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

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

NBS – National Bank of Serbia

OECD – Organization for Economic Cooperation and Development

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

SEPC – Serbian Electric Power Company

SITC – Standard International Trade Classification

SME – Small and Medium Enterprise

VAT – Value Added Tax

From the Editor

Macroeconomic policy moved toward targeted inflation while fiscal policy went on the election trail this summer. As *QM* predicted late last year, the economy was up and running in the first semester. Inflation did not gather speed thanks to administrative price controls as well as a combination of circumspect fiscal and monetary policy measures. The new policy mix, however, already seems to be slowing down economic growth – because of the rising cost of capital, and increasing imports – because of the dinar appreciation. This raises at least two questions. First, how much will growth slow down and imports increase? The answer depends on the scale of the fiscal expansion and the determination and skill of the central bank in countering its inflationary effect. Second and more important, will the effects of the policy mix be felt over the long term?

The dimensions of the fiscal expansion will depend largely on the tradeoff, as perceived by policymakers, between the election *gain* and the *price* – to be paid largely after the elections – of the policy mix. The gain is in the electorate's satisfaction created by munificent government spending and by the strength of the national currency. The price is in the electorate's dissatisfaction once it realizes that economic growth is slowing down, if not already then certainly later on when the full effects of the policy make themselves felt. In the eyes of the voters, the blame for the slowdown and possible balance of payments difficulties will lie with the NBS – and this makes the dissatisfaction weigh less in the government's calculation. The fact that the dissatisfaction will be felt full force after the elections, also makes this cost weigh less since it may be directed at other decision-makers.

If the revised budget is realized exactly as planned, the net demand of the public sector by the end of the year will be some 65 bn dinars higher than the moderately cautious figure agreed with the IMF in 2005. There are two options for neutralizing the effect of this increase on inflation: first, cutting back credit expansion by 16 percentage points, that is, eliminating about four months' worth of credit growth at the present rate; second, increasing the trade deficit by some 3 percentage points. Of course, any linear combination of these two options is also possible and, indeed, most probable. The price of reduced credit expansion is quite obvious

and would immediately have a negative impact on the electorate's mood. Hence the second option – allowing the trade deficit to increase on the back of the dinar's appreciation – is far more palatable and probable since it puts off the deceleration of economic growth for some time in the future.

Weighing the tradeoff is a continuous exercise. In an election campaign, it is voters' perceptions that matter. The Ministry of Finance has already proved to know to be more restrained in its acts than in its rhetoric. In the previous issue, we expressed the concern that fiscal expansion had already started, but it turned out (as shown in this issue) that fiscal policy in Q2 was quite restrictive, offsetting the negative effects of the expansiveness in Q1. We can only hope that the same will be true with the election rhetoric we are now hearing.

The perception of the Ministry of Finance itself of the probable negative effects of its policies is also essential. The Ministry claims that the fiscal surplus will be reduced by only 24 bn dinars this year (meaning the period from June, which we have not yet analyzed). Such a relaxation would be acceptable by the standards of electoral business cycles. However, the current revenues in the revised budget include the proceeds from the sale of the Mobtel license. These are more in the nature of privatization proceeds, that is, constitute deficit financing of domestic spending from foreign savings. Hence the liquidity effect of the revised budget will increase not only by 24 bn, but by as much as 65 bn dinars and, as already noted, its inflationary effect will be that much greater. Has the Ministry taken this into account? Or does it base its true reckoning on what it tells the public?

The discussion above assumes that the NBS will stick by its present inflation target, and that it will respond to the government's spending of its privatization proceeds by absorbing the resultant dinars and allowing the exchange rate to appreciate as far as needed to keep the dinars "absorbed." If not, the consequence of the fiscal expansion will simply be the acceleration of inflation.

The NBS has not yet publicly and clearly committed itself to an inflation target. But for the first time this summer it acted as if it was ready to pay whatever price

necessary to reduce the inflationary growth of credit. Developments have refuted the conclusion derived from regional experiences (see QM4) that monetary authority measures have been unsuccessful in curbing skyrocketing credit growth. The NBS managed to do just that this June and July. Indeed, it was so tough that the growth of short-term credit to companies in July was negative. This turnaround in NBS policy is treated in the first Spotlight on article in this issue.

It is not yet clear, however, whether it will be possible to keep monetary expansion under control when inflows of foreign capital are coupled with fiscal relaxation. The NBS has up to now never been confronted with the need to suppress the inflationary effects of expansive fiscal policy. Monetary policy has thus far always been completely accommodating to government spending. From May – when the real exchange rate was the same as in late 2002 – to August, the average nominal dinar exchange rate appreciated 5 percentage points. Liquidity growth caused by government operations starting in June and stepped up in July, amid NBS actions directed at keeping liquidity tight, is certain to have been an important contributor to the appreciation. Now, the first 5% went quite smoothly – the productivity of the Serbian economy has risen sufficiently in the past three and half years to make it competitive enough to take it. But, will the NBS bite the bullet and allow another 5%? Or another 10% if necessary? And will 10% be enough?

Yet another question is whether fine-tuning credit supply and demand is possible in a poorly developed financial market with such extreme returns and costs. As noted, there was no fine-tuning in July. Will the price the NBS pays for mopping up liquidity, or the price the economy will pay if there are major fluctuations in monetary policy because of difficulties with the fine-tuning process, prove to be too high? The NBS has resorted to an instrument, but it needs to practice before it can produce a pleasing tune.

Finally, over the longer term, pre-election policies need not be too costly. Once they take office, new governments as a rule quickly tighten fiscal policy, scale back the macroeconomic framework to a sustainable level, and allow the economy to grow, albeit somewhat more slowly. Will this be the case with our domestic electoral fiscal cycle? Two bad omens indicate that it may not. One is the so-called National Investment Plan (NIP). If the NBS manages to redirect demand without excessive dampening of private demand, the only visible cost of this policy mix for the time being will be the increased trade deficit. Moreover, the currency appreciation and the inflation it curbs would remain popular after the election. There will be no one to worry about the trade deficit – the IMF is gone. Hence, NIP could continue next year as it has been devised. Yet, its nature presages that the increase in imports will not go for productive investments, but for ordinary government spending under the cloak of NIP. This, in turn, would mean that not only would the appreciation have eroded our competitiveness, but that the increased imports have been wasted without producing productivity increases. This, undoubtedly, would cost us a greater or lesser balance of payments crisis. The other bad omen was also a hasty pre-electoral move: the reduction of the wage tax which, the Ministry itself has estimated, will slash fiscal revenue by about 30 bn dinars next year. Scenarios such as these two cannot be kept from producing negative results soon, possibly as soon as right after the elections.

TRENDS

1. Review

Economic activity continued accelerating in Q2 2006, but then the June restrictive measures of the NBS began to produce results. The growth of bank credit almost stopped in July, which will inevitably slow down economic growth in Q3. The measures also impacted on the foreign exchange market, with a strong nominal appreciation of the dinar and a clear change in the expectations relating to the future movement of the exchange rate. Though slowing mildly to 13% on a y-o-y basis, the growth of prices essentially continued unabated since core inflation has shown no signs of decelerating for the seventh quarter running. The cautious fiscal policy implemented in accordance with a plan adopted late last year most certainly contributed to keeping inflation stable. The recent budget revision, however, indicates a relaxation, making success in stabilizing prices very unlikely. And, if there is any, it will be due only to monetary policy and be at the expense of economic growth and the competitiveness of the economy.

After growing at a stable trend of some 15% annually[1] over six quarters, including Q2 this year, retail prices decelerated in July and August by about 2 percentage points annually. The prices involved are mainly those under administrative control, in particular the price of electricity, which for two years has been lagging slightly behind inflation and far more behind the prices of other kinds of energy (the prices of liquid fuels have been rising at about 30% on a y-o-y level since mid-2004). Core prices have been increasing since the middle of last year at a y-o-y rate of approximately 11%, and seem set to continue on that trend. The foreign exchange rate appreciated nominally in July and August by as much as 3.4% and 1.1% percent, respectively. This heralds a decisive turnabout in the policy the NBS pursued for the past one and a half years – the movement of the nominal exchange rate no longer follows the movement of inflation. The strong growth of wages reflects not only the rise in productivity evinced by the economic growth – with a mild drop in employment – but also much improved tax collection.

Economic growth as a whole accelerated relative to the previous quarter, with industrial production (y-o-y growth rate of 6.1%) no longer lagging far behind the rest of the economy (6.7% annually measured by SBS methods, or 5.5% to 6.5% as estimated by QM). In our opinion, this growth reflects a real acceleration in the growth of industrial production as well as an improved statistical methodology. The industrial production index has now struck a better balance in capturing traditional and new enterprises – those with negative growth rates have hit rock bottom and the new industry has apparently grown enough to be "noticed" by the statistics. Agricultural production was down a few percentage points relative to the same quarter last year, while services continued to show somewhat unrealistically high growth rates – about 20% annually - compared to other areas. Nonetheless, the growth of commerce is decelerating which, like the drop in employment, may be an indication that the process of broadening the tax base has reached its end in some fields.

The faster economic growth, appreciation of the exchange rate and neutral fiscal policy inevitably led to the acceleration of imports and deterioration of the merchandise and current accounts. No precise analysis is possible as the figures on the SBS website are out of date, but, according to NBS data, imports grew by as much as 18% relative to Q2 2005. The merchandise account was also adversely affected by the deceleration of exports (21.2% in Q2 as against 25.6% in Q1, at y-o-y level), though we believe this is not of a durable nature. Total exports, excluding sugar, continued to grow robustly at 26.8% at the y-o-y level. The inflow of capital hit new records owing to accelerating bank borrowing, which until the end of May financed the expansion of credit to companies, even when the effects of the raised reserve requirement are excluded. Banks are also financing the increased invesment in NBS repo operations; these reached 454 mn euros

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1 As reported earlier by *QM,* although the growth of prices in 2005 was approximately 17.5%, it was due to the effect of the VAT which led to an upward shift of the long-term trend by about 2.5 percentage points, but the underlying trend remained the same – 15%.

from the start of the year to end-June. Other inčows, both in the current and capital accounts, were mainly in keeping with the rhythm of economic growth. The NBS continued to increase its reserves substantially, i.e. reserves acquired by purchase of foreign exchange (562 mn euros accumulation in the črst semester of 2006), excluding bank and government deposits, but this was not enough to avert the appreciation of the exchange rate and resultant rise of imports.

With its restrictive behavior, the consolidated government sector oŽset in Q2 the expansivness with which the year opened so that čscal realization – both of revenues and consolidated government expenditures - was at the planned level in the črst semester. The level was agreed with the IMF and adopted by Parliament in December 2005 along with the 2006 budget, and is obviously restrictive enough to stabilize but not also to slow down the growth of prices in Serbia. Income and pročt taxes were still performing very well, though the growth of consolidated revenues in Q2 can be credited mainly to the growth of imports, i.e. duties and the VAT on imported goods. In Q2, government expenditures were down on 2005 in real terms, though not over the whole of the črst semester, with the main savings being in subsidies and interest payments. Expenditures on the employed and transfers to household, which probably have the most immediate impact on inčation, were higher than projected. Unfortunately, the budget revision and the position of the government in monetary accounts in June and July augurs a serious rise in spending, especially on the employed and households.

June and July čnally saw the eŽects of the NBS's restrictive measures, but only after credit and monetary expansion hit a record in May. Raising of the eŽective banks' reserve requirement rate from 32% in March to 38% in June signićcantly reduced liquidity in the system and increased the price of capital by about 3 percentage points. For the črst time in June and July, the NBS's operations on the open market rivalled credit to companies; in spite of the considerably reduced liquidity, repo operations recorded major growth while short-term credits to companies even fell. Since repo instrument are dinar-denominated and credits to companies are not, there was an appreciable shift in the supply/demand ratio in favor of the dinar. This resulted in the strengthening of the national currency (more details in Spotlight on: 1). In the črst seven months, the NBS accumulated a record 1.8 mn euros in gross reserves, even when all NBS foreign exchange liabilities – foreign, toward government and commercial banks - are excluded (663 mn euros net own reserves).

The NBS measures also made themselves felt on the čnancial markets. The real yield on dinar instruments – repos and T-bills – measured against the rate of the euro rose dramatically and resulted in a high growth of repo transactions. This, together with the global rise in interest rates, led to a major increase of the yield on FFCD bonds. Both oĐcial indices of the Belgrade Stock Exchange fell in Q2 (as was also the case in most East European countries), but recovered in July to new record values.

The announced introduction of targeted inčation as a new framework of NBS monetary policy prompted QM to treat the issue in more detail. Spotlight on: 1 by Kori Udoviđki and Vuk Djokovifl presents the movements in Serbia's foreign exchange market over the past three years, pointing to three stages in the NBS's monetary/foreign exchange policy. Their conclusion is that the NBS will probably be able to target inčation, but only with draconian measures in controlling monetary expansion and high yields on its securities.

In Spotlight on: 2 Laurian Lungu writes about Romania's experiences with the targeted inčation model, which was introduced earlier by a number of other East European countries. She discusses several vital issues that emerged when monetary policy was changed, the operational experiences of the Romanian central bank in implementing the changes, and the challenges that still lie ahead.

Dragana Cvijanovifl presents in Spotlight on: 3 her econometric analysis of the database on the prices and characteristics of some 40,000 residential units in Belgrade. The analysis brought out that, although still underdeveloped and burdened by numerous institutional problems, the real estate market in Serbia functions in accordance with clear market principles and is the most attractive for investment.

Serbia: Selected Macroeconomic Indicators, 2004–2006[1]

	annual data		quarterly data					
			2005				2006	
	2004	2005	Q1	Q2	Q3	Q4	Q1	Q2
Prices and the Exchange Rate				y-o-y[2]				
Retail Price Index - total	10.1	16.5	16.9	17.2	17.1	17.8	14.8	15.6
Retail Price Index - core inflation[3]	9.3	13.4	13.9	14.2	12.4	13.3	11.2	11.0
Real fx dinar/euro (Dec.02=100)	106.3	105.8	106.4	106.7	105.8	104.5	102.7	100.3
Nominal fx dinar/euro (period average)[4]	72.62	82.94	80.24	81.89	83.92	85.71	87.09	86.87
Economic Growth								
GDP[5] (in billions of dinars)	1,431	1,750	…	…	…	…	…	…
				y-o-y, real growth[2]				
GDP	9.3	6.3	5.6	7.3	6.4	5.9	6.3	6.7
Industrial production	7.1	0.8	-3.1	-1.5	3.2	3.2	5.3	6.1
Manufacturing	9.7	-0.7	-5.9	-4.1	3.6	1.8	7.5	6.2
Average net wage (per month, in dinars)	14,108	17,478	15,140	17,122	17,969	19,680	19,284	21,126
Fiscal data	in % of GDP[2)6)]			y-o-y, real growth[2]				
Public Revenues	41.2	40.1	5.4	-0.5	-0.6	1.3	4.7	3.8
Public Expenditures	-40.0	-38.3	-2.6	-2.0	-2.5	0.7	4.9	-2.4
				in billions of dinars[2]				
Consolidated balance	17.5	33.8	4.9	3.9	9.9	15.2	5.6	16.3
Analytical balance (FREN's definiton)[7]	-7.7	-2.9	2.4	-13.4	0.8	7.3	1.2	-0.8
Balance of Payments				in millions of euros, flows[2]				
Imports of goods	-8,302	-8,249	-657	-719	-797	-821	-882	-822
Exports of goods	2,991	3,736	302	319	330	423	383	395
Current account balance	-2,197	-1,843	-354	-342	-492	-656	-732	-527
Foreign direct investments	773	1,200	263	241	460	236	173	542
NBS, gross reserves	229	1,857	299	292	574	692	388	1,034
Monetary data				in billions of dinars, e.o.p. stock[2]				
NBS net own reserves[8]	94.5	165.8	106.4	127.6	149.7	165.8	173.3	215.1
Credit to the non-government sector	263.3	413.6	290.5	316.0	356.3	413.6	460.4	499.0
FX deposits of households	110.7	190.1	124.1	141.5	162.7	190.1	207.6	222.1
M2 (y-o-y, real growth, in %)	16.1	20.8	12.5	22.1	22.4	20.8	24.9	20.1
Credit to the non-government sector (y-o-y, real growth, in %)	20.8	26.4	21.7	22.4	23.9	26.4	38.4	37.1

Source: FREN.
1) For more details (monthly series) see web page www.fren.org.yu.
2) Unless otherwise indicated.
3) As defined by FREN, core inflation takes into account: tobacco and alcoholic beverages, industrial food and non-food products (except liquid fuels and lubricants, and lighting and fuel) and services whose prices are freely formed.
4) Twelve-month averages for annual data, three-month averages for quarterly data.
5) Revised GDP data have been published recently by SBS, and are about 8% higher than the previously published figures. Note – authors of the Trends used the unrevised GDP data, as the revised data have been published after the Trends have been completed for print.
6) In % of revised GDP, see footnote 5).
7) 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.
8) 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.

Trends

2. International Environment

Growth in the euro zone accelerated in Q2, but inflation was still higher than targeted and even gathered pace slightly. This prompted the ECB to raise the reference interest rate to 3% in August. The high US growth recorded in Q1 was almost halved in Q2, and a number of analysts hold that the problems in the real estate market are a sign that a serious slowdown might be in the offing. As the inflationary pressures did not let up, the Fed continued hiking the interest rate in Q2, to a level of 5.25% in June. Growth in the South-east and Central European countries continued to be higher than in the EU (slightly over 5% annualized), but they were still plagued by inflation. South-east Asia, led by China and India, continued performing well (with GDP growth of about 7.8%), in spite of lower-than-expected growth in Japan.

