475 | -4,803 | -4,713 | -4,121 |
| *Fx deposits (in euros)* | *-46* | *-84* | *-57* | *-65* | *-71* | *-73* | *-65* | *-57* | *-59* | *-60* | *-52* |
| Net claims on NBS | 99,551 | 136,668 | 159,585 | 204,896 | 235,986 | 340,148 | 382,531 | 467,869 | 483,231 | 482,321 | 521,562 |
| Claims | 101,304 | 137,187 | 160,321 | 205,631 | 236,443 | 341,952 | 382,974 | 468,312 | 483,620 | 482,561 | 522,696 |
| Cash | 3,812 | 4,430 | 4,822 | 7,053 | 6,793 | 6,799 | 8,654 | 10,206 | 9,889 | 10,958 | 10,812 |
| Required reserves | 20,676 | 21,855 | 24,673 | 26,046 | 26,387 | 33,352 | 33,602 | 34,290 | 25,931 | 29,196 | 31,838 |
| Excess reserves | -1,076 | -211 | -76 | 2,621 | -2,109 | -2,473 | -3,440 | -1,524 | 49 | -5,973 | -9,617 |
| Deposits (-) | 74,685 | 93,482 | 111,094 | 153,016 | 174,078 | 247,994 | 263,765 | 273,808 | 280,284 | 298,088 | 303,240 |
| o/w: dinar deposits | 3,679 | 3,827 | 5,317 | 5,274 | 948 | 2,564 | 7,535 | 20,189 | 6,651 | 22,804 | 20,741 |
| NBS bills/repo [3] | 3,207 | 17,631 | 19,808 | 16,895 | 31,294 | 56,280 | 80,393 | 151,532 | 167,467 | 150,292 | 186,423 |
| Liabilities (-) | -1,753 | -519 | -736 | -735 | -457 | -1,804 | -443 | -443 | -389 | -240 | -1,134 |
| Net claims on the rest of the economy | 96,613 | 90,265 | 96,087 | 120,644 | 135,255 | 144,353 | 108,755 | 43,713 | 60,622 | 105,830 | 75,518 |
| Claims | 367,552 | 399,378 | 446,022 | 507,171 | 536,214 | 579,880 | 593,628 | 589,303 | 645,429 | 711,313 | 764,589 |
| Households | 72,261 | 86,064 | 107,781 | 131,860 | 150,007 | 171,904 | 190,098 | 203,318 | 230,357 | 254,319 | 285,502 |
| Long-term claims | 54,699 | 67,600 | 87,403 | 107,724 | 121,378 | 138,539 | 151,998 | 163,638 | 187,445 | 206,568 | 234,021 |
| Short-term claims | 17,562 | 18,464 | 20,378 | 24,136 | 28,629 | 33,365 | 38,100 | 39,680 | 42,912 | 47,751 | 51,481 |
| Enterprises | 295,291 | 313,314 | 338,241 | 375,311 | 386,207 | 407,976 | 403,530 | 385,985 | 415,072 | 456,994 | 479,087 |
| Long-term claims | 134,122 | 136,572 | 143,875 | 165,442 | 168,212 | 178,091 | 183,205 | 179,842 | 195,326 | 204,816 | 224,636 |
| Short-term claims | 161,169 | 176,742 | 194,366 | 209,869 | 217,995 | 229,885 | 220,325 | 206,143 | 219,746 | 252,178 | 254,451 |
| Liabilities (-) | -270,939 | -309,113 | -349,935 | -386,527 | -400,959 | -435,527 | -484,873 | -545,590 | -584,807 | -605,483 | -689,071 |
| Dinar deposits | -84,305 | -96,457 | -108,557 | -121,022 | -119,059 | -130,309 | -150,239 | -191,040 | -191,962 | -186,591 | -224,799 |
| Households | -12,624 | -14,931 | -16,017 | -16,542 | -17,688 | -21,273 | -20,972 | -26,729 | -29,482 | -31,264 | -34,490 |
| Enterprises | -71,681 | -81,526 | -92,540 | -104,480 | -101,371 | -109,036 | -129,267 | -164,311 | -162,480 | -155,327 | -190,309 |
| Fx deposits | -186,634 | -212,656 | -241,378 | -265,505 | -281,900 | -305,218 | -334,634 | -354,550 | -392,845 | -418,892 | -464,272 |
| Households[4] | -124,107 | -141,477 | -162,667 | -190,136 | -207,609 | -222,105 | -243,328 | -260,661 | -293,195 | -307,783 | -336,109 |
| *Households (in euros)* | *-1,531* | *-1,709* | *-1,921* | *-2,224* | *-2,389* | *-2,583* | *-2,967* | *-3,300* | *-3,594* | *-3,895* | *-4,262* |
| Enterprises | -62,527 | -71,179 | -78,711 | -75,369 | -74,291 | -83,113 | -91,306 | -93,889 | -99,650 | -111,109 | -128,163 |
| *Enterprises (in euros)* | *-771* | *-860* | *-929* | *-882* | *-855* | *-966* | *-1,113* | *-1,188* | *-1,222* | *-1,406* | *-1,625* |
| **Other item, net[5]** | **-167,434** | **-182,793** | **-198,766** | **-207,293** | **-198,076** | **-229,955** | **-243,651** | **-257,233** | **-272,534** | **-338,975** | **-337,099** |
| o/w: capital and reserves | -121,655 | -131,141 | -140,594 | -140,322 | -144,564 | -173,814 | -193,050 | -234,800 | -240,436 | -279,878 | -310,249 |