Table T2-1. World: GDP Growth and Inflation, 2005–2006

| In % | GDP | | | | | | costs of living | |
| | real growth | | real growth (annualized, seasonaly adjusted) | | | | in comparison of the previous year | |
	2005	2006	Q2 2005	Q3 2005	Q4 2005	Q1 2006	Q4 2005	Q1 2006
World total	3.2	3.6	3.7	3.3	4.4	3.4	2.9	3.0
USA	3.5	3.4	4.1	1.7	5.6	2.9	3.7	4.0
Canada	2.9	2.8	3.5	2.5	3.8	2.3	2.4	2.6
Japan	2.8	3.2	1.4	5.5	2.7	0.8	0.4	0.7
China	9.9	9.6	11.4	11.5	9.3	11.3	1.2	1.4
India	8.0	7.0	7.3	9.8	9.3	4.5	4.5	5.2
Euro area	1.4	2.3	2.7	1.0	2.5	3.6	2.3	2.5
Germany	1.1	2.1	2.5	0.0	1.5	3.6	2.1	2.2
UK	2.2	2.5	2.1	2.3	3.0	3.4	2.0	2.2
Italy	0.1	1.4	1.1	0.0	2.8	1.9	2.2	2.3
Russia	6.4	6.5	7.5	8.7	3.6	10.0	10.8	9.6
Bulgaria	5.5	5.5	4.6	5.5	5.6	…	4.2	4.7
Romania	4.1	5.4	2.4	4.3	…	…	8.4	7.5
Hungary	4.1	4.5	4.2	4.1	2.8	3.6	2.5	2.6
Croatia	3.8	…	5.5	5.6	6.0	…	…	…
Macedonia	3.8	…	3.7	3.6	0.5	…	2.7	…
Bosnia and Herzegovina	5.0	…	…	…	…	…	…	…

Source: JPMorgan, Central Bank of Bulgaria (www.bnb.org), Central Bank of Republic of Macedonia (www.nbrm.gov.mk) and Central Bank of Croatia (www.hnb.hr)

Good results in euro area…

European Union. Annualized GDP growth in the euro zone stood at 3.6% in Q2 2006, while the quarterly figure was 0.9% (0.8% in Q1 2006). The positive trend was made possible by the strengthening of domestic demand in the zone's largest economies and a slight reduction in unemployment. As for foreign trade, in Q2[1] the euro zone recorded a deficit of 3.4 bn euros: total quarterly imports reached 341.6 bn euros (growing by 18% annually, while exports totalled 338.2 bn euros (an annual growth of 13%). The rise in oil prices pushed the "energy deficit" up significantly (49%), while the chemicals, machinery and equipment manufacturing sectors increased their export share (19%). There was a rise in imports from developing countries: Russia (38%), China (25%), South Korea (23%) and India (22%). China had a 13.4% share in total imports into the EU; Russia 9%; the US 13.8%; Japan 6.2%; and South-east Asia 15.4%. With regard to exports, if US economic growth continues to slow over the coming quarters, the main source of euro zone growth may be jeopardized. Other factors limiting export growth in the second semester may include an appreciation of the euro against other world currencies, and more expensive domestic sources of financing.[2] This could slow annualized GDP growth to 3% in the next quarter. Inflation accelerated mildly in Q2, to 2.5%. Inflationary movements are still mainly affected by oil prices. As inflation exceeded 2%, the ECB raised its interest rate to 3%. In this situation of continued economic growth, the ECB may be expected to continue hiking the

…but inflation has slightly accelerated

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1 The foreign trade deficit in Q1 was 3.8 bn Euro.
2 EUROPA – Eurostat homepage (europa.eu.int/comm/eurostat)

interest rate in order to keep inflation under control. There was good news in Germany: GDP growth in Q2 reached 0.9% (0.7% in Q1 2006), with the strongest impetus coming from a surge in domestic demand (investments in industry and construction, as well as a rise in consumer spending due to a drop in the unemployment rate). The World Soccer Cup definitely had a beneficial impact on performance in this quarter. Domestic demand is expected to be maintained: the planned hike in the VAT early next year will probably mean that many will do their shopping before the end of 2006. The quarterly GDP growth of 1.2% in France was primarily the result of a boom in the real estate market, and the investment cycle. Although Italy's GDP grew by less than the European average, the quarterly rise of 0.5% was a positive sign for the country.

Growth in US is almost halved compared to Q1

United States. Preliminary data shows an annualized GDP growth in Q2 of 2.9% in real terms, or almost half the figure recorded in the previous period. The slowdown in US economic growth can mostly be attributed to the drop in consumer spending, reduced investments in equipment and software, the slump on the real estate market, and lower exports. The foreign trade deficit in Q2 was approximately 780 bn dollars (seasonally adjusted annualized value); imports reached 2,224 bn dollars, while exports valued 1,444 bn dollars. Import growth, however, slowed relative to the last quarter (3.6%), while exports grew by 3% relative to Q1 this year, which was good news for the US.[3] Inflation reached 4% in Q2, up from 3.7% in Q1. The core inflation rate amounted to 2.9%, which was 0.1% lower than in Q1. In a bid to rein in the unrelenting inflationary pressures, the Fed yet again increased the interest rate, to 5.25%, in June.[4] No further rate hikes ensued, due to the lower-than-expected growth of the US economy. Concern has been growing over the declining real estate market, the segment that grew the most in 2005 – 30% annualized. A fall of as much as 13%[5] has been forecast in new residential construction in 2006. The base interest rate on mortgages currently stands at 6.15% (as against 5.64% in the same period in 2005), making the purchase of new homes significantly more expensive. Expecting further price drops, many are holding off from buying at this time.[6] Joblessness, however, is still low, and salaries are relatively stable, which may indicate an adjustment in the real estate market rather than a serious drop. Bearing in mind the fall in real estate purchases and construction, and the rise of oil prices, analysts are forecasting a 3.1% annualized GDP growth in real terms.

Baltic countries are leading solid growth in Eastern Europe

East, Central-east, and South-east Europe (CEE Europe). Q2 saw an annualized average growth of slightly over 5% in this region. The fastest growth was experienced, as in the previous quarter, by the Baltic countries – over 10% annualized. The region has been troubled by a rise in the core inflation rate, which is, moreover, above the projected levels. Inflation rose relative to the previous quarter at different rates in different countries: from 0.1% in Hungary and Slovakia, to 0.3% in Poland. While the main reason for the rise in Hungary was higher food prices, in other countries inflation was spurred by hikes in the prices of basic services. Construction recorded impressive growth, and has been seen as the most profitable sector in the region for the past decade. Russia expects to see a rise of between 7.5% and 13% in fixed investments in real estate in the first semester, relative to last year. At the same time, Poland's construction sector grew by 9.2% in the same period. Inflows from foreign funds into construction in Russia amounted to 183 mn dollars in the first half of 2006; half of this came from FDIs.[7] The factors contributing to this tremendous growth included relatively stable macroeconomic indicators, and inflows from EU funds.

Asia. The powerful growth trend of the entire Asian region – approximately 7.8% GDP annualized – continued in Q2. Japan's annualized GDP growth was 1%, lower than expected (1.9%) due to a downturn in exports to the US in the period observed. Although India and China remain the powerhouses of growth in the region, Singapore, Hong Kong, and Indonesia have also recorded exceptional export-driven growth. Though their main trading partner, the US, is going through a period of lower consumer spending, the Asian economies' export trend may be

Singapore, Hong Kong and Indonesia recorded exceptional export-driven growth

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3 www.bea.gov
4 **The seventeenth consecutive interest rate hike since 2004.**
5 JP Morgan Global Data Watch, 18 August 2006, p. 17.
6 www.huduser.org/periodicals/ushmc.html
7 www.ceemarket.com

sustainable in view of the recovery of the Japanese and European economies, and the continuing economic growth of China and India. Inflation was slightly higher in Q2 compared to Q1, due to the rise in the prices of energy and raw materials (ranging from 1.4% in China to 2.3% in South Korea). Although inflation was relatively low, central banks in the region followed the example of the Fed and the ECB. China's central bank increased banks' reserve requirement for commercial loans to 8.5%. In the first seven months of 2006, commercial banks granted 94% of the credits planned for the whole year (2,340 bn yuan, or 294 bn dollars).[8] In this quarter, Japan raised its base interest rate from 0% to 0.25%.

Box 1. Industrial Metal Prices in the First Semester of 2006

Metal prices are reaching record levels…

Why have the prices of industrial and precious metals been frontpage news in 2006? In the first half of the year, the price of aluminum rose by 36%, nickel by 49%, copper by 80%, and zinc by 289%, and came close to their all-time highs (see Graphs T2-2 and T2-3).[1] Like the situation in the oil market, this is primarily a consequence of limited supply and ever-increasing demand. There were no investments in any new zinc production capacities in the past 10 years. The price of zinc soared after stocks at the London Metal Exchange suddenly dropped by a third. Similarly, aluminum production has been falling because of the restructuring of capacities and amendments to legislation in China,[2] as well as the scheduled closure of alLuminium refining plants in the EU due to high energy costs. Copper stocks have reached critically low levels too; it remains to be seen what effects the strikes at copper mines in Mexico, Chile and Indonesia will have on the total production volume. Most labour contracts at the world's largest copper mines are due to expire in 2006. The rise in nickel prices was caused by a recovery of global steel production, steel mills being the largest consumers of nickel. Nickel stocks at the LME are at a very low level since steel manufacturers have mainly hedged their risks from bottlenecks at mines by negotiating term contracts.

Graphs T2-2 and T2-3. Metal Prices, in USD/t
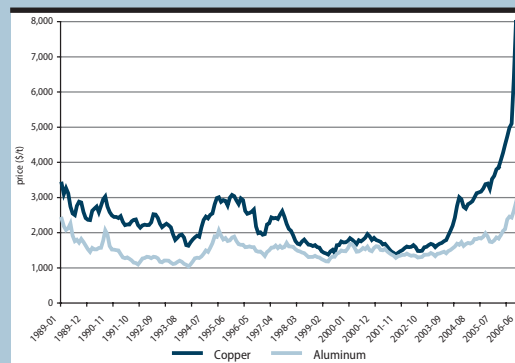
Source: www.econstat.com

Source: www.econstat.com

…due to several limitations on the supply side…

Metal production cannot keep up with the growing demand. The first limitation is the high cost of setting up a new extraction facility; the second, companies' caution when investing into new plants. The growing costs of meeting ever-stricter waste management, refuse storage, and soil renewal demands significantly increase the time needed to start a new extraction facility – from five to 10 years on the average. Companies lack confidence in the profitability of expanding capacities because of the extreme volatility of the metal market. After 20 years of depressed metal prices (since no investor interest existed for years, prices were artificially kept low), extractors have no way of knowing how long the boom will last and hesitate to invest significant amounts into new projects. Third, most mines and or deposits are in regions where there are political risks. Fourth, in mining, a rise in metal prices does not stimulate a proportionally bigger production volume: when

1 www.abareconomics.com/interactive/AC_june_2006/htm/aluminijum.htm.
2 China's largest aluminium maker, Chalco, and the Chinese government are attempting to concentrate the industry. Since early this year, Chalco has bought seven refining companies representing an eighth of the nation's production capacity. The government is planning to change legislation governing company size, required investment, and environment protection, and smaller refiners will have serious trouble meeting the requirements.

8 www.chinadaily.com.cn/bizchina/2006-08/16/content_666060.htm

prices are low, only mines with high grade ore are operative, but, when prices go up, mines extracting low grade ore are also turned on; overall this does not produce a proportional increase in the volume of ore mined. Fifth, tax policies are uncertain,[3] with states imposing additional rent costs and making the granting of concessions conditional on companies paying more and more to the state if commodity prices rise.[4]

…and fast growing demand, led by China and India

The global business climate is the most important factor on the demand side. Over the past three years, the development of China, India, and other emerging economies has caused a dramatic upswing in demand for basic metals. Due to intensive investment into infrastructure, construction of factories and other facilities, the growth of the automobile industry, and the development of telecommunications networks, China and India have become the locomotives of metal market growth. And, as the population's standard of living rises, so does the demand for housing, cars, and other consumer goods, which in turn pushes up demand for metals. Economic development in advanced economies always adds extra demand to the metals market. For example, US consumption of aluminum and copper grew by 10% and 1% respectively, due to an 8% growth in construction in Q1 2006. Demand is also affected by investment funds and speculators, which had a dominant influence on prices in March and May.[5] Investment funds putting money into raw materials such as oil, metals, etc. have increased their portfolios from 30 to 80 bn dollars; these are expected to reach between 140 bn and 150 bn dollars by the end of next year.

Further increase in prices can be expected

Based on the existing supply and demand ratios, a further rise in metal prices can be expected. Although June saw a drop (due to concerns over high interest rates), the effect was short-lived. After China and India's growth results for Q2 2006 were published, metal prices rose again. As demand is a relatively clear picture, all price changes will result from changes in supply. Limitations to production growth due to the above reasons will spur a race for commodities in short supply. High metal prices have made mining companies, especially junior mining companies, very attractive. Extractors will primarily base their expansion on buying existing mines with substantial ore reserves and in politically more stable regions. Another argument in favor of further rises in metal prices is that, in real terms, they are still 35% below the all-time highs of the 1970s.[6] All this indicates major fluctuations on the market, and the need to exercise sound judgment when investing in this field.

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3 The relationship between South Africa and Sasol is the latest example of what happens when a state wishes to avail itself of a favourable situation by imposing additional taxation.
4 *Money Week*, "Why the commodities boom is different this time", 21 March 2006. Available at www.moneyweek.com/file/9963/why-the-commodities-boom-is-different-this-time.html
5 The drop in metal prices resulted from speculative sales on the part of investment funds.
6 *Money Week*, "Is the commodities boom over?", 26 May 2006. Available at ww.moneyweek.com/file/13153/is-the-commodities-boom-over.html

3. Prices and the Exchange Rate

After a stable trend of 15% during Q2, total y-o-y inflation for the first time slowed more clearly in July and August, falling to approximately 13%. The sole reason was the trend in non-core prices and, most particularly, energy prices. In contrast to the y-o-y growth of 19,1% in March and 20,9% in June, non-core prices fell to 14,3% in August. Though y-o-y real appreciation accelerated from 3,8% in March to 10,7% in August, core prices recorded a 11% y-o-y growth and showed no tendency of slowing down. The exchange rate even appreciated on a monthly basis – by 3,4% in July and by 1,1% in August.

Table T3-1. Serbia: Comparative Price Growth, Selected Indices, 2003–2006

	RPI		Other price indices			
			RPI	Consumer price index	Industrial producers' price index	Agricultural producers' price index
	period average increase[1]	annual cumulative[2]	y-o-y[3]			
			annual indices			
2003	11.7	7.8	7.8	9.9	5.9	1.1
2004	10.1	13.7	13.7	11.0	9.5	15.7
2005	16.5	17.7	17.7	16.1	13.7	10.7
2004			**quarterly indices**			
March	2.0	1.8	7.8	8.7	7.5	17.0
June	2.6	5.1	9.3	10.8	10.5	18.6
September	3.7	9.2	11.4	13.1	11.3	23.0
December	4.1	13.7	13.7	13.1	12.1	10.6
2005						
March	6.1	5.1	17.4	16.9	12.0	12.0
June	2.9	8.0	16.8	15.8	12.0	8.5
September	3.6	11.8	16.5	14.7	15.0	9.1
December	4.2	17.7	17.7	17.0	16.5	11.8
2006						
March	3.4	2.2	14.5	13.9	15.3	6.9
June	3.5	5.7	15.1	13.6	16.1	9.8
2005			**monthly indices**			
March	0.8	5.1	17.4	16.9	12.0	12.0
April	0.8	5.9	17.4	16.4	11.7	9.0
May	1.2	7.1	17.5	17.0	11.2	11.2
June	0.8	8.0	16.8	15.8	12.0	8.5
July	2.0	10.1	17.5	16.0	13.5	12.7
August	0.4	10.6	17.2	15.7	13.9	11.4
2006						
March	0.4	2.2	14.5	13.9	15.3	6.9
April	1.7	4.0	15.5	14.5	17.0	7.8
May	1.6	5.7	16.0	14.4	17.6	7.9
June	0.0	5.7	15.1	13.6	16.1	9.8
July	-0.1	5.6	12.8	11.7	14.7	10.2
August	0.7	6.3	13.1	11.9	14.3	–

Source: Table P-1. in Analytical Appendix.
1) Ratio of given and preceding period.
2) Cumulative index- ratio of given period and December of previous year.
3) Data refers to given month, for period average data see Table P-2 in Analytical Appendix.

After rising at stable rate in the first two quarters, RPI slowed in July and August

Like the beginning of 2006, Q2 saw a stabilization of the y-o-y *retail price* index (RPI) at approximately 15%. However, it declined to about 13% in July and August. The decline was driven by a strong slowdown of non-core inflation, while core inflation remained unchanged at the stable y-o-y level of 11% from the beginning of the year (Table T3-3).

Graph T3-2. Serbia: Selected Price Indices, 2003-2006 (Y-o-y growth)

This year the RPI, IPPI and CPI are moving in concert

Source: Table P-2. in Analytical Appendix.
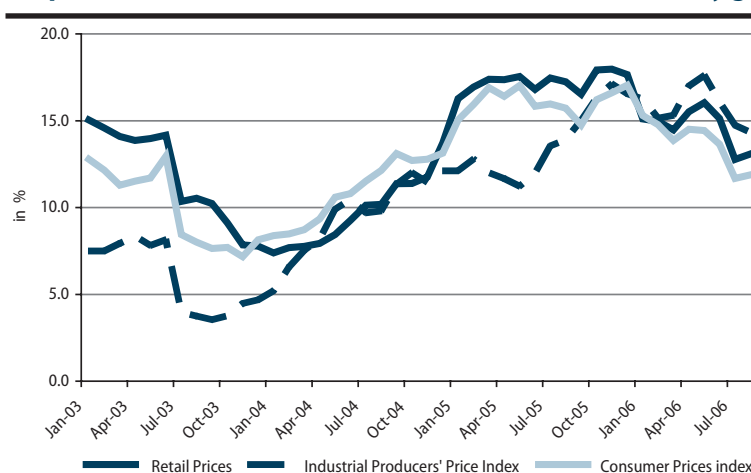
Legend: Retail Prices — Industrial Producers' Price Index — Consumer Prices index

Comparison of the trends of the retail price and consumer price indices since the beginning of the year show that they are moving in concert (Graph T3-2). There is a difference only in May when inflation rose, while the consumer price index remained approximately at the same y-o-y level as in the previous month – 14,5%. This correlation was upheld by the July and August data when the cost of living fell to slightly below 12%. The RPI and IPPI indices also recorded similar trends in July and August, declining from about 16% at the beginning of the year to approximately 14,5% in Q2.

Core inflation is not slowing down

Core inflation[1] has been on a steady rise of approximately 11% from the beginning of 2006. The trend continued in July and August, when non-core inflation slowed down significantly. Unlike the previous quarters, the highest growth in core inflation in Q2 was recorded by the prices of tobacco products and alcoholic beverages, primarily because of the hike in the price of tobacco in April. The rise in the prices of industrial non-food products slowed moderately in Q2, while the prices of services (those formed freely) grew more rapidly, but remained at a low level.

Table T3-3. Serbia: Retail Prices (y-o-y Indices According to FREN's Classification)

	Inflation total	Non-core inflation				Core inflation				
		Total	Agricultural products	Energy[1]	Services w/market-set prices	Total	Beverages and tobacco	Food	Non-food[2]	Services w/ administered prices
					y-o-y indices					
2005										
March	17.5	19.9	18.3	19.4	20.4	14.3	12.9	17.6	9.6	20.1
April	17.4	20.2	27.2	18.6	20.4	14.0	9.8	17.1	10.3	19.8
May	17.5	20.0	28.9	17.7	20.5	14.5	10.2	17.1	11.4	19.9
June	16.8	19.1	27.2	15.6	21.1	14.0	10.2	16.7	10.7	19.4
July	17.4	20.9	37.3	17.4	23.1	13.8	10.4	15.4	11.2	19.8
August	17.2	22.7	33.3	20.2	24.4	12.0	8.6	14.7	10.5	11.8
December	17.6	21.9	36.1	17.1	24.8	13.6	13.8	15.8	11.4	13.3
2006										
March	14.4	19.1	31.4	19.2	17.3	10.8	10.9	12.1	10.5	7.9
April	15.6	21.4	26.0	25.9	16.8	11.2	13.7	12.1	10.3	8.7
May	16.1	23.2	25.5	29.0	17.9	10.8	13.9	12.1	9.1	9.3
June	15.1	20.9	19.6	25.9	16.9	10.8	14.0	12.2	9.1	8.5
July	12.7	14.7	8.9	15.7	14.8	11.3	16.0	12.7	9.1	8.4
August	13.1	14.3	7.9	17.7	14.2	10.7	15.8	12.9	9.9	6.9
MEMORANDUM ITEMS										
					weights					
2004	10,000	4,634	349.0	2,257.0	2,028.0	5,366	672.0	2,043.0	1,946.0	705.0
2005	10,000	4,195	309.0	1,837.0	2,049.0	5,805	816.0	1,999.0	2,418.0	572.0
2006	10,000	4,319	325.0	1,820.0	2,174.0	5,681	786.0	2,021.0	2,304.0	570.0

Source: SBS.
1) Consists of: liquid fuels and lubricants, and light and fuel.
2) Excluding liquid fuels and lubricants, and light and fuel.

Non-core inflation still exerted a pull on total inflation in Q2 2006, but slowed down significantly in July and August. This non-core inflation trend was influenced mostly by the rise in energy

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1 For purposes of analysis FREN, for QM3, formed its own *core inflation index*. It takes into account all components of the retail price index; non-core inflation includes agricultural produce, energy (liquid fuels and lubricants, and lighting and fuel) and services whose prices are administratively controlled, while core inflation comprises tobacco and alcoholic beverages, industrial food and non-food products (except liquid fuels and lubricants, and lighting and fuel) and services whose prices are freely formed.

Non-core inflation is still pulling total inflation

prices: the y-o-y energy prices growth was approximately 20% in Q1, and up to about 27% in Q2, but recorded a major slowdown in July and August (Table T3-3). For more details about the influence of energy prices, see Box 1. The prices of services under administrative control followed a similar trend, remaining at a level of 17% in Q2, with the exception of May when they were slightly higher because of the raising of the telephone tariff; in July and August these prices slowed. These trends in the energy index and the index of services whose prices are administratively controlled also brought about a slowing of non-core inflation in July and August. The rise in energy prices in Q2 was driven by the rising oil prices (which continue to rise rapidly) as well as the higher prices of electricity. The growth of agricultural produce prices has slowed, with the y-o-y index standing at 19,6% in June and 31,4% in March. For more than a year, this high growth has not been accompanied by agricultural producers' prices. The strong acceleration of the y-o-y agricultural produce index from Q2 2005 to the beginning of Q3 2006 is not evident in the agricultural producers' price index. Since the agricultural produce price index mostly includes the prices of selected groups of produce at farmers' markets, it is most likely that at some point the statistics started capturing the prices of some imported fruits and vegetables, which have no effect on agricultural producers' prices.

Box 1. Energy - the Main Reason for the Slowing of Inflation

The slowdown in non-core inflation in July was mainly the result of...

A change in the timing of adjusting electricity prices with total inflation and poor harmonization of these prices with the world trend led to the slowdown of non-core and total inflation in July.

...the changed timing of energy prices adjustments...

This year, the prices of electricity were adjusted in early April instead of July, as was mostly the case in previous years. As a result, there was a high growth of the y-o-y energy price index during Q2 and a sudden decline in July and August (Table T3-3). This is to say that the adjusted, *higher*, prices of 2006 and non-adjusted, *lower*, prices of 2005 were used to calculate the y-o-y index in Q2. Since the price adjustment last year occurred in July, the ratio of the adjusted prices in both years can be observed only in that month. This resulted in significantly lower y-o-y indices in July and August than in Q2 2006.

...and the delay in keeping up with world energy prices

In contrast to last year, electricity prices in 2006 are in synch with total inflation. More importantly, however, they are not keeping pace with prices in the rest of the world. Had electricity prices followed the trend of domestic prices of liquid fuels and lubricants (which themselves are not fully adjusted to the world oil prices), they would have been 13,4% higher in July.

Table T3-4. Serbia: Retail Prices (Contribution to Index Growth by Components According to FREN's Classification), 2005-2006

	Inflation total	Non-core inflation				Core inflation				
		Total	Agricultural products	Energy[1]	Services w/market-set prices	Total	Beverages and tobacco	Food	Non-food[2]	Services w/ administered prices
					contribution to y-o-y growth					
2005										
March	100.0	50.8	3.5	21.8	25.5	49.2	6.4	21.5	14.2	7.0
April	100.0	51.9	5.2	21.0	25.6	48.1	4.9	21.0	15.3	7.0
May	100.0	50.6	5.4	19.7	25.5	49.4	5.0	20.7	16.7	6.9
June	100.0	50.5	5.3	18.1	27.2	49.5	5.3	21.0	16.3	7.0
July	100.0	53.9	6.8	19.0	28.0	46.1	5.0	18.3	16.1	6.7
August	100.0	58.7	6.2	22.4	30.2	41.3	4.3	17.7	15.3	4.1
December	100.0	54.5	6.5	18.3	29.7	45.5	6.6	18.5	16.0	4.5
2006										
March	100.0	57.3	7.1	24.2	26.1	42.7	5.9	17.0	16.7	3.1
April	100.0	59.1	5.4	30.3	23.4	40.9	6.9	15.7	15.2	3.2
May	100.0	61.8	5.1	32.6	24.0	38.2	6.8	15.2	12.9	3.3
June	100.0	59.4	4.2	31.1	24.2	40.6	7.2	16.3	13.9	3.2
July	100.0	49.8	2.3	22.4	25.2	50.2	9.8	20.2	16.5	3.8
August	100.0	50.2	2.0	24.7	23.6	49.8	9.5	19.9	17.4	3.0

The contribution of core and non-core inflation to total inflation was equal in July and August

Source: SBS.
1) Consists of: liquid fuels and lubricants, and light and fuel.
2) Excluding liquid fuels and lubricants, and light and fuel.

The biggest contribution to y–o–y growth in Q2 came from energy prices

The y-o-y contribution of non-core inflation to total inflation in Q2 2006 was approximately 60% (Table T3-4), primarily due to energy (slightly over 30%) and services whose prices are under administrative control (slightly under 25%). Although the prices of these components gave the biggest contribution in July and August, their slowdown resulted in non-core and core inflation contributing in equal measure to total inflation in these two months.

Table T3-5. Serbia: Dinar/Euro Exchange Rate, 2003-2006

	Nominal				Real			
	exchange rate (FX)[1]	base index[2] (Dec.02=100)	y-o-y index[3]	cumulative index[4]	real FX[5] (Dec.02=100)	y-o-y index[3]	cumulative index[4]	USD/EUR rate[6]
				annual exchange rate				
2003	64.9743	105.6	107.1	110.5	102.4	97.8	104.4	1.1241
2004	72.6215	118.0	111.8	115.6	106.3	103.8	103.9	1.2392
2005	82.9188	134.7	114.2	109.3	105.8	99.5	94.9	1.2433
2004				quarterly exchange rate				
March	69.2361	112.5	110.1	102.3	105.1	103.9	101.0	1.2382
June	70.8080	115.0	109.5	105.3	106.0	103.0	101.5	1.2084
September	73.4267	119.3	112.7	109.4	106.1	104.1	101.7	1.2113
December	77.0150	125.1	114.6	115.6	108.2	104.3	103.9	1.2993
2005								
March	80.2421	130.4	115.9	102.7	106.4	101.2	98.1	1.3145
June	81.8942	133.0	115.7	105.0	106.7	100.7	98.3	1.2606
September	83.8302	136.2	114.2	107.5	105.8	99.8	97.8	1.2199
December	85.7085	139.2	111.3	109.3	104.5	96.6	94.9	1.1898
2006								
March	87.0875	141.5	108.5	101.4	102.7	96.6	99.6	1.2031
June	86.8674	141.1	106.1	101.0	100.3	94.0	97.9	1.2552
2005				monthly exchange rate				
March	80.7498	131.2	116.1	102.7	106.5	101.0	98.1	1.3074
April	81.3236	132.1	116.0	103.4	106.8	100.9	98.5	1.2955
May	81.8419	133.0	115.7	104.1	106.6	100.3	98.2	1.2715
June	82.5172	134.1	115.3	105.0	106.7	100.7	98.3	1.2180
July	82.9982	134.8	114.2	105.6	105.1	99.3	96.9	1.2040
August	83.9965	136.5	114.7	106.8	106.2	100.0	97.9	1.2294
2006								
March	87.1033	141.5	107.9	101.4	102.5	96.2	99.6	1.2013
April	86.5391	140.6	106.4	100.7	100.7	94.3	97.9	1.2239
May	87.3023	141.8	106.7	101.6	100.3	94.1	97.5	1.2750
June	86.7609	140.9	105.1	101.0	99.8	93.5	97.0	1.2677
July	83.7931	136.1	101.0	97.5	96.4	91.7	93.7	1.2684
August	82.8893	134.7	98.7	96.5	94.8	89.3	92.2	1.2803

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 Dec 2002.
3) Ratio of fx in column 1 and fx for the same period in previous year.
4) Cumulative is the ratio of given and December of previous year.
5) Included 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.

Dinar continued to appreciate in Q2, the real exchange rate in June reached the late 2002 level

Nominal appreciation in Q2 2006 relative to Q1 was 0,3%, while the real appreciation was 2,4% (Table T3-5). The exchange rate nominally appreciated in June by 0,6%, and by 0,5% in real terms compared with May, which brought the real exchange rate to the level recorded in late 2002.

Graph. T3-6. Serbia: Nominal and Real Dinar/Euro Exchange Rate, 2003-2006

July and August also saw major nominal appreciation of the exchange rate

Legend: nominal fx — prices Serbia/prices Euro area — real fx*
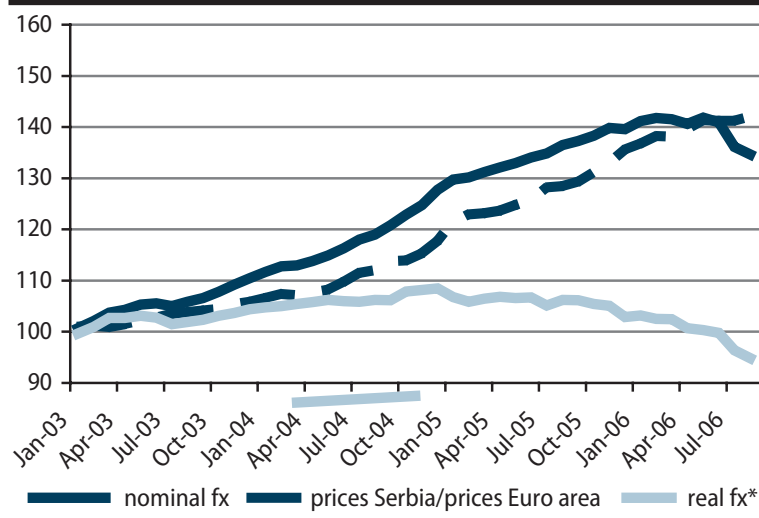
Source: Table P-3. in Analytical Appendix.
*See definition of real fx in Table T3-5.

In early July, the exchange rate began to appreciate significantly in nominal terms, and this continued in August. The lowest the euro came against the dinar (1:81,46 dinars) was on 21 August 2006. This trend led to a nominal appreciation of 1,1% and a real appreciation of 1,6% in August relative to the previous month.[2] Real appreciation from March to August was 7,4%, with as much as 60% of that a result of the nominal appreciation in July and August.

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2 For more detailed analysis of these trends see "Spotlight On: 1".

4. Employment and Wages

In the period from September 2005 to March 2006, employment was cut by approximately 35,000 jobs, the lowest figure since *QM* started monitoring the data. The main reasons were the faster restructuring in the public and socially-owned sector, as well as the slower growth of employment in the private sector. Aggregate wages and the average wage, however, continued to grow strongly.

Employment

Since only the data for September and March is completely reliable, Table T4-1 shows the registered employment for those two months.[1]

Table T4-1. Serbia: Registered Employment, 2003–2006

Relative to September 2005, employment was reduced by 35,000

| | Total No. of employed (employees and entrepreneurs) | Employees in legal entities | Employees with natural entities | | | Total No. of employees |
			Total	No. of entrepreneurs	No. of employees within 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

Source: SBS
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. natural entities - 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. 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.
2) Employees in legal entities (companies, organizations, institutions). SOURCE: Semi-annual Report on the Employed and Wages RAD-1/P (Column 10), and the Additional Survey to the Semi-annual RAD-1 Report.
3) Owners of small businesses and self-employed persons (natural entities) and their employees (Column 4 + Column 5).
4) Owners of small businesses and self-employed persons (natural entities)
5) Employees of small businesses (natural entities). SOURCE: Semi-annual Report on Small Businesses and their Employees RAD-15.

The data for March 2006 that became available after the previous *QM* came out was a surprise. In spite of the rapid growth of aggregate wages noted in that issue, the figures for March 2006 showed that employment had been cut by approximately 35,000 relative to September 2005. The changes in the March–September–March periods were the most unfavorable employment trend in the last three years. The reason for the decline (approximately 1.7% from September 2005 to March 2006) was largely rationalization in the public sector. During this period, for example, the number of employed in the health sector was reduced by 9,812 (7,140 in November 2005 and 2,672 in late February 2006), while 4,000 jobs were cut in education in January 2006[2]. Serbian public enterprises have been downsized as well. In addition, the SBS data showed the number of people working in the manufacturing industry down by over 20,000. The number of employees in small businesses is on a steady upward trend, but lower than in the previous period. (Table T4-1).

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1 The sample used to gather monthly employment data is unreliable. For more details on methodology, see the QM3 article "SPOTLIGHT ON: Registered employment and wages". Since the article was published, only data for March and September has been posted on the the SBS and NBS websites.
2 Sources: www.mfin.sr.gov.yu; www.rztr.sr.gov.yu.

Wages

Table T4-2. Serbia: Aggregate Wages and Average Monthly Wages, 2003–2006

	Aggregate wages(MoF)[1]		Aggregate wages (SBS)[2]		Average monthly wages (SBS)	
	in 000 dinars	in % of GDP	in 000 dinars	in % of GDP	Gross	Net
2003	391,657,571	35.8	367,111,910	33.5	16,612	11,500
2004	462,905,007	35.6	454,125,726	34.9	20,555	14,108
2005	564,699,486	35.3	560,368,368	35.0	25,514	17,478
2005						
Q1	117,781,793	36.6	122,356,320	38.0	22,166	15,140
Q2	138,985,971	37.4	137,692,500	37.0	25,035	17,122
Q3	145,027,114	34.9	144,569,591	34.8	26,280	17,969
Q4	162,904,607	34.6	157,575,975	33.5	28,781	19,680
2006						
Q1	153,488,429	39.1	152,864,571	38.9	28,209	19,284
Q2	168,572,637	..	167,026,541	..	30,914	21,126

Source: MoF (Public Revenue Office) and SBS.
1) Wage tax based.
2) Calculated as No. of employees multiplied by average wage (SBS data). Quarterly data of no. of employees - FREN's estimate (see Table P-4 in Analytical appendix).

The growth of registered aggregate wages in the first semester was stable...

All indicators showed registered average wages rising strongly in Q2. But it is impossible to say whether this was real growth due to rising productivity or the result of the broadening of the tax base. *QM* observes the wage trends based on SBS statistics as well as the collection of wage tax since we believe the official statistics still do not capture a major portion of the *new private sector*. The wage tax continued to rise in Q2, but more slowly than in Q1, meaning that registered aggregate wages grew at a stable rate in the first semester. Since there was no growth of employment, average wages in Serbia are indeed rising and, in *QM*'s estimate, by even more than shown by the SBS statistics.

....the average wage grew even more rapidly...

... but it is not possible to say if this was the result of the growth of productivity and/or improved tax collection

Interestingly, the SBS estimate of the growth of aggregate wages and the estimate based on wage tax now converge very closely. This is an indication that the registered average wage is growing just as fast in the "traditional sector" which is captured by the RAD-1 sample, and in small businesses[3]. There is also strong evidence that workers not receiving wages have been laid off more rapidly in the past few quarters. To an extent, this explains why the aggregate of taxed wages is growing while the total number of employed is shrinking.

Table T4-3. Serbia: Wage Indices, Y-o-y data, 2003-2006

	Aggregate wages (MoF)[1]		Aggregate wages (SBS)[2]		Average monthly wages (SBS)	
	nominal	real	nominal	real	nominal	real
2003	117.6	107.0	123.0	111.9	125.3	114.0
2004	118.2	106.1	123.7	111.0	123.7	111.1
2005	122.0	105.0	123.4	106.2	124.1	106.8
2005						
Q1	119.6	103.1	121.6	104.9	121.8	105.0
Q2	124.4	106.9	124.1	106.6	125.3	107.6
Q3	125.4	108.5	124.1	107.5	124.3	107.6
Q4	118.9	101.9	124.8	107.1	125.3	107.5
2006						
Q1	130.3	113.7	124.9	109.0	127.3	111.0
Q2	121.3	106.2	121.3	106.2	123.5	108.1

Source: MoF (Public Revenue Office) and SBS.
1) Wage tax based.
2) Calculated as No. of employees multiplied by average wage (SBS data). Quarterly data of no. of employees - FREN's estimate (see Table P-4 in Analytical appendix).

3 Over the past few years, average wages appeared to have risen more rapidly in the so-called RAD-1 "sector" (captured by statistics) than in the rest of economy (see SPOTLIGHT ON: Registered Employment and Wages, QM3).