Source: FREN, NBS - Statistical Bulletin.

1) Unless otherwise indicated.

2) Government include: Republic level and cities and municipalities.

3) Household savings.

4) Includes: Other assets: Deposits of enterprises undergoing liquidation; Capital and reserves; Other liabilities; and Interbank, net.

## Table P-12. Serbia: National Bank of Serbia Balance Sheet, 2005–2007

| | 2005 | | | | 2006 | | | | 2007 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mar | Jun | Sep | Dec | Mar | Jun | Sep | Dec | Mar | Jun | Sep |
| | in millions dinars, end of period[1] | | | | | | | | | | |
| **Foreign assets , net** | **132,749** | **143,615** | **173,447** | **194,094** | **204,236** | **235,394** | **344,129** | **406,226** | **429,702** | **440,156** | **454,324** |
| Foreign assets, net (in euros) | 1,638 | 1,735 | 2,048 | 2,270 | 2,350 | 2,737 | 4,197 | 5,142 | 5,268 | 5,570 | 5,761 |
| Gross foreign reserves | 274,137 | 304,386 | 362,216 | 424,844 | 465,497 | 549,529 | 648,946 | 715,114 | 719,381 | 730,668 | 751,920 |
| *Gross foreign reserves (in euros)* | *3,382* | *3,677* | *4,276* | *4,969* | *5,357* | *6,390* | *7,914* | *9,052* | *8,819* | *9,246* | *9,535* |
| Gross foreign liabilities (-) | -141,388 | -160,771 | -188,769 | -230,750 | -261,261 | -314,135 | -304,817 | -308,888 | -289,679 | -290,512 | -297,596 |
| *Gross foreign liabilities (-) (in euros)* | *-1,744* | *-1,942* | *-2,229* | *-2,699* | *-3,006* | *-3,653* | *-3,717* | *-3,910* | *-3,551* | *-3,676* | *-3,774* |
| o/w: fx deposits of commercial banks | -71,063 | -89,662 | -106,865 | -147,467 | -173,371 | -245,784 | -256,325 | -253,563 | -273,927 | -274,871 | -282,625 |
| *o/w: fx deposits of commercial banks (in euros)* | *-877* | *-1,083* | *-1,262* | *-1,725* | *-1,995* | *-2,858* | *-3,126* | *-3,210* | *-3,358* | *-3,478* | *-3,584* |
| **Net Domestic Assets (NDA)** | **-63,970** | **-71,980** | **-92,104** | **-99,741** | **-126,011** | **-146,374** | **-245,869** | **-272,302** | **-326,990** | **-318,030** | **-332,233** |
| Domestic credits | -37,295 | -41,763 | -58,665 | -64,206 | -87,578 | -110,436 | -220,997 | -264,055 | -310,446 | -311,683 | -333,182 |
| Net claims on government[2] | -36,568 | -25,594 | -40,352 | -48,936 | -57,975 | -56,993 | -142,239 | -116,094 | -146,005 | -161,819 | -150,834 |
| Claims | 22,123 | 17,524 | 16,901 | 16,511 | 14,919 | 14,656 | 14,472 | 16,450 | 15,740 | 15,715 | 15,715 |
| o/w: other dinar credits | 22,123 | 17,524 | 16,901 | 16,330 | 14,735 | 14,474 | 14,472 | 16,450 | 15,740 | 15,715 | 15,715 |
| Deposits (-) | -58,691 | -43,118 | -57,253 | -65,447 | -72,894 | -71,649 | -156,711 | -132,544 | -161,745 | -177,534 | -166,549 |
| Dinar deposits | -40,603 | -36,547 | -42,861 | -46,641 | -51,430 | -61,063 | -57,213 | -29,101 | -60,040 | -85,849 | -74,086 |