Table T4-4. Serbia: Average Wages by Activities, Y-o-y Real Indices, 2005–2006

	2005	Q1 2006	Q2 2006
Total	106.8	110.9	108.0
Agriculture, forestry and water works supply (13)	112.2	118.3	115.7
Fishing (15)	116.2	105.5	70.8
Mining and quarrying (4)	100.4	108.9	114.5
Manufacturing (12)	109.1	114.4	110.9
Electricity, gas and water supply (2)	104.1	104.0	99.4
Construction (11)	104.5	108.7	111.0
Wholesale and retail trade, repair (10)	111.6	114.2	113.9
Hotels and restaurants (14)	108.3	112.0	111.0
Transport, storage and communications (5)	104.2	110.0	111.0
Financial intermediation (1)	110.5	112.9	111.5
Real estate, renting activities (3)	111.6	101.5	99.1
Public administration and social insurance (6)	105.0	112.6	104.3
Education (8)	108.2	114.9	103.5
Health and social work (9)	100.0	101.4	102.3
Other community, social and personal service (7)	102.6	105.2	100.7

Source: SBS, RAD-1
Number in parenthesis refers to activity ranked by level of average wage less taxes and contributions.

According to the SBS, the growth of the real average wage was slightly slower than in Q1, just as the growth of real wages was slower than in Q2 last year. Nonetheless, both rose faster than they did in 2005.

Observed by economic activity (Table T4-4), wages increased most rapidly in the agriculture, mining and quarrying, commerce, and services (financial, catering, transport). As the prices of these services did not record a particularly rapid rise, the indication is that improved tax collection still plays the key role in the rise of registered wages.

5. Economic Growth

Accelerated economic growth marked Q2 of 2006. The y-o-y growth of about 6.7%[1] was all the more favorable in view of the somewhat lower agricultural performance and the slower growth of the tax component of GDP. The quarter saw an acceleration of industrial production – a y-o-y growth of 6.1% – and uncovered positive trends in industrial production that could not have been visible in the previous quarter. Services continued their long-term trend of double-digit growth, while construction recorded moderate growth on the basis of which the real trends in this part of the economy cannot be assessed.

Gross Domestic Product

Using SBS methodology, QM estimates GDP growth in Q2 at 6.7%

According to the *QM* estimate, based on SBS methodology and data, GDP in Q2 was about 6.7% up on the same period last year (Table T5-1). While the high Q1 economic growth can be attributed at least in part to the low base of Q1 2005, the y-o-y growth in Q2 this year indicates an acceleration, driven mainly by industrial production. This will be key for maintaining a high level of economic growth until the end of the year since, as of the next quarter, industrial production will be compared with the high base of the second semester of 2005. The acceleration in industrial production in Q2 suggests that economic growth in 2006 will probably remain at about 6.5%, as forecast in *QM*4. The economic results in Q2, as well as in the whole of the first semester of the year, are all the more favorable if the slower growth of taxes less subsidies, and the poor performance of the agriculture due to exogenous factors, are taken into account.

GDP growth will probably remain stable at around 6.5% until the end of the year

Table T5-1. Serbia: Gross Domestic Product, 2004–2006[1)]

	y-o-y indices								base index	share in GDP
	2004	2005	2005				2006		$(Jan-Jun)_{06}^{2)}/$ $(Jan-Jun)_{02}$	2005
			Q1	Q2	Q3	Q4	Q1	Q2[2)]		
Total	109.3	106.3	105.6	107.3	106.4	105.9	106.3	106.7	124.5	100.0
Taxes minus subsidies	109.3	110.1	115.3	110.1	108.1	107.9	100.0	104.5	141.1	17.8
VA at basic prices	109.4	105.5	103.6	106.6	106.1	105.5	107.7	107.1	121.5	82.2
Agriculture	119.0	94.8	97.2	101.7	91.4	92.7	95.4	97.0	95.0	15.3
Manufacturing	108.8	99.5	92.9	96.4	105.3	102.6	107.9	106.2	105.0	18.7
Construction	103.5	93.0	79.5	92.7	95.9	100.1	105.4	100.0	97.3	3.6
Transport	115.6	123.0	119.7	122.4	123.4	126.0	127.1	126.6	192.3	12.3
Wholesale and retail trade	117.0	121.9	122.3	125.7	124.6	116.2	117.1	109.5	175.3	12.5
Financial intermediation	109.8	116.9	115.4	116.3	117.2	118.5	120.1	117.2	165.8	8.4
Other	101.4	102.3	101.8	103.1	101.8	102.4	98.7	101.1	103.7	29.2

Source: SBS.
1) In constant 2002 prices.
2) QM estimate.

The gap between material production and services continued in Q2 (Table T5-1). Transport[2] and financial intermediation kept up their very high growth rates of some 20%. Currently available indicators point to a slowdown in the growth of commerce; the estimate, however, may be corrected as more data becomes available.[3] Where material production is concerned, the manufacturing industry grew by slightly over 6% relative to the same period last year, construction stayed at the Q2 2005 level,[4] while the agriculture was below last year's growth figures. Because of their low share in GDP, *QM* has grouped the other industries into a single category: of these, electricity, gas and water production scored positive, growing by about 6.5%, while catering continued its decline of about 10%.

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1 QM estimate based on SBS methodology and indicators published up to the time issue went into print.
2 Growth indicators for transport are yet to be released; the QM estimate is therefore based on indirect indicators and interpolation.
3 Only the retail trade index for Q2 has been published so far.
4 SBS uses the index of hours worked at construction sites as an indicator of construction growth used in calculating GDP. QM analysis indicates moderate construction growth in Q2.

QM estimates that actual growth is somewhat lower

The real growth of construction is probably slightly lower than shown. The indicators for industry, agriculture, and financial intermediation, however, are rather more reliable and are a sound yardstick for measuring growth in these sections, while the high recorded growth of transport and commerce is presumably due, at least in part, to the improved tracking methodology employed by the SBS. *QM* therefore estimates actual economic growth in Q2 at between 5.5% and 6.5%.

Industrial Production

Industrial production growth accelerates

According to SBS figures, industrial production rose by 6.1% in Q2 relative to the same period in 2005, which was faster than in Q1 2006. The manufacturing industry continued its high growth rates –y-o-y growth in Q2 was 6.2%. Growth in electricity, water and gas production and distribution matched that of manufacturing – 7.6% above Q2 2005 production, while mining and quarrying recorded lower growth - 2.6% (Table T5-2).

Table T5-2. Serbia: Industrial Production Indices, 2004-2006

	y-o-y indices								base index			share
			2005				2006		2006Q1/	2006Q2/	(Jan-Jun)$_{2006}$/	2005
	2004	2005	Q1	Q2	Q3	Q4	Q1	Q2	2004Q1	2004Q2	(Jan-Jun)$_{2002}$	
Total	107.1	100.8	96.9	98.5	103.2	103.2	105.3	106.1	102.0	104.5	106.6	100.0
Mining and quarrying	99.3	102.1	96.8	100.9	104.5	105.5	104.0	102.6	100.7	103.5	100.7	6.3
Manufacturing	109.7	99.3	94.1	95.9	103.6	101.8	107.5	106.2	101.2	101.8	107.0	75.4
Electricity, gas, and water supply	102.4	106.6	105.5	112.4	100.9	108.4	99.3	107.6	104.8	120.9	106.3	18.4

Source: SBS.

Electricity made a major contribution to accelerating industrial production

The high growth of industrial production characteristic of the first semester of 2006 was partly the consequence of comparison with the low base of 2005. To detect real shifts in the underlying trends and eliminate the influence of one-off effects encountered in 2005 (such as the VAT introduction), the appropriate quarters in 2006 will be compared here with those in 2004 (Table T5-2). The 4.5% growth of industrial production in Q2 2006 relative to Q2 2004 indicates an acceleration of over 2 percentage points over Q1; this is, however, mainly the result of the high growth in electricity, gas and water production and distribution. Seasonally adjusted industrial production indices published by the SBS point to a similar conclusion.

The practice of linking public holidays affected industrial production in April and May

As in 2006 generally, industrial production in Q2 was distinguished by major monthly variations. After a slowdown in April, when the y-o-y growth rate was a meager 1.4%, May saw it leap to 11%. Since the structure of industrial production growth did not change significantly in either April or May, the difference of almost 10 percentage points can most probably be ascribed to the running together of public holidays in April.

The y-o-y growth of electricity, gas and water production and distribution in Q2 was the result of higher consumption and the favorable weather conditions. In Q1, this production did match that of Q1 2005, but domestic demand was also higher. The stagnation of industrial production and electricity, water and gas production in Q1 (Table T5-2) was affected by: (a) problems with Russian gas supplies in January and, (b) problems in generating more electricity over the winter when capacities are fully turned on. It is noteworthy that electricity imports in Q1 2006 were almost double those in the same period the previous year, indicating that electricity consumption continued to grow in Q1. In Q2, electricity, water and gas production and distribution was much more in synch with consumption. The Q2 growth of 7.6% relative to the same period in 2005 indicates that the economy is growing at a similar pace.[5]

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5 Electricity exports rose in Q2 2006 over Q2 2005 thanks to a significant rise in production by storage-reservoir hydroelectric power plants.

Trends

Manufacturing Industry

The manufacturing industry's growth accelerated in Q2

The manufacturing industry recorded a y-o-y growth of 6.2% in Q2, or 1.3% less than in Q1. However, comparison with the 2004 figures and an analysis of especially heterogeneous areas, such as the food industry, do indicate an acceleration of industrial production growth in the manufacturing industry. Table T5-3 shows the manufacturing industry sections that contributed most to the growth of industrial production in Q2.

Table T5-3. Serbia: Sub-Sectors with Highest Growth Rates, 2004-2006

	y-o-y indices								base index			share
	2004	2005	2005				2006		2006Q1/	2006Q2/	(Jan-Jun)$_{2006}$/	2005
			Q1	Q2	Q3	Q4	Q1	Q2	2004Q1	2004Q2	(Jan-Jun)$_{2002}$	
Manufacturing	109.7	99.3	94.1	95.9	103.6	101.8	107.5	106.2	101.2	101.8	107.0	100.0
Basic metals	140.9	121.8	134.4	114.7	111.1	124.6	116.6	131.7	156.7	151.1	223.6	16.6
Food and beverages	103.4	104.6	100.6	107.3	105.2	103.2	104.2	105.1	104.8	112.8	110.9	28.3
Chemicals and chemical products	118.2	103.8	99.9	102.2	107.2	105.4	105.1	107.7	105.0	110.1	144.5	15.4
Furniture and related products	92.1	92.2	79.7	83.5	99.7	103.1	134.3	163.0	107.0	136.1	114.7	1.5
Tobacco industry	97.6	114.6	58.8	111.8	172.2	138.1	158.6	128.2	93.3	143.3	128.0	2.0
Metal products except machinery	112.0	103.2	84.9	100.4	113.3	110.7	106.9	112.0	90.8	112.4	107.6	3.5
Total - selected sectors	110.8	105.8	104.2	104.8	106.3	107.0	106.7	109.8	111.2	115.5	131.5	67.3

Source: SBS.

Production of basic metals led the manufacturing industry

Basic metals continued to contribute the most to the growth of the manufacturing industry in Q2. Over the whole of 2006, the section recorded a steady y-o-y growth of approximately 30%, slowing only in January because of the disruptions in gas supply. Conditions for the fast growth of this section were favorable, among them the rise in the prices of basic metals in the global market, the successful privatization of the largest domestic companies, and the presence of multinationals such as US Steel. The high growth rates recorded by basic metal production will last until the existing major production capacities are exhausted. It is still too early to tell whether the present owners of privatized companies will begin a new investment cycle after the recovery phase is over; this would ensure continuation of the major growth trend that has been present over the past several years.

The food industry also recorded high growth rates in Q2

In Q2 food production was up 5.1% on the same period in 2005. The growth merits special attention as this industrial section is a reliable indicator of general trends in industrial production due to its size, heterogeneous nature, and share of the domestic and foreign markets. In addition, the industry has struck a balance between the new and the traditional economies, cushioning the impact of privatization on the industrial production index (Graph T5-4), which at times dominates the total industrial production growth in the manufacturing industry (Box 1).

Box 1. An Estimate of the Underlying Trend in the Manufacturing Industry

The decline in many sections of the manufacturing industry has ceased

This appears to be a point at which the potential for *decline* in industrial production has been eliminated in some sections of the manufacturing industry that had been on a downturn since 2002 (e.g. the textile complex). At the same time, the leading performers continued their growth at an unabated rate. This caused a somewhat higher growth index of the manufacturing industry as a whole in 2006 when compared to the growth of the core. Comparison with the food industry, however, does indicate that the high manufacturing industry growth was again in line with core growth in Q2.

Industrial production growth is often the consequence of an imbalance between leading performers and sections in decline

QM has already emphasized that the opening up of Serbia's economy and the transition to new, market-oriented business principles would mean facing up to the inherited situation in certain industrial sections.[1] When the successful or unsuccessful privatization of large state-owned enterprises that had dominated individual sections are added – the unsuccessful privatization of Matroz, and the successful one of Sartid, for example – the outcome is double-digit changes in the industrial production index in manufacturing sections, both upward and downward. The overall index, as well as an assessment of whether industrial production in the manufacturing industry is *stagnating* or *accelerating*, is often the consequence of the imbalance between these two divergent trends.

1 QM4, Box 3. Manufacture of Investment and Intermediate Goods.

Graph T5-4 shows y-o-y industrial production growth indices for the manufacturing industry excluding the food industry, and growth indices for the food industry. The assumption is that industrial production growth in the food industry, because of the nature of the section, indicates growth of the *core* in the manufacturing industry; the rest of the manufacturing industry is on a downturn, under the influence of the movements of the industrial production of the leading performers and the sections in decline.

Graph T5-4. Serbia: Components of Industrial Production, 2004-2006
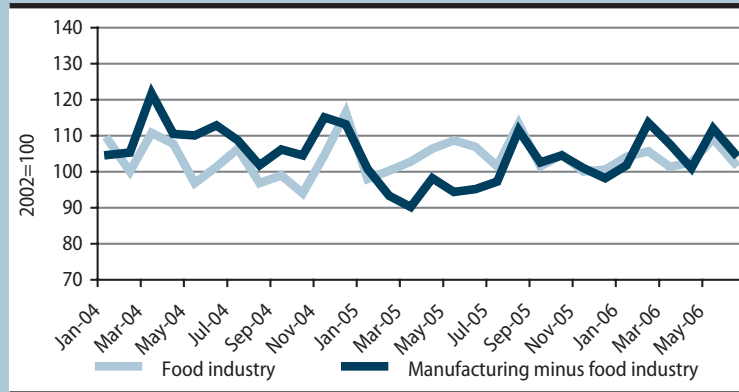
Growth of the manufacturing excluding the food industry kept pace with privatization

Source: SBS.

The movement of the industrial production index (excluding the food industry) is illustrative of the impact of privatization on the imbalance between leading performers and the declining sections. When the privatization process slowed down in 2004, sections with double-digit drops in production became dominant, which culminated in the first semester of 2005. At that time, the industrial production growth index for the manufacturing industry was about 10% lower than the food industry's growth index (Graph T5-4). The trend was completely reversed in 2004.

Growth is now quite evenly matched

Since the second half of 2005, the convergence of movements of *core* industrial production – the food industry – and the manufacturing industry as a whole has risen, which may be due to entry into the final stage of the transition process. Graph T5-4 indicates that the high growth rates recorded by Serbia's manufacturing industry, after the unbalanced growth in Q1, were in Q2 only partly caused by the end of the decline in some sections.

Chemical industry growth accelerates in Q2

Manufacture of chemical products and chemicals rose by 7.7% in Q2 in relation to the same period last year. The powerful y-o-y growth – ranging from 5% to 10% – has remained steady since the second half of 2005. A growth of 7.7% in Q2 represents an acceleration relative to Q1 (Table T5-3). The July growth of 47.3% in the manufacture of chemical products and chemicals suggests that there was a fresh impetus to swifter growth in Q2. Key chemical industry companies were among the first to be privatized, and the positive trends can be expected to continue.

Consolidation in furniture manufacture continues

The Q2 growth of 63% in the manufacture of furniture and other wood products constitutes an additional acceleration relative to the already substantial figure of Q1, and was good news at the start of the second semester of 2006. Production in this section of the manufacturing industry has been on an upturn since the second half of 2005 (Table T5-3). Where furniture manufacture is concerned, it should be borne in mind that the 1990s saw the collapse of many socially owned enterprises as domestic demand dwindled and exports were stopped by international sanctions. The latest very high growth in furniture manufacture probably represents a new industrialization, spearheaded by what used to be small private businesses.

A period of high growth in tobacco production ends

Tobacco production continued to record the high growth rates (y-o-y growth of 28.2%) established as early as Q3 2005. Q2 was probably the last quarter to see exceptionally high growth, coming as it does at the end of a year of results in the tobacco industry being compared to a low base due to plant reconstruction. In addition, a major cut in production seems possible as new legislation requires cigarette manufacturers to use 50% domestically grown tobacco. The manufacturers are now warning that the new law could lead to a shortage of raw materials, as tobacco production has failed to keep up with the increase in manufacturing capacity and the volume of cigarette production.

Of other manufacturing sections, the largest growth in Q2 was recorded by recycling (52.4%) and publishing, printing and reproduction (15.1%), while the steepest fall occurred in the manufacture of radio, television and communications equipment (minus 57%) and the manufacture of precision and optical instruments (minus 17.1%).

Table T5-5. Serbia: Components of Industrial Production, 2004–2006

	y-o-y indices								base index			share[5]
	2004	2005	2005				2006		2006Q1/ 2004Q1	2006Q2/ 2004Q2	(Jan-Jun)$_{2006}$/ (Jan-Jun)$_{2002}$	2005
			Q1	Q2	Q3	Q4	Q1	Q2				
Total	107.1	100.6	96.9	98.5	103.2	103.2	105.3	106.1	102.0	104.5	106.6	100.0
Energy[1]	101.8	103.9	103.9	105.9	100.7	105.3	100.7	104.8	104.6	111.0	107.1	23.1
Investment goods[2]	118.8	74.2	66.9	61.9	88.7	86.5	107.2	87.9	71.7	54.4	67.5	7.7
Intermediate goods[3]	116.0	104.9	102.3	102.5	105.7	107.0	109.4	109.1	111.9	111.8	120.2	33.9
Intermediate goods without basic metals	111.0	101.5	95.8	100.0	104.6	103.4	107.9	104.5	102.9	103.9	99.3	25.3
Consumer goods[4]	102.7	101.6	92.8	101.3	106.0	102.4	107.5	110.0	99.8	111.5	106.7	35.3
Consumer goods without food industry	101.4	96.3	79.1	90.9	107.4	101.1	113.4	118.6	90.9	109.2	99.3	10.3

Source: SBS.
1) Mining of coal oil and gas, electric power supply and water supply.
2) Manufacture of: metal products, except machinery (sections 281, 282 and 283 Classification of industry), machinery and equipment (except electrics), office machinery and computers, radio, television and communication equipment, precision and optical instruments, motor vehicles and trailers and the production of other transport equipment.
3) Mining of metal, non-metal ores and stone, manufacture of: textile yarns and textiles, wooden and cork products (except furniture), pulp, paper and paper products, rubber and plastic products (except pharmaceutical and home chemical products), petrochemicals, construction material, basic metals, sub-sector of metal-goods production, except machines (sections 284, 285, 286 and 287 Classifications of industry), electric machines and appliances and recycling sub-sector.
4) Food industry products, tobacco products, clothing articles, leather products, footwear, publishing products, pharmaceutical products and home chemical products, furniture and other various products.
5) Share in total industrial production.

Viewed by product use, intermediate and consumer goods led the field.

The creation of the production index for industrial products by use is shown in Table T5-5. The trend of high growth of over 9% carried over from the previous quarter continues in the production of intermediate and consumer goods. Energy production is slowly catching up, while production of investment goods continues to plummet.

Graph T5-6. Serbia: Components of Industrial Production, 2004–2006
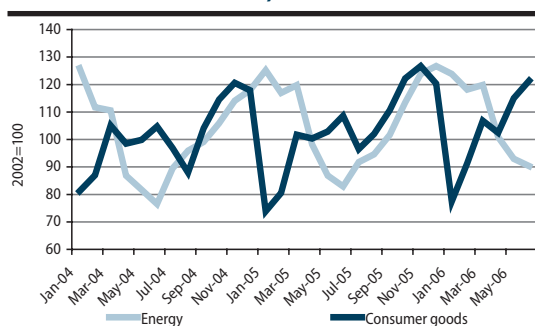
Source: SBS.

Graph T5-7. Serbia: Components of Industrial Production, 2004–2006
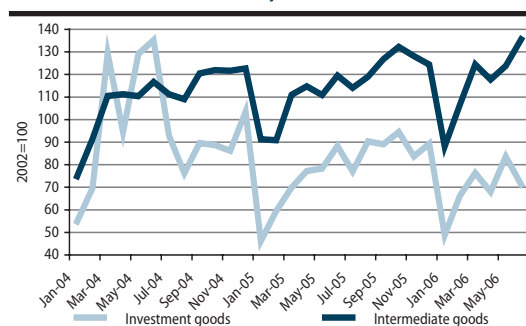
Source: SBS.

Energy is gradually catching up

Graph T5-6 shows the base indices for production of energy and consumer products. The significant impact of seasonal factors can be seen, as well as a common growth trend of 1.5% to 4% in 2004 and 2005. Q2 indicators confirm that a more substantial acceleration of this growth can be expected in 2006. The largest contribution to the high growth of consumer goods in 2006 was made by the non-food part of this product group. In its turn, high economic growth brought about an acceleration in energy production in Q2.

Investment goods continue to plummet

Continuing structural changes in Q2 evinced by the accelerated growth of the manufacture of intermediary goods and the fall of investment goods, are shown in Graph T5-7. The reasons for this, however, are deeper.[6] One that has hitherto escaped mention is prices. An additional impetus to the stratification of Serbia's industrial production is the global redistribution of value added, manifested through the rising prices of intermediate goods and energy, and the stable

6 QM4 Box 3. Manufacture of Investment and Intermediate Goods.

prices of consumer and investment goods. It seems that this, along with certain other factors, is bringing about a durable change in the levels of manufacture of investment and intermediate goods in Serbia.

Construction

Construction grew at a moderate pace

Construction continued growing at a moderate pace in Q2. Of several indicators that were not fully harmonized even in Q2, cement production can be singled out as a measure of growth in construction (Table T5-8). Cement production[7] was 2.7% higher in Q2 2006 relative to the same period in 2005. The first quarter, when construction activity and, consequently, cement production, is very low and subject to seasonal influences, will be excluded from the analysis. Year-on-year construction growth stabilized at around 5% in 2005. Cement production, though slightly lower than this figure in Q2 2005, still indicated that the growth trend established in 2005 was continuing. It remains to be seen how the recently announced government investment program will affect construction growth in the second semester.

Table T5-8. Serbia: Cement Production, 2001–2006

	Q1	Q2	Q3	Q4	total
		y-o-y	indices		
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	…	…	…

Source: SBS.

Other SBS indicators: the value of construction works completed rose in Q2 by 12.7%, at constant prices, relative to the same period last year; the number of workers employed at construction sites fell by 4.1%; the number of work hours on sites remained the same as in Q2 2005.

Productivity is rising, but other changes may come too

Similar y-o-y indicators have been recorded in construction over the past several quarters. While the number of workers on sites is falling, and the number of work hours is either stagnating or rising slightly, the value of construction at constant prices is recording high growth rates. The long-term imbalance between these indicators points to deeper changes in the sector. Although there is reason to assume that there has been a general increase in productivity, the imbalances may be a consequence of changes in the very structure of the construction industry. In this context, it is noteworthy that Q2 saw the share of road infrastructure in total construction rise by about 3% in relation to Q2 2005.

7 A more appropriate indicator would be cement consumption; this, however, is not available at the quarterly level. Research has shown that cement production can relatively reliably be used as an approximation of consumption.

Trends

6. Balance of Payments and Foreign Trade

The trade and current deficits deteriorated in Q2, mainly as a result of accelerated imports growth (18.1% y-o-y), financed with higher inflows to the country's banking sector. Export growth remained robust despite some deceleration (21.2% y-o-y), but it is not high enough to close the gap with imports in the long run. The capital account surplus went through the roof (1,738 mn euros), after adding inflows for financing a higher bank reserve requirement (865 mn euros), and an influx into NBS repo deposits (293 mn euros), to the inflow into the economy. These two flows have been feeding the highly visible increase in the country's foreign reserves (1,191 mn euros), but most of all they reflect the considerably higher costs of the inevitably restrictive monetary policy.

The Balance of Payments

The current account deficit increased to 10.0% of estimated GDP

In Q2 2006, the current account deficit deteriorated relative to the same period last year (10.0% of GDP in Q2, as against 7.0% in Q2 2005), primarily due to the deterioration in the trade balance, although the low base of imports in Q2 2005 accentuates this deterioration.

The trade deficit (-1325 mn euros) was again higher than one quarter of the estimated GDP[1]. It was driven by the strong acceleration of imports and, we believe, a temporary deceleration of export growth. Imports growth in Q2 accelerated relative to the period December-March (annual growth of 18.1% against 10.9%). Although data problems make a precise analysis difficult, there are strong indications that the acceleration was due to the fast growth in imports of non-durable and capital goods – both sensitive to exchange rate increases. Intermediary goods, whose imports are linked to economic growth, keep rising steadily. The rise in energy imports decelerated somewhat, but the behavior of durable goods is confusing as there are strong incentives for these imports to accelerate as well. The export growth rate (21.2%) is higher than the imports growth rate (18.1%), but because of the low coverage of imports with exports (45.5%) – the trade deficit is not declining. In order for it to fall, exports would have to increase 2.3 times faster than imports. Export growth in Q2 decelerated relative to the growth in Q1 (25.6%) due to a drop in sugar exports relative to the previous year, when exports of this commodity were extremely high, as well as because of a lower number of working days in April. The rapid export growth in Q2, after excluding sugar (26.8%), as well as of total exports in July (36.8%),[2] seems to indicate that the export growth deceleration is, after all, of a temporary character.

Exports grew 21.2% and imports 18.1% relative to Q2 2005

The invisible transactions are financing the foreign trade deficit with 598 mn euros. The service balance, still negligibly low, continued its trend of slight deterioration, which started in early 2005. The negative balance of net factor transfers also continued to deteriorate, which is not a surprise bearing in mind the rising domestic borrowing and, consequently, higher interest payment, as well as a rise in world reference interest rates. Foreign grants stabilized at last year's level, after a sudden drop in 2004.

Swell wing to non-resident deposits

Current transfers in Q2 2006 reached the highest quarterly level ever (860 mn euros, annual growth of 8.2%), owing to an increase in inflows into foreign currency accounts of non-residents (124 mn euros in Q2 2006 - 75% higher than in Q2 2005, but 32% lower than in Q1 2006; see Box 1). The behavior of other items in this category of inflows is stable, and their movements are within the limits of the expected growth. The balance of remittances is somewhat lower than in the same period last year (112 mn euros relative to 137 mn in Q2 2005), while the already seasonally high NBS purchases of foreign currency from exchange offices in Q2 reached a record level of 593 mn euros, which constitutes a rise of 5.2% relative to Q2 of the previous year.

Record inflows from foreign exchange purchases in Q2 2006

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1 In the analysis of the balance of payments we use adjusted foreign trade data published by the NBS. In the analysis of foreign trade we use unadjusted data published by the SBS. The bulk of the difference between data from these two sources is related to the fact that the data published by the SBS is not up-to-date. The NBS receives updated time series from the SBS and makes relatively small adjustments in this data.
2 Sugar exports in July are seasonally negligible.

Table T6-1. Serbia: Balance of Payments, 2004-2005[1]

	2004	2005				2006		
	Dec	Mar	May	Jun	Dec	Mar	May	Jun
				cumulative, in millions of euros				
CURRENT ACCOUNT	-2,197	-354	-580	-695	-1,843	-732	-966	-1,259
Balance of goods	-5,311	-717	-1,464	-1,863	-4,513	-1,160	-2,058	-2,485
Exports of goods	2,991	757	1,351	1,671	3,736	950	1,663	2,058
Growth rate (12-m, in %)	15	44	43	41	25	26	23	23
Imports of goods	-8,302	-1,474	-2,815	-3,534	-8,249	-2,110	-3,721	-4,543
Growth rate (12-m, in %)	29	-15	-7	-4	-1	43	32	29
Balance of services	155	-25	3	19	7	-30	-30	-30
Income, net	-172	-59	-111	-141	-256	-58	-122	-165
Current transfers	2,728	415	920	1,209	2,651	479	1,181	1,338
F/X purchases, net	1,592	320	714	884	1,631	289	702	882
Non-resident's accounts	568	37	63	108	518	183	401	306
Grants	403	33	71	82	269	37	63	83
ERRORS AND OMISSIONS	168	-179	32	-63	-203	0	138	-21
CAPITAL AND FINANCIAL ACCOUNT	2,377	712	893	1,180	3,659	1,076	2,036	2,814
Foreign direct investment (FDI)	773	263	375	504	1,200	173	411	715
Other investments	1,604	450	518	676	2,459	903	1,626	2,099
Medium and long-term loans, net	1,221	159	408	606	1,572	414	1,188	1,646
Other[2],[3]	383	291	109	70	887	488	438	453
NBS Reserves, net[3], (increase +)	-349	-180	-344	-421	-1,613	-344	-1,208	-1,535
MEMORANDUM ITEMS								
Capital balance excluding com.banks deposits in NBS	2,188	659	758	921	2,759	806	1,142	1,681
Com. banks' foreign liabilities, net[4]	581	162	152	238	936	353	941	1,313
NBS reserves excl. com. banks deposits	-159	-126	-210	-162	-713	-74	-314	-402
Total foreign loans minus com. banks' deposits with NBS[5]	1,195	200	298	376	1,063	352	457	705
				in % of GDP				
Exports of goods	16.6	15.5	16.6	17.1	19.1	18.0	18.9	19.5
Imports of goods	-46.0	-30.2	-34.6	-36.2	-42.3	-39.9	-42.2	-43.0
Balance of goods	-29.4	-14.7	-18.0	-19.1	-23.1	-21.9	-23.4	-23.5
Balance of services	-12.2	-7.2	-7.1	-7.1	-9.4	-13.8	-11.0	-11.9
GDP in euros (annual)[6]	18,039	19,510	19,510	19,510	19,510	21,149	21,149	21,149

Source: Table P-5 in Analytical Appendix.
1) Original US dollars monthly data are converted to euros using monthly averages of official daily NBS mid rates.
2) Includes short term trade credits, unpaid imports of oil and gas, short-term loans, other assets and liabilities, gross reserves of commercial banks.
3) Excluding IMF.
4) Commercial banks' long term foreign debt, and inflow of short term foreign loans .
5) Includes long term foreign debt and short term foreign loans .
4) GDP converted into euros using annual average of official daily NBS mid rates. GDP 2006: FREN's estimate.

Box 1. Revision of Data on Non-residents' Deposits

The NBS repeatedly adjusted data on foreign currency deposits of non-residents for Q1 and Q2

In Q2 2006, the NBS adjusted the published report on foreign currency accounts of non-residents for Q1 2006 by 115 mn euros, since – as FREN highlighted in QM-4 – certain foreign banks circumvented the reserve requirement on foreign borrowing. Those banks presented foreign borrowing as dinar deposits of non-residents (included in the balance of payments item "foreign currency accounts of non-residents"[1]), since the reserve requirement ratio on those deposits is significantly lower. After the NBS established the true origin of the increase in those deposits and took the necessary – tough – monetary policy measures[2], accounts were reclassified, i.e., the previously published growth of non-residents' accounts was reduced, while the foreign borrowing item in the capital account was increased. Thus adjusted, the data for Q2 2006 points to a far more realistic value of growth in non-resident accounts in the amount of 124 mn euros.

1 See Biljana Savić and Aleksandar Pinkulj: The Methodology of Serbia's Balance of Payments, the National Bank of Serbia, June 2006.
2 See Box 1 in the section on Monetary Flows and Policy.

Trends

Record capital inflows – primarily a result of restrictive NBS measures

The capital account balance reached a record level in Q2 2006 (1,738 mn euros) – as much as 3.7 times higher than in Q2 2005. Only one-third of those high capital inflows goes into the economy, while two-thirds are used to cover the increase in the bank reserve requirement on foreign borrowing (856 mn euros) and for increasing the NBS's own reserves (328 mn euros). Capital inflows in Q2, excluding the amounts deposited with the NBS (875 mn euros) – were almost two times higher than in Q2 2005. Despite capital increases in banks, bank borrowing continued to grow strongly, with short-term sources being converted into long-term ones. Direct foreign borrowing by enterprises stabilized in Q2.

Strong FDI inflows, mostly due to capital increases in foreign-owned banks

Foreign direct investment grew strongly in Q2 2006, and was higher than the amount of FDIs in Q1 by 541 mn euros, or 300 mn euros above the amount of FDIs in the same period of the previous year. However, as much as two-thirds of that inflow (368 mn euros)[3] was the result of capital increases in the banking sector, mainly in foreign-owned banks, due to the gradual adjustment to the changes in the regulatory environment (the NBS decision which specifies that the total amount of banks' loans and advances to households may not be higher than 200% of the value of the nominal capital)[4].

Short-term borrowing has become cost-ineffective

Net medium and long-term borrowing[5] went up considerably, mostly owing to higher bank borrowing (975 mn euros, as against a mere 141 mn in Q2 last year). This was because the NBS measures introduced in Q2 2005 substantially increased the cost of short-term borrowing, thus making medium- and long-term borrowing much more cost-effective (see Box 1 in the section *Monetary Flows and Policy*). Similarly, the raised reserve requirement ratio directly impacted on higher foreign borrowing by banks in Q2 (banks' foreign borrowing, after deducting the reserve requirement, amounted to only 353 mn euros). Direct medium-term foreign borrowing by enterprises (252 mn euros) declined relative to Q2 2005 (278 mn euros), which indicates that, in all probability, room for the replacement of domestic corporate lending with foreign corporate lending is being gradually exhausted[6]. As a consequence of the NBS measures, short-term borrowing became negative in Q2. The acceleration of short-term borrowing started in Q3 2005, and the monthly peak (280 mn euros) was achieved in April 2006. After the NBS measures, May saw repayments (or conversion into medium-term/long-term debt) of 325 mn euros of short-term debt, while on a quarterly basis, Q2 saw a decline in short-term borrowing by 16 mn relative to the previous quarter.

Foreign currency savings deposits of households, after excluding FFCD repayments, amounted to 76 mn euros in Q2, while in the same period of 2005 that item was even negative (-1 mn euros). In Q2 2006, new foreign currency savings deposits reached their highest level in the last three years - 236 mn euros - which constitutes an annual growth of 63.7%.

The rise in net reserves in Q2 2006 amounted to a mere 328 mn euros

The NBS foreign reserves had a record growth in Q2 (1,190 mn euros, excluding the IMF); however, a larger portion of the inflow of funds into the reserves was related to the one-off increase in the bank mandatory foreign exchange reserves (863 mn euros). A rise in net NBS foreign reserves (excluding the commercial banks' reserve requirement) in Q2 amounted to only 328 mn euros[7].

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3 According to the NBS data, includes a capital increase in Komercijalna banka.
4 See footnote 2 in the text, the section *Monetary Flows and Policy*.
5 Excluding the IMF.
6 For a more detailed analysis of direct foreign borrowing by enterprises see the previous issue of QM.
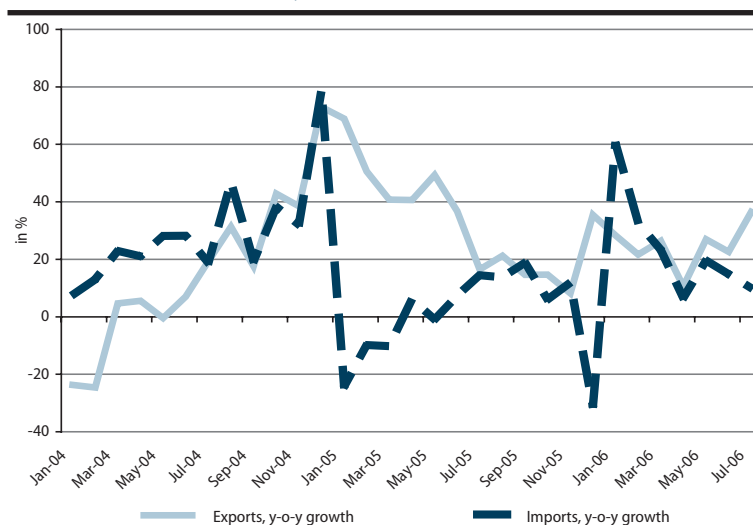7 Excluding the IMF.

Foreign Trade[8]

Exports

Graph T6-2. Serbia: Y-o-y Growth of Merchandise Exports and Imports, 2004–2006

Exports slowed owing to a fall in sugar exports

Source: SBS.