| o/w: municipalities | -10,358 | -8,312 | -10,064 | -5,923 | -11,991 | -11,262 | -11,428 | -9,423 | -16,191 | -22,908 | -21,356 |
| Fx deposits | -18,088 | -6,571 | -14,392 | -18,806 | -21,464 | -10,586 | -99,498 | -103,443 | -101,705 | -91,685 | -92,463 |
| *Fx deposits (in euros)* | *-223* | *-79* | *-170* | *-220* | *-247* | *-123* | *-1,213* | *-1,309* | *-1,247* | *-1,160* | *-1,172* |
| Net claims on banks | -1,214 | -16,782 | -18,830 | -15,875 | -30,218 | -53,912 | -79,337 | -149,252 | -165,948 | -151,528 | -184,184 |
| Claims | 1,992 | 825 | 974 | 954 | 869 | 2,069 | 827 | 488 | 467 | 306 | 517 |
| o/w: other dinar credits | 1,669 | 471 | 612 | 946 | 493 | 1,710 | 489 | 481 | 453 | 292 | 511 |
| o/w: Fx credits | 323 | 354 | 362 | 8 | 376 | 359 | 338 | 7 | 14 | 14 | 6 |
| *o/w: Fx credits (in euros)* | *4* | *4* | *4* | *0* | *4* | *4* | *4* | *0* | *0* | *0* | *0* |
| Liabilities (NBS bills, repo transactions) (-) | -3,206 | -17,607 | -19,804 | -16,829 | -31,087 | -55,981 | -80,164 | -149,740 | -166,415 | -151,834 | -184,701 |
| Net claim on the rest of the economy | 487 | 613 | 517 | 605 | 615 | 469 | 579 | 1,291 | 1,507 | 1,664 | 1,836 |
| Claims | 514 | 640 | 732 | 670 | 674 | 653 | 639 | 1,353 | 1,509 | 1,666 | 1,838 |
| Dinar and fx credits | 514 | 640 | 732 | 670 | 674 | 653 | 639 | 1,353 | 1,509 | 1,666 | 1,838 |
| Liabilities (-) | -27 | -27 | -215 | -65 | -59 | -184 | -60 | -62 | -2 | -2 | -2 |
| Dinar deposits | -27 | -27 | -215 | -65 | -59 | -184 | -60 | -62 | -2 | -2 | -2 |
| Other items, net[3] | -26,675 | -30,217 | -33,439 | -35,535 | -38,433 | -35,938 | -24,872 | -8,247 | -16,544 | -6,347 | 949 |
| **Reserve money (H)** | **68,780** | **71,635** | **81,342** | **94,353** | **78,226** | **89,019** | **98,263** | **133,924** | **102,712** | **122,126** | **122,091** |
| Currency in circulation | 39,368 | 42,316 | 47,283 | 53,650 | 45,825 | 48,926 | 52,110 | 68,461 | 58,669 | 65,066 | 65,373 |
| Commercial bank's reserves | 29,412 | 29,319 | 34,059 | 40,703 | 32,401 | 40,093 | 46,153 | 65,463 | 44,043 | 57,060 | 56,718 |
| Required reserves allocated | 20,676 | 21,855 | 24,673 | 26,046 | 26,387 | 33,352 | 33,602 | 34,290 | 25,931 | 29,196 | 31,838 |
| Excess reserves | 8,736 | 7,464 | 9,386 | 14,657 | 6,014 | 6,741 | 12,551 | 31,173 | 18,112 | 27,864 | 24,880 |
| Overnight deposits | 4,924 | 3,034 | 4,564 | 7,604 | -779 | -58 | 3,897 | 20,967 | 8,223 | 16,907 | 14,069 |
| Giro account and cash | 3,812 | 4,430 | 4,822 | 7,053 | 6,793 | 6,799 | 8,654 | 10,206 | 9,889 | 10,957 | 10,811 |

Source: NBS, Statistical bulletin.

1) Unless otherwise indicated.

2) Government include: Republic level and cities and municipalities.

3) Includes: Other assets; Fx deposits of other financial institutions; Deposits of banks undergoing liquidation; Capital and reserves; and Other liabilities.

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