In Q2 2006, the strong growth of exports of goods continued (20.2% on an annual basis), but at a visibly slower pace than in Q1 (when annual growth was 25.4%). The deceleration of export growth can also be observed by using a comparison between the first semester this year (annual growth of 22.6%) and the same period last year (annual growth of 45.9%). This deceleration of export growth was caused by the poor performance of sugar exports and a slowdown in total exports in April. A contribution to the slowdown was also made by an increase in the base due to the high growth rates in the first semester of 2005 (Graph T6-2). However, preliminary July data corroborate the view on the temporary nature of the downward export trend in Q2 2006. Also, in the first semester of 2006, exports to the EU recorded remarkable growth (31.4% y-o-y), which is in tune with the stronger economic growth in the EU over the observed period.

Table T6-3. Serbia: Merchandise Exports Growth, 2005-2006[1)]

| | in % | mil.euros | y-o-y growth in % | | | | | | |
| | Exports share in 2005 | 2006 Q2 | 2005 | | | | 2006 | | |
			Q1	Q2	Q3	Q4	Q1	Q2	July
Total	100.0	1,093.3	51.0	42.0	17.3	19.4	25.4	20.2	36.8
Bulky exports	29.5	352.8	146.9	141.0	-3.5	2.7	31.3	12.4	59.7
Iron and steel	13.5	169.2	146.4	83.4	-14.8	4.6	2.1	24.4	65.3
Non ferrous metals	8.0	103.9	111.4	69.3	76.2	67.3	73.4	50.7	69.0
Cereal and cereal products	4.1	38.0	65.3	120.8	100.0	59.3	87.1	31.1	34.2
Sugar and sugar products	3.8	41.7	1,509.8	3,561.1	-93.0	-64.2	18.4	-47.8	-66.3
Underlying exports	70.5	740.5	27.3	16.7	25.9	27.3	22.6	24.3	29.5
Core	43.8	438.5	38.2	24.3	33.0	42.9	27.7	23.0	23.3
Organic chemicals	2.7	22.2	152.2	-30.6	19.5	29.2	20.0	73.1	27.8
Manufactures of metals, n.e.s.	3.4	44.6	3.5	19.9	31.4	28.8	54.1	64.5	64.2
Medicinal and pharmaceutical products	2.3	23.9	7.1	24.1	29.3	90.4	11.1	48.5	0.6
Electrical machinery, apparatus and appliances	2.1	25.5	7.2	18.8	31.4	66.7	68.9	46.7	53.2
Footwear	2.7	30.5	95.5	88.0	53.4	56.0	28.1	33.5	19.4
Clothes	5.4	53.7	78.0	69.9	65.6	52.1	33.0	20.8	18.2
Oil and oil products	2.8	29.5	231.2	21.9	14.2	146.3	44.4	19.4	91.0
Paper, paperboard and articles of paper pulp	2.1	23.6	44.6	31.7	26.1	50.8	62.8	15.7	14.2
Miscellaneous manufactured articles, n.e.s.	4.8	48.3	21.5	16.9	22.7	19.0	23.1	13.8	2.6
General industrial machinery and equipment	2.1	19.4	9.1	14.2	79.7	72.3	7.1	12.9	48.1
Plastics in primary forms	0.9	10.5	22.6	43.4	38.2	39.7	26.6	12.2	37.9
Rubber products	4.5	45.1	20.0	20.2	34.4	16.8	19.7	9.6	14.1
Machinery specialized for particular industries	2.2	18.1	67.5	42.8	75.4	136.5	24.4	3.8	-21.0
Fruits and vegetables	5.8	43.6	9.6	8.3	14.5	4.3	8.0	1.1	14.9
Other	26.7	302.0	13.3	7.0	14.8	7.7	14.6	26.4	41.1

Source: SBS.

8 As a source of data for a more in-depth analysis of foreign trade, FREN uses the data of the SBS, which is available at a disaggregated level. However, unlike the NBS, which relies on updated statistics in its analyses, the SBS does not publish time series adjusted in a timely fashion, for which reason the results obtained by analyzing data from these two sources are different. For the needs of a more in-depth analysis, FREN is compelled to rely on official statistics; however, as indicative – in terms of a more realistic picture - FREN takes the NBS data.

Trends

For the purpose of identifying the underlying trend in export growth, total exports are classified into two groups: *Bulky Exports and Underlying Exports*. *Bulky Exports* (29.5% of total exports in 2005) includes several dominant groups of products (ferrous and non-ferrous metals, wheat and sugar). Bearing in mind that fluctuations in exports of those products can blur the picture regarding more stable trends in a broad range of export products, by excluding *Bulky Exports* from total exports we arrive at *Underlying Exports* (70.5% of total exports in 2005), which can be further observed on the basis of a division into the fast growing *Core Group* (43.8% of exports in 2005) and the group *Other* (26.7% of exports in 2005)[9].

Excluding sugar, exports grew at a rate of 26.8%

Bulky Exports decelerated in Q2 2006 (annual growth of 12.4% in Q2 relative to 31.3% in Q1) entirely due to the poor performance of sugar exports[10] (Table T6-3). If sugar is excluded, *Bulky Exports* grew 33.0% in Q2 2006, while total exports grew 26.8%. Ferrous and non-ferrous metals grew at annual rates of 24.4% and 50.7% respectively, but it should be taken into account that part of this growth due to hikes in the prices of metals on international markets.

Exports of the Core group decelerated...

When it comes to the *Underlying Exports* group, the exports of the *Core Group* – a group of products which strongly contributed to export growth in 2005 – decelerated in Q2 2006. Namely, in Q1 2006, this product group grew by 27.7%, while in Q2 its growth decelerated to 23.0%. The July data confirms that despite the slowdown in April, there has indeed been a certain decline in the growth of this group of products, since the exports of the *Core Group* in July grew at an annual rate of 23.3%. The following sections had the most dynamic growth in Q2 2006: organic chemicals (73.1%), metal products (64.5%), pharmaceutical products (48.5%), and electrical machinery and appliances (46.7%). The weakest growth performance was registered in the case of exports of: vegetables and fruit (1.1%), machinery specialized for particular industries (3.8%) and rubber products (9.6%), Table T6-3.

...while the group Other accelerated...

The export growth of the remaining sections classified in the group *Other* has been steadily accelerating (annual growth of 26.4% in Q2 2006 relative to the growth of 14.1% in Q1 2006), which indicates that the diversification of the export recovery has continued. The group *Other* includes those groups of products which in the course of 2005 did not have significant growth rates or did not significantly contribute to growth. The acceleration was even more remarkable in July, when this group reached an annual growth rate of 41.1%. The greatest contribution to the growth of this export group in Q2 2006 was made by: mineral ores and scrap iron (18.8%), raw hide and furs (17.3%), as well as power-generation machinery and equipment (16.8%).

Graph T6-4. Serbia: Underlying Exports, 2003–2006

...thus keeping the pace of growth of Core esports stable
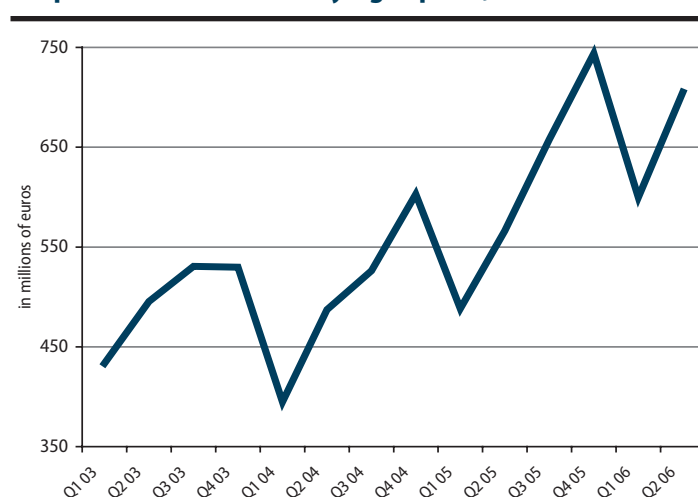
In Q2 2006, *Underlying Exports* grew at an annual rate of 24.3%, and as much as 25.7% in April-July. Their growth *Underlying Exports* features an almost mathematical regularity (see Graph T6-4). It seems that the pace from the previous years has been maintained in 2006, which is encouraging. The key question for long-term economic recovery is whether the real appreciation of the dinar exchange rate, past and expected in the future, will affect the pace of exports in the period ahead.

Source: SBS.

9 More detailed explanations of these classifications are presented in Box 2 of the section Balance of Payments and Foreign Trade in QM4 (www.fren.org.yu).
10 In 2005, sugar exports were extremely high, because, to a certain extent, they were compensation for the lag from the previous period when an administrative ban on sugar imports was in force in the EU. Due to that extremely high base, the sugar export growth rate has been declining.

Imports

Imports accelerated

Imports accelerated in Q2 2006 (Graph T6-2), which is substantiated by the fact that they grew at an annual rate of 13.8%,[11] as against only 5.4% in the December–March period.[12] Such an acceleration of the growth rate (even with the necessary reservations as to the comparability of data for 2005 and 2006) is strong enough to allow a reasonable inference that total imports are accelerating, despite the slowdown in energy imports.

The largest share in total imports is that of intermediary goods (36.9%), followed by capital goods (23.4%) and energy (17.8%). Accordingly, the highest contribution to imports growth was made by capital and intermediary goods taken collectively – 60% of annual imports growth.

The fastest growing were imports of capital goods (18%) and non-durable consumer goods (18%)

On the basis of the SBS's disaggregated data,[13] the highest growth rate of imports, classified by EU economic purpose, in Q2 was that of capital goods (annual growth of 18.0%), and of non-durable consumer goods (18.0%). It may be assumed that the growth in the case of these two groups of products was directly linked to the exchange rate movements of the dinar and its real appreciation in the first semester. In Q2 2006, energy imports grew at a rate of 11.6% relative to the same period last year, despite an increase in the unit price of energy of 17.1% in the first semester of 2006. This confirms the existence of a certain elasticity of demand for energy. Imports of intermediary goods (annual growth of 10.6%) are highly correlated with the economic growth rate. The rise in imports of these goods is a consequence of both a higher physical volume of raw material imports and the upward trend in the prices of ores and minerals on the world markets. The slowest growth was that of durable consumer goods (annual growth of a mere 7.0%). Such weak imports growth is surprising since credit to households is high and it would be reasonable to expect a surge in demand for replacement of these goods.

The value of energy imports went up, despite lower volume

Imports, excluding energy, went up at an annual rate of 14.2%, which constitutes a considerable acceleration in relation to both annual growth in the period December–March of 6.5%,[14] and the 0.9% growth rate in Q2 last year. The July data confirms that imports, excluding energy, have continued to grow, with the annual growth rate for July standing at 15.1%.

Real appreciation of the exchange rate and economic growth had a strong impact on imports growth

In its June issue, MAT[15] estimated that there is a statistically significant correlation between wages in dollar terms and imports (also in dollar terms), while an econometric analysis for the period 2001–2004 (Arsić et al)[16] suggests the existence of a cointegrative relationship between imports on the one hand, and the dinar-euro exchange rate, real wages, the industrial production index and the effective tariff rate, on the other hand. According to the MAT findings, appreciation of the dinar, a rise in real wages and in industrial production all contribute to imports growth. Similarly, we are of the opinion that, in addition to the above, higher retail lending also contributes to further imports growth.

Table T6-5. Serbia: Imports, Y-o-y Growth, 2004–2006

In %	2004	2005				2006		
	Oct-Nov	Dec-Mar	Q2	Q3	Oct-Nov	Dec-Mar	Q2	July
Total	35.2	12.1	4.1	15.7	8.8	5.4	13.8	9.9
Energy	103.0	21.5	23.1	65.7	16.7	1.0	11.6	-11.6
Imports excluding energy	26.6	10.1	0.9	7.4	7.2	6.5	14.2	15.1
Intermediate products	26.2	18.5	19.7	12.6	12.1	15.9	10.6	15.9
Capital products	41.0	11.4	-12.7	3.1	3.1	-9.6	18.0	17.8
Durable consumer goods	13.1	6.5	-12.1	4.3	4.2	-6.2	7.0	-9.6
Non-durable consumer goods	15.0	1.8	-11.5	4.3	4.5	17.1	18.0	15.2
Other	-6.6	-25.9	9.0	6.0	7.2	18.0	21.3	25.0

Source: SBS.

As suggested by logic and our analysis and corroborated by the cited studies, the current economic policies, which, instead of containing aggregate demand, result in redirecting it toward foreign markets through appreciation of the exchange rate – will bring about a further acceleration of imports. The problem will arise if the exchange rate policy makes exports uncompetitive, but for the time being, no clear signs of this actually happening have been observed. Nevertheless, the export trends advise caution.

11 According to the NBS data, imports in Q2 2006 grew at a rate of 18.1%. The differences between these two sources are explained in more detail in footnote 2.
12 A comparison with the period December-March is made because imports in Q1 2005, after the introduction of the VAT, had an extraordinary drop. Still, not even that comparison is completely indicative, since part of imports before January 2005 was overinvoiced. That practice was eliminated after the VAT introduction.
13 We would like to stress that comparisons of import growth rates classified by EU purpose, on the basis of the non-updated SBS data published here, make sense only on the assumption that the data revision would equally affect all import groups.
14 With a qualification that certain import categories show „a time series break" in January 2005.
15 See MAT No. 6, 2006, the Economics Institute, Belgrade.
16 Arsić et al, Macroeconomic Modeling of Serbia's Economy, Ces Mecon 2005, Belgrade.

7. Fiscal Flows and Policy

In Q2 consolidated general government offset the expansiveness from the beginning of the year by its restrictive behavior, as a result of which fiscal performance of both revenue and expenditure of consolidated general government in the first semester was on target. The personal income tax and the corporate income tax are still performing very well, but a rise in consolidated revenue in this quarter can be attributed primarily to a rise in imports, i.e. revenue from customs duties and the VAT on imports. Government expenditure in Q2, though not in the entire first semester of the year, was lower in real terms than in 2005, with the largest savings being made on subsidies and interest payment. Expenditure for employees and transfers to households – which in all probability have the most direct effect on inflation – were higher than planned. The revised budget, unfortunately, presages their further strong increase.

Table T7-1. Serbia: Consolidated General Government Fiscal Operations[1], 2005–2006

All levels of government contributed to the restrictive performance of government, in particular the Republic

	2005		2006		
	Q2	H1	Q1	Q2	H1
	in billions of dinars				
I TOTAL REVENUE	168.4	314.4	175.3	201.6	376.9
II TOTAL EXPENDITURE	-164.5	-305.6	-169.7	-185.3	-355.0
III "OLD" DEBT REPAYMENT AND NET LENDING	-17.4	-19.9	-4.4	-17.1	-21.5
o/w III.3 Net lending [2]	*-0.8*	*-1.1*	*-1.8*	*-0.8*	*-2.6*
IVa CASH BALANCE (I+II), MoF definition[3]	3.9	8.8	5.6	16.3	21.9
IVb OVERALL BALANCE (IVa+III.3.), MF definition[3], MoF data	3.1	7.7	3.8	15.5	19.3
IVc ANALYTICAL BALANCE (I+II+III), FREN's definition[3]	-13.4	-11.0	1.2	-0.8	0.4
V FINANCING (FREN's definition)	-3.9	9.0	11.7	1.4	13.1
VI ACCOUNT BALANCE CHANGE (IVc+V)	-17.3	-2.0	12.9	0.6	13.5
MEMORANDUM ITEMS					
Government net position in banking system, change (NBS)	-4.2	16.0	10.5	6.6	17.1
Enterprises' claims on VAT (FREN's estimate)[4]	3.1	6.1	-1.6	2.1	0.5

Source: Table P-6 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-6 in Analytical appendix and/or Box 1. in QM3.
4) FREN's estimate based on informal information regarding VAT credits and on analysis of VAT redemption PFB data.   Note: Details are given in Table P-6 in Analytical appendix.

Unlike Q1 2006, when the consolidated general government cash balance was lower in real terms relative to the same period of 2005 and considerably lower than projected, in Q2 2006 the savings in the consolidated cash balance – the one that includes current revenues and expenditures (IVa in Table T7-1) – exactly offset the minus from the previous quarter and brought fiscal execution back to the planned track. That surplus covers the increased costs of debt repayment typical of Q2, that is, despite high amounts of FFCD repayments, the analytical balance – the one that includes the repayment of old debts, in addition to the current period (IVc in Table T7-1) – had a negligibly small negative value. Such a liquidity neutral effect of government is rather unusual for Q2 in a year.

All levels of government ran a surplus in transactions of the current quarter, with the largest contribution to the surplus in Q2 being made by the central budget, while in Q1 that was done by the local levels of government. Still, the share of the local level has remained substantial (Table P-6 in the Analytical Appendix).

Consolidated revenue is going up sturdily, but the main breakthrough this time was made on the expenditure side – in Q2 total expenditure was lower in real terms by 2.4% than in the same period last year. Relative to Q1, expenditure did go up, but at a considerably slower pace than revenue, and slower than last year.

The largest contribution to the rise in revenue was made by customs duties and the VAT on imports

With respect to revenue, the personal income tax and the corporate income tax continue to perform very well, but it may be said that the greatest contribution to the rise in consolidated revenue in Q2 was made by the increase in imports. Due to the introduction of the VAT, imports were extremely low in Q1, and partially in Q2 2005 as well, so it should be taken into account that the high growth is overstated because of the low base for comparison. Nevertheless, in Q2 2006 import growth was picking up even compared to the longer-term trend observed so far, which increased both the customs and VAT revenue. The customs revenue thus grew by 18.1% in real terms in Q2 2006 relative to Q2 2005, and by 19.1% in the first semester of this year relative to the same

period last year (Table T7-2). The VAT, although still lower in real terms (by 3.6%) relative to the same period of 2005, improved its performance in Q2 2006 compared to Q1 – by 12.4% on an accrual basis. QM believes that the better performance of the import VAT underlies its overall growth.

Table T7-2. Serbia: Consolidated General Government Fiscal Operations[1], 2005–2006

	in billions of dinars					Real growth (in %)				
	2005		2006			y-o-y			comparing to previous period	
							2006		2005	2006
	Q2	H1	Q1	Q2	H1	Q1	Q2	H1	Q2/Q1	Q2/Q1
I PUBLIC REVENUES	**168.4**	**314.4**	**175.3**	**201.6**	**376.9**	**4.7**	**3.8**	**4.2**	**12.1**	**11.1**
o/w: Public revenues excluding VAT liabilities to enterprises and offsets with SDF [2),3)]	*163.7*	*305.4*	*176.8*	*199.5*	*376.3*	*8.8*	*5.5*	*7.1*	*12.4*	*9.0*
1. Current revenues	166.6	310.9	173.2	199.3	372.5	4.7	3.7	4.1	12.2	11.1
Tax revenues	155.0	290.5	159.4	185.1	344.5	2.6	3.4	3.0	11.3	12.1
Personal income taxes	23.5	43.0	25.8	29.2	55.1	15.7	7.6	11.3	17.4	9.3
Corporate income taxes	1.8	5.7	7.9	2.9	10.9	75.2	43.6	65.7	-56.6	-64.5
VAT and retail sales tax	52.0	99.4	46.3	57.9	104.2	-14.8	-3.6	-9.0	6.7	20.7
o/w: Net VAT and retail sales tax [2)]	*48.9*	*93.3*	*47.9*	*55.8*	*103.7*	*-5.9*	*-1.2*	*-3.5*	*7.1*	*12.4*
Excises	18.3	31.5	14.7	21.1	35.7	-3.2	-0.3	-1.6	34.8	38.8
Custom duties	9.3	16.3	9.6	12.7	22.3	20.4	18.1	19.1	30.0	27.5
Social contributions	44.4	83.0	48.5	54.1	102.6	9.6	5.4	7.4	11.9	7.6
o/w: contributions excluding offsets with SDF [3)]	*42.9*	*80.1*	*48.4*	*54.1*	*102.5*	*13.3*	*9.3*	*11.2*	*11.9*	*7.9*
Other taxes	5.7	11.6	6.5	7.2	13.8	-2.9	9.7	3.3	-5.6	6.6
Non-tax revenue	11.5	20.4	13.8	14.2	28.0	35.5	7.2	19.47	26.0	-0.4
2. Capital revenues	1.8	3.4	2.1	2.3	4.4	10.2	7.3	8.7	9.3	6.5
II TOTAL EXPENDITURE	**-164.4**	**-319.8**	**-169.7**	**-185.3**	**-355.0**	**4.9**	**-2.4**	**1.0**	**13.3**	**5.4**
1. Current expenditures	-155.4	-305.4	-162.4	-174.5	-336.9	4.4	-2.8	0.6	11.4	3.7
Wages and salaries	-41.0	-77.1	-44.6	-45.6	-90.2	7.7	-3.7	1.7	10.4	-1.4
Wages and salaries excluding severance payments [4)]	*-40.6*	*-76.6*	*-43.1*	*-45.4*	*-88.5*	*4.3*	*-3.2*	*0.3*	*9.8*	*1.7*
Expenditure on goods and services	-22.2	-39.4	-22.4	-25.1	-47.5	13.2	-1.8	4.9	25.0	8.4
Interest payment	-5.0	-10.9	-2.6	-4.9	-7.5	-62.1	-15.3	-40.8	-16.5	86.4
Subsidies	-13.5	-24.6	-10.1	-12.7	-22.8	-20.5	-18.6	-19.5	18.6	21.4
Social transfers	-69.8	-132.0	-79.2	-81.6	-160.8	11.0	1.2	5.9	9.1	-0.5
o/w: pensions [5)]	*-45.8*	*-87.7*	*-52.7*	*-55.7*	*-108.4*	*9.8*	*5.4*	*7.5*	*6.2*	*2.0*
Other current expenditures	-3.9	-7.0	-3.5	-4.6	-8.1	-2.3	1.7	-0.1	19.8	24.7
2. Capital expenditures[6)]	-9.0	-14.4	-7.3	-10.8	-18.1	17.5	3.8	9.1	61.7	42.8
III "OLD" DEBT REPAYMENT AND GOVERNMENT NET LENDING	**-17.4**	**-19.9**	**-4.4**	**-17.1**	**-21.5**	**52.6**	**-14.4**	**-5.8**	**576.4**	**279.2**
1. Debt repayment-FFCDs and LRS	-15.1	-16.0	-1.0	-14.6	-15.6	-8.5	-16.0	-15.5	1,464.3	1,336.7
2. Pensions	-1.5	-2.8	-1.6	-1.7	-3.3	7.5	-1.8	2.6	11.2	1.5
3. Net lending[7)]	-0.8	-1.1	-1.8	-0.8	-2.6	484.3	-9.1	118.1	187.8	-55.2

Source: Table P-6. 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-6 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-5).
7) See footnote 2) in Table T7-1.   Note: Real growth is obtained comparing 2003 constant prices quarterly data.

Revenues from taxes on personal and corporate income are also growing strongly.

The upward trend in the personal income tax revenue and contributions continues, although registered employment, in all likelihood, has not gone up (at least there is no indication of this in the statistics). Therefore it is not quite clear what drives the rise in the revenue from the wage taxes. One assumption is that it could be yet another form of capturing the gray economy (see Wages and Employment in Trends).

The corporate income tax revenue continues to grow impressively (real growth in Q2 2006 by 43.6% as against Q2 2005), although there was a huge drop (by more than 60%) relative to Q1 2006, due to the seasonal character of that tax (Table T7-2).[1]

Excises seemingly recorded a small decline in Q2 2006 relative to the same period last year, as well as relative to Q1, mostly owing to the fact that 10% of the excise revenue from petroleum products, which used to go to the budget, now goes directly to the Road Fund. The decline, however, is considerably lower than in Q1 2006 compared to Q1 2005.

Expenditure is falling in real terms relative to last year...

Consolidated general government expenditure u Q2 2006 declined in real terms by 2.4% relative to the same period last year. The largest savings were made on interest payment and subsidies, but of particular significance is the fact that expenditure for wages and salaries is going down. A considerable real growth in Q2 was recorded in the case of expenditures for social assistance and transfers, which were the only expenditures where there were overruns relative to the amounts planned for Q2. This confirms QM's impression that these expenditures were not adequately projected. Other categories of expenditure with positive real growth – capital expenditure and the category other current expenditure – have remained below the planned levels.

1 The corporate income tax is collected on the basis of final accounts in the month of March, while in the course of the year prepayments are made based on the amount paid for the previous year's liability.

T7-3. Serbia: Plan and Plan Execution, Republic Budget and Consolidated General Government Balance[1), 2006

	Republic (central) budget			Consolidated government			
	Plan H1 - 2006	Execution H1-2006	Plan execution (in %)	Plan H1[2)	Execution H1-2006	Plan execution (in %)	New plan H1[3)
I TOTAL REVENUE	**225.1**	**218.9**	**97.2**	**374.8**	**376.9**	**100.6**	**386.5**
1. Current revenue	225.1	218.9	97.2	371.3	372.5	100.3	382.4
Tax revenue	214.8	203.8	94.9	350.9	344.5	98.2	343.0
Personal income tax	28.9	29.6	102.4	52.7	55.1	104.6	53.7
Corporate income tax	5.1	9.9	194.1	5.5	10.9	198.2	9.2
VAT	116.1	104.2	89.8	116.1	104.2	89.8	105.9
Excises	40.1	35.7	89.0	40.2	35.7	88.8	38.9
Custom duties	22.1	22.3	100.9	22.1	22.3	100.9	22.2
Other taxes	2.5	2.1	84.0	12.8	13.8	107.8	13.0
Contributions	..	..	..	101.4	102.6	101.2	100.3
Non-tax revenue	10.2	15.0	147.1	20.3	28.0	137.9	39.4
2. Capital revenue	..	..	..	3.6	4.4	122.2	4.1
II TOTAL EXPENDITURE	**-204.1**	**-212.0**	**103.9**	**-353.8**	**-355.0**	**100.3**	**-365.0**
1. Current expenditure	-193.8	-204.4	105.5	-331.8	-336.9	101.5	-341.9
Wages and salaries	-43.5	-47.0	108.0	-85.7	-90.2	105.3	-89.2
Expenditure on goods and services	-10.1	-9.3	92.1	-46.6	-47.5	101.9	-48.0
Interest repayment	-10.3	-7.0	68.0	-14.2	-7.5	52.8	-15.8
Subsidies	-12.8	-14.3	111.7	-33.5	-22.8	68.1	-33.6
Social transfers	-21.8	0.0	0.0	-154.8	-160.8	103.9	-163.2
o/w: pensions	..	..	..	*-101.5*	*-108.4*	*106.8*	*-101.5*
Donations and transfers	-91.6	-101.2	110.5	..	..	..	..
Other current expenditures	-3.5	-2.4	68.6	-8.2	-8.1	98.8	-9.3
2. Capital expenditures	-10.4	-7.6	73.1	-22.0	-18.1	82.3	-23.1
III "OLD" DEBT REPAYMENT AND GOVERNMENT NET LENDING	**-21.4**	**-18.2**	**85.0**	..	..	..	..
Debt repayment[4)	-18.7	-15.6	83.4	..	..	..	..
Budget credits, net	-3.2	-2.6	81.3	..	..	..	..
IVa CASH BALANCE (I+II), MoF definition	**20.9**	**6.9**	**33.0**	**21.0**	**21.9**	**104.3**	**21.5**

Source: The Public Finance Bulletin (PFB), the Law on the Budget of the Republic of Serbia for 2006, the Memorandum on the Budget and Economic and Fiscal Policies for 2006 with projections for 2007 and 2008 of October 2005, the Memorandum on the Budget and Economic and Fiscal Policies for 2007 with projections for 2008 and 2009 of May 2006.   1) In billions of dinars, unless otherwise indicated.   2) Source: the Memorandum on the Budget and Economic and Fiscal Policies for 2006 with projections for 2007 and 2008 of October 2005.   3) Source: the Memorandum on the Budget and Economic and Fiscal Policies for 2007 with projections for 2008 and 2009 of May 2006.   4) Total public debt repayment (both domestic and foreign)   Note: Adjustment of annual plan by quarters is done with percentages IMF used for their projections - for revenue: Q1 (22,2%) Q2 (23,9%,) and for expenditure: Q1 (21,6%) Q2 (24,9%).

...with the main savings on subsidies and interest payment

The main savings on the expenditure side were made on subsidies. They continued to decline significantly relative to the same period of the previous year (18.6%), but an even sharper drop was expected since, after Q1, the Serbian Broadcasting Corporation was "taken off" the budget completely. It is interesting to note that the main cut in subsidies, especially in Q2, was made at the local level, while the central budget, it seems, "gave in" in Q2. This can be seen also from the execution of the plan (Table T7-3) – subsidies in the central budget exceeded the amount planned for the semester, but the subsidies of consolidated general government were even below the planned level. Loans from the budget (net lending) were also dramatically reduced in Q2 2006 relative to Q1, as well as compared to the same period of 2005.

Interest payment was lower in the whole semester relative to the same period last year, while its rise in the course of 2006 (Q2/Q1) by 86.4% was a result of the seasonality of that expenditure. It was also considerably lower than planned. Part of the explanation for the deviation from the plan can be found in the dinar appreciation – the debt repayment schedule was probably very conservative and a substantial foreign exchange risk was probably built in, while the dinar was stable in the entire first semester (only to nominally appreciate afterwards). This assumption is, in part, also corroborated by the revision of the budget, in which the expenditure for interest payment is slightly lower than initially planned – by 1.3 bn dinars. Nevertheless, even when this cut is taken into account, interest payment is still below the plan. Obviously, interest payment is anticipated only in the second semester.

Expenditure for wages and salaries is also lower, but only in the quarter

Expenditure for wages and salaries dropped in real terms by 3.7% in Q2 2006 relative to Q2 2005 (after excluding severance payments, the drop is negligible, Table T7-2). This was the result of a real decline in wages in the budget of the Republic (Q2/Q1 2006 at the level of the Republic is 95.6%), while wages in the health sector are still going up (Q2/Q1 2006 in the Health Fund is 109.9%), and wages at the level of local governments are the same as in Q1 of this year (Q2/Q1 2006 in the local level of government is 100.2%). Expenditure for wages and salaries, however, did overshoot in the first semester relative to the original plan for last year, and the revised budget (which will be discussed in more detail in the next issue of QM) shows that it will be nominally higher than the original plan by 23%.

Expenditure on goods and services declined slightly in Q2 2006, by 1.8%, relative to Q2 of the previous year. Savings were this time made by the Serbian Health Fund (Q2 2006/Q2 2005 is 85.22%), while the local level of government still has a very high real growth of this expenditure category (Q2 2006/Q2 2005 is 123.5%). Unlike Q1 of the current year, in which significant savings in this category were made by the central budget, in Q2 expenditure for purchases of goods and services of the Republic was on the rise.

Transfers to households are also higher than planned

Expenditures for social assistance and transfers, including pension benefits, went up in real terms because the average pension (particularly in the case of farmers) was increased in real terms through the shifting of the two months of arrears in the payment of pensions late last year, and that growth was carried over into this year.

Table T7-4. Serbia: Government Position in the Banking Sector, 2004–2006

The restrictive effect on liquidity will be short-lived

	2005			2006		
	Mar	Jun	Dec	Mar	Jun	July
in billions of dinars, stocks						
Total	-28.3	-24.4	-45.7	-56.2	-62.9	-73.0
Republics and State Union	-9.4	-4.1	-30.4	-33.7	-36.5	-46.8
Municipalities	-18.9	-20.3	-15.3	-22.5	-26.4	-26.2
cummulative, from the beginning of the year						
Total	-20.1	-16.2	-37.5	-10.5	-17.1	-27.3
Republics and State Union	-14.3	-9.0	-35.3	-3.2	-6.0	-16.4
Dinar position	-7.2	-10.0	-27.9	-3.1	-16.3	-16.4
Fx position	-7.0	1.0	-7.4	-0.1	10.3	0.0
Municipalities	-5.8	-7.3	-2.2	-7.3	-11.1	-10.9
NBS	-5.3	-3.2	-0.8	-6.1	-5.3	-5.1
Commercial banks	-0.6	-4.0	-1.4	-1.2	-5.8	-5.8

Source: NBS.

All fiscal balances, including FREN's "analytical balance," show that Q2 was extremely restrictive in comparison with previous years, but the budget revision, as well as the nature of the savings, indicate that the tightening, rather than being of a durable nature, is only a short respite in the expansive fiscal policy. To a large extent, the savings on the expenditure side were achieved owing to the maturity structure of the planned expenses – mostly interest and debt payment. With the exception of the foreign exchange risk, these expenditures can be precisely projected and eventually realized. The savings on subsidies, which the government has been cutting back over a longer period, are welcome since they encourage faster restructuring of the real sector. What their real dimensions are, however, is not clear because the changes in the presentation of fiscal accounts regarding alterations in the status of budget beneficiaries are not well documented. Finally, the restrictive fiscal policy in Q2 did not have the full effect it potentially could have had on the liquidity of the economy, because in June the resources of local self-governments were moved from the treasury account with the NBS to accounts in commercial banks (Table T7-4). This topic is analyzed in more detail in Box 2 and Box 3, Monetary Flows and Policy, in Trends.

The budget revision and monetary flows in July are insufficient evidence to conclude that the restrictiveness of Q2 is of a durable nature. The revision nominally increased the official deficit by 24.1 bn dinars. But the liquidity effect of government is impacted by both the repayment of old debts (reduced in the revision by some 3.3. bn dinars) and payment collected for the Mobtel licence, which should be treated as a capital investment from abroad (foreign savings) rather than as current revenue. All in all, the new budget increases demand by around 65 bn dinars, or approximately 3% of GDP.

8. Monetary Flows and Policy

June and July of 2006 finally saw the restrictive measures of the National Bank of Serbia bear fruit. The raising of the effective reserve requirement rate from 32% in March to 38% in June cut back the liquidity of the system and increased the price of capital by some 3 percentage points. After growing rapidly up to May, credit expansion slowed in June and virtually stopped in July, as did also monetary growth. Though restrictive in April and May, government, particularly at local level, added to the liquidity of commercial banks in June and July. For the first time, NBS operations on the open market in June and July rivalled credit to companies (repo transactions grew significantly in spite of the reduced liquidity), while short-term credits to companies even decreased. Since repos are dinar-denominated and credits to companies are not, there was a major shift in the ratio of demand and supply of dinars and foreign exchange in favor of the dinar; hence the strengthening of the national currency. NBS accumulation of foreign exchange reserves hit new records in the first seven months of the year (gross reserves of 1.8 bn euros), even if all liabilities – foreign liabilities, and fx liabilities towards government and commercial banks – are excluded (NBS net own reserves of 663 mn euros).

Graph. T8-1. Serbia: Money and Component Aggregates[1], 2004–2006

After accelerating over the past two years, monetary growth is at last slowing down...
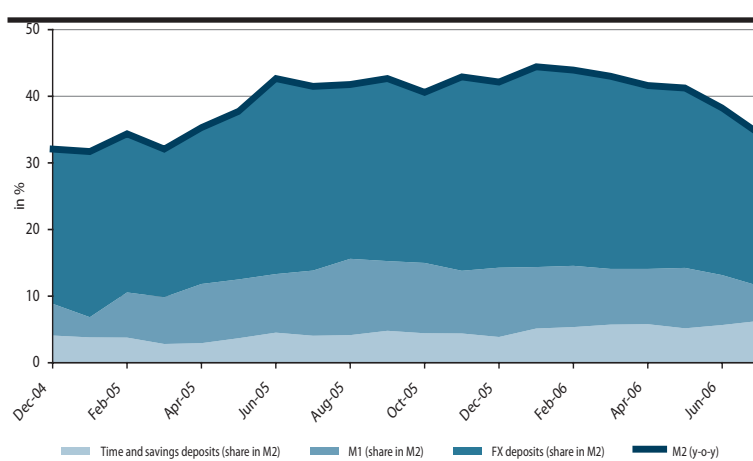
Source: Table P-7. in Analytical Appendix.
1) The share of money components was obtained as their ratio against the value of M2 in the same period of the preceding year, whereby the sum of obtained ratios is equal to the y-o-y growth of total money (M2).

For the first time since early 2004, monetary growth slowed at the end of Q2 2006 (Graph T8-1). At quarterly level, the highest growth rate of M2 in the period under review was recorded in Q1 (Table T8-2). As early as May in Q2, a downturn began so that the 12-m growth rate was 4.8 percentage points below March (38.2% nominally and 20.1% in real terms). The trend intensified in July when the 12-m rate was reduced to 34.4% nominally and 19.1% in real terms. Measured differently, in the May-July period – when money growth is seasonally strong (14.2 percentage points of opening M2 in 2005) – the increase in the current year was only 8 percentage points of opening M2. In terms of money structure itself, neither Q2 nor July saw any change: the share of money aggregates in total money was stable with only a slight decrease of the share of M1 owing to the reduction of the amount of cash in circulation thanks to the advance of non-cash payments.

... credit to the non-government sector is deaccelerating as well, although with one month lag

The growth of credits to the non-government sector has been stable from Q4 2005, at almost the same nominal 12-m rate that peaked in May 2006 (57.9%), slowed mildly in June and dropped to 50% in July. In real terms, these credits peaked in March (38.4%) and stayed at more or less the same level over the next two months until they dropped to 33% in July. While credit to households slowed in Q2 relative to Q1 (from 102.3% in March to 96.2% in June), a significant deceleration (by over 10 percentage points) occurred in July when they grew at a nominal rate of 85.7%. In contrast to household credits, credits to companies grew at a stable pace until the end of Q2 2006, to slow considerably in July (from 44.4% nominal 12-m growth in June to 36.8% in July).

Table T8-2. Serbia: Monetary Survey, Selected Indicators, 2004–2006

	2004	2005			2006			
	Dec	Mar	Jun	Dec	Mar	May	Jun	July
y-o-y, in%								
M2	32.1	32.1	42.7	42.1	43.0	41.2	38.2	34.4
Credit to the non-government sector[1]	51.6	54.8	51.5	57.1	58.5	59.5	57.9	50.0
Households	125.0	115.7	105.2	93.9	102.4	102.3	96.2	85.7
Enterprises	37.1	42.1	38.6	45.2	44.6	45.1	44.4	36.8
real y-o-y, in %								
M2	16.1	12.5	22.1	20.8	24.9	21.7	20.1	19.1
Credit to the non-government sector[1]	33.3	31.9	29.7	33.5	38.4	37.4	37.1	33.0
Households	97.8	83.7	75.6	64.8	76.8	74.3	70.4	64.7
Enterprises	20.5	21.0	18.7	23.4	26.3	25.0	25.4	21.3
cumulative, in % of opening M2[2]								
M2	32.1	2.6	15.9	42.1	3.2	10.2	12.7	13.9
M2 dinar	8.9	-0.8	4.4	14.3	-0.4	3.3	3.8	4.1
Foreign deposits (households and enterprises)	12.8	2.5	9.2	22.4	2.7	5.3	8.5	10.2
Valuation adjustments[3]	10.5	0.8	2.3	5.4	1.0	1.6	0.4	-0.4
NFA, fx increase	-12.1	0.4	5.1	12.5	-3.8	-2.9	3.1	5.1
NFA, dinar increase	-3.7	1.0	6.8	16.5	-3.2	-1.9	3.4	4.9
Valuation adjustments[4]	8.4	0.6	1.8	3.9	0.6	1.0	0.3	-0.3
NDA	35.8	1.6	9.0	25.6	6.4	12.1	9.3	9.0
Credit to the non-government sector[1]	36.6	8.4	16.3	46.5	10.2	17.4	18.6	18.7
Net credit to government[5]	5.5	-4.4	-2.8	-10.8	-0.7	-2.2	-1.3	-3.6
o/w: NBS and com. banks capital and reserves	-9.6	-2.7	-6.6	-11.8	-4.6	-8.6	-10.8	-11.2
cumulative, in % of GDP[6]								
Net credit to government[5]	1.1	-1.1	-0.6	-2.3	-0.2	-0.6	-0.4	-0.9
o/w: dinar credits	0.0	-0.5	-0.7	-1.8	-0.2	-0.9	-1.0	-0.9
Credit to the non-government sector[1]	7.1	2.0	3.7	9.6	2.9	4.7	5.0	5.0

Source: Table P-7. in Analytical Appendix.
Note: definitions of M2, M2 dinar, NFA and NDA - see Analytical and Notation Conventions.
1) Credits to the non-government sector: credits to households and enterprises (including cities and municipalities, non-profit and other non-government entities).
2) "Opening M2" refers to the stock of M2 from the beginning of stated year (i.e. end of previous year).
3) 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.
4) Valuation adjustments refer to the difference in NFA contribution to M2 growth calculated in dinars and NFA contribution to M2 growth calculated in euros.
5) Net credit to government: difference between government credits (dinar and fx) and deposits (dinar and fx).
6) The GDP used in the calculations is annually centered.

Growth of money and credit to non-government sector is slowing down starting June 2006

Dinar appreciation makes valuation adjustments negative in July

Monetary growth in Q2 2006 was based on credit expansion and, in July on the accumulation of fx reserves

In spite of the slower 12-m rate, monetary growth reached 12.7% of opening M2 in Q2 2006, and increased by an additional 1.2 percentage points in July (Table T8-2). This trend in Q2 was the result of the credit expansion of 18.6% of opening M2, the greater part of which was financed from the increase in banks' capital (by as much as 10.8% of opening M2), by which amount the contribution of NDA to monetary growth was cut to only 9.3% (with an increase of government deposits of 1.3% of opening M2). The increase of the banking sector's NFA of 3.1% of opening M2 also contributed to the monetary growth. July saw a shift toward NFA contributing more significantly to monetary growth (5.1% of opening M2).

Foreign exchange savings grew at a stable rate, increasing by 358.8 mn euros in the first semester, much like as in the same period in 2005. The stable growth trend continued also in July (Table T8-3).

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Foreign borrowing of commercial banks' is finally curbed, in mid 2006

Table T8-3. Serbia: Monetary Survey, 2004–2006

	2004	2005			2006			
	Dec	Mar	Jun	Dec	Mar	May	Jun	July
STOCK								
	in millions of dinars, end of period							
NFA	141,120	144,478	163,230	194,397	179,886	*185,602*	209,994	*216,773*
o/w: NBS gross reserves	244,837	272,654	302,596	420,769	461,414	*538,365*	545,592	*554,015*
o/w: commercial bank foreign liabilities	-83,225	-98,169	-114,781	-191,124	-229,082	*-299,068*	-302,170	*-296,874*
NDA	182,147	187,226	211,299	265,051	294,481	*320,808*	307,761	*306,495*
Net credit to government [1]	4,866	-9,400	-4,098	-30,447	-33,667	*-40,428*	-36,464	*-46,835*
Net dinar credit	4,506	-2,720	-5,475	-23,386	-26,501	*-37,880*	-39,734	*-39,754*
Net fx credit	360	-6,680	1,377	-7,061	-7,166	*-2,548*	3,270	*-7,081*
Credit to the non-government sector [2]	263,292	290,513	316,028	413,615	460,370	*493,417*	499,011	*499,604*
Other items, net	-86,011	-93,887	-100,631	-118,117	-132,222	*-132,181*	-154,786	*-146,274*
M2	323,267	331,704	374,529	459,448	474,367	*506,410*	517,755	*523,268*
M2 dinar	146,604	144,144	160,778	192,758	190,872	*207,982*	210,046	*211,616*
Fx deposits (households and economy)	176,663	187,560	213,751	266,690	283,495	*298,428*	307,709	*311,652*
MEMORANDUM ITEMS								
Currency outside banks/Dinar deposits (households and economy), in %	44.5	37.6	35.7	38.6	31.6	*28.7*	30.4	*30.1*
Fx deposits (households and economy) / M2 (%)	54.6	56.5	57.1	58.0	59.8	*58.9*	59.4	*59.6*
Velocity (GDP[3] / M2)	3.9	4.0	3.8	3.4	3.5	*3.3*	3.3	*3.3*
M2 / GDP[3]	0.26	0.25	0.26	0.29	0.29	*0.30*	0.30	*0.30*
Credits to the non-government sector / GDP[3]	0.21	0.22	0.22	0.26	0.28	*0.29*	0.29	*0.29*
FLOW								
	in million of euros, cumulative from the beginning of the year[4]							
NBS gross reserves	229.2	299.3	591.0	1,856.6	388.4	*1,221.8*	1,422.8	*1,596.5*
Foreign liabilities of commercial banks	-685.3	-169.4	-344.9	-1,193.6	-400.8	*-1,177.2*	-1,278.2	*-1,257.3*
Fx deposits (households and enterprises)	457.3	102.7	371.0	907.9	143.1	*286.1*	458.8	*547.3*
o/w: households fx deposits	365.0	145.4	323.3	838.0	165.2	*270.0*	358.8	*396.3*
Government-fx deposits	156.3	-98.7	7.0	-114.8	-32.8	*38.7*	89.0	*3.5*

Source: Table P-7 in Analytical Appendix.
Note: definitions of M2, M2 dinar, NFA and NDA - see Analytical and Notation Conventions.
1) See footnote 5) in Table T8-2.
2) See footnote 1) in Table T8-2.
3) See footnote 6) in Table T8-2.
4) For instance, the figure in the December 2003 column represents the change (in euros) in the December 2002- December 2003 period.

Box 1. NBS Restrictions on Banks' Foreign Borrowing Produce Results

After raising the reserve requirement rate on the foreign exchange base for commercial banks in April 2006 from 38% to 40% and introducing a reserve requirement on subordinated capital,[1] the NBS continued pursuing its restrictive monetary policy in Q2. In May, the reserve requirement rate on the portion of the foreign exchange base relating to all foreign borrowing with repayment terms of up to two years was raised to 60%.[2] This measure, however, did not significantly reduce the inward capital movements as commercial banks started borrowing abroad through non-residential dinar deposits on which the reserve requirement is far lower - only 18%. This prompted the NBS to introduce new restrictions in June, this time by putting non-residential foreign exchange and dinar accounts on an equal footing. Therefore, as of June, banks are obliged to reserve: (a) 60% on all funds in non-residential accounts with repayment terms of up to two years, and (b) 40% on all funds in non-residential accounts with repayment terms exceeding two years. This raised the effective reserve requirement by as much as 6 percentage points in only one quarter – from 32% in Q1 to 38% in Q2 2006. Consequently, banks whose primary source of financing is foreign capital, i.e. banks in majority foreign ownership, have considerably raised their rates – by around 3 percentage points, according to what *QM* has learned.

1 **Subordinated capital: under the internationally accepted definition, this is a long-term debt which, in the event of bankruptcy,** is paid after payments to the main creditors (because it carries a higher risk level than other categories of debt) but before core capital.
2 **To curb household borrowing, the NBS in May passed a special Decision under which total bank credits to households cannot** exceed 200% of the value of core capital. Since this is a very restrictive measure, banks were given time to adjust, i.e. the measure will be applied to the book value on 30 September 2006.

Table T8-4 shows in chronological order the measures taken by the central monetary authorities to curb the growth of liquidity.

Table T8-4. Banks' Reserve Requirements with NBS

	Applied to accounting reports as of[1]:												
	07/2003	04/2004	07/2004	12/2004	05/2005	07/2005	08/2005	09/2005	10/2005	11/2005	03/2006	04/2006	05/2006
Rate on:								in %					
DINAR DENOMINATED BASE	18	18	21	21	20	20	20	20	18	18	18	18	18
non-resident accounts with maturity up to 2 years:													60
non-resident accounts with maturity over 2 years:													40
FX DENOMINATED BASE	18	18	21	21	26	29	29	29	35	38	40	40	40
foreign borrowing with maturity up to 2 years[2]												60	60
NEW FX SAVINGS DEPOSITS[3]	50[4]	47	47	47	47	45	43	41	41	38	40	40	40
SUBORDINATED CAPITAL											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) Effective from the 10th of the next month and applied to the book value on the last day of that month
2) Up to April 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.
4) Application of the 50% rate started in 2001.
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.

Where limiting banks' foreign borrowing by imposing reserve requirements on financial leasing organizations is concerned, there was no change in Q2 relative to Q1 2006. This is to say that the 20% rate on credits, other lending and additional payments from abroad leasing organizations had to reserve with commercial banks remained unchanged.

Credit growth slowed in June and July; negative growth of short-term credit to enterprises should raise concerns

At quarterly level, the NBS's restrictive measures had almost no effect on curbing credit expansion in Q2 2006; 500 mn euros was lent to the non-government sector in the period, almost double the figure recorded in the same period last year (232 mn euros). But the expansion was mostly in April and May, slowing down considerably in June and, in particular, July (Table T8-5). Total credits to companies and households rose by only 71 mn euros in July. It is noteworthy that there was a drop of 48 mn euros in short-term credits granted to companies in this period, which is not good news where economic activity is concerned. On the other hand, long-term credits to companies continued to grow at almost the same pace, hardly a surprise since the target of the latest measures were short-term sources and credits. Credit to households, both short- and long-term, also grew, but at a somewhat slower pace (Table T8-5).

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Table T8-5. Serbia: Funding, Credit and Investment Activity, Flows, 2004–2006

In July 2006:

	2004	2005			2006			
	Dec	Mar	Jun	Dec	Mar	*May*	Jun	*July*
	in millions of euros, cumulative from the beginning of the year							
Funding(-, increase in liabilities)	-1,067	-303	-910	-2,614	-639	*-1,708*	-2,340	*-2,500*
Domestic deposits	-462	-59	-450	-1,237	-93	*-361*	-544	*-679*
Households deposits	-328	-142	-345	-872	-175	*-282*	-413	*-432*
o/w: household savings	-365	-145	-323	-838	-165	*-270*	-359	*-396*
Enterprise deposits	-134	83	-106	-365	82	*-79*	-131	*-248*
o/w: dinar deposits	-43	41	-60	-297	56	*-74*	-46	*-97*
Foreign liabilities	-685	-169	-345	-1,194	-401	*-1,177*	-1,278	*-1,257*
Capital and reserves	80	-76	-114	-184	-145	*-170*	-518	*-563*
Gross foreign reserves(-,decline in assets)	-47	-96	-20	-50	-155	*-199*	-152	*-262*
Credits and Investment	878	318	635	1,656	602	*1,060*	1,307	*1,399*
Credit to the non-government sector, total	759	290	522	1,532	457	*788*	958	*1,029*
Enterprises	371	236	332	878	292	*454*	535	*530*
o/w: long term	160	23	99	365	128	*208*	275	*317*
Households	388	54	190	653	165	*334*	422	*499*
o/w: long term	362	52	187	596	122	*252*	329	*378*
Repo transactions[1]	-14	21	194	179	163	*334*	457	*515*
Government, net[2]	133	7	-81	-55	-18	*-63*	-107	*-144*
MEMORANDUM ITEMS								
Required reserves and deposits	193	51	267	951	260	*902*	1,205	*1,285*
Other net claims on NBS[3]	12	-67	-33	45	-104	*-107*	-103	*-34*
o/w: Excess reserves	*-16*	*-60*	*-49*	*3*	*-103*	*-115*	*-87*	*-71*
Other items[4]	31	97	61	13	35	*52*	83	*111*
Effective required reserves (in %)[5]	25	25	26	30	32	*35*	38	*38*

Total banks' funding deaccelerated..

...due to foreign borrowing curb

Credit to enterprises shifted to repo

Source: Table P-8. in Analytical Appendix.
1) Repo transactions include treasury bills and NBS bills, which were initially substituted by T-bills in January 2005, only to be introduced anew nine months later.
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 stopped borrowing from abroad in July, and government added liquidity to the system

In Q2, again at quarterly level, bank credits were predominantly financed from foreign borrowing and, in part, from the increase in capital and reserves, just as in Q1. Domestic deposits continued on an upward trend. A substantial change, however, took place in June and July, with the credit growth and banks' foreign borrowing slowing significantly in these two months. Banks borrowed only 101 mn euros in June and, for the first time, borrowing was negative in July (the cumulative increase since the beginning of the year amounted to 1,278 mn euros in June, which dropped by 21 million euros in July, Table T8-5). Banks opted for capital rather than short-term borrowing in June, not only because of the latest measures but certainly also because of the NBS Decision under which they will be obliged to keep total credit to households at up to 200% of core capital as of 30 September 2006. (see footnote 3 in Box 1). In spite of the tighter financial framework and decrease in foreign borrowing, credit to the non-government sector rose in July by 71 mn euros and repos by 58 mn euros. In addition to the growth of capital, this was achieved by banks drawing on their reserves abroad (110 mn euros) and the liquidity added by government (government deposits increase by 37 mn euros).

Box 2. Government Deposits Continue to Grow

Government continued to add liquidity to commercial banks, with the net increase of its deposits reaching 144 mn euros by July. The contribution of government is quite significant with regard to the structure of the net deposits (70 mn euros increase since the beginning of the year). In the last issue, *QM* noted that the previous government invested major efforts to have all government deposits transferred from commercial banks to the NBS (for more details see *QM*4, www.fren.org. yu). Another development in the context of adding liquidity to the system was the transfer of local government deposits from the NBS to commercial banks (more details in the discussion on fiscal policy, Table T7-4).

Table T8-6. Serbia: NBS - Foreign Exchange Purchases and Dinar Sterilization, 2003-2006[1]

	2004	2005				2006			
	Dec	Mar	Jun	Jul	Dec	Mar	May	Jun	July
FLOW									
	in millions of dinars, cumulative from the beginning of the year								
NBS own resreves[2]	18,286	10,454	29,092	33,309	62,889	4,775	35,039	48,859	57,231
NBS own reserves (in euros)	250	130	358	408	756	55	402	562	663
NDA	-11,313	-21,723	-34,570	-33,329	-45,639	-20,845	-49,392	-54,154	-57,283
Government, dinar credits	2,376	-192	-4,791	-4,864	-6,219	-1,501	-1,501	-1,762	-1,765
Government, dinar deposits	-13,763	-12,527	-8,466	-8,765	-18,563	-4,797	-20,102	-14,412	-13,752
o/w: municipalities	-3,789	-5,259	-3,213	-2,789	-821	-6,068	-11,564	-5,339	-5,102
Repo transactions[3]	471	-1,454	-15,855	-16,634	-15,076	-14,259	-29,516	-39,153	-43,336
Other items , net[4]	-397	-7,550	-5,458	-3,066	-5,781	-288	1,727	1,173	1,570
H	6,973	-11,269	-5,478	-20	17,250	-16,070	-14,353	-5,295	-52
o/w: currency in circulation	2,186	-5,797	-2,849	-51	8,485	-7,825	-7,297	-4,724	-4,680
o/w: excess liquidity	46	-5,195	-3,531	-2,074	3,673	-8,587	-9,277	-7,878	-3,421
	cumulative, in % of opening H[5]								
NBS own resreves[2]	44.0	15.4	42.9	50.1	92.6	7.9	41.8	52.3	53.2
NDA	-34.0	-30.1	-50.0	-50.1	-70.2	-25.0	-57.1	-58.0	-53.3
Government, dinar deposits	-19.7	-16.3	-11.0	-11.4	-24.1	-5.1	-21.3	-15.3	-14.6
Repo transactions[3]	0.7	-1.9	-20.6	-21.6	-19.6	-15.1	-31.3	-41.6	-46.0
Other items , net[4]	-15.0	-11.9	-18.4	-17.1	-26.5	-4.8	-4.4	-1.1	7.3
H	10.0	-14.6	-7.1	0.0	22.4	-17.1	-15.2	-5.6	-0.1
o/w: currency in circulation	3.1	-7.5	-3.7	-0.1	11.0	-8.3	-7.7	-5.0	-5.0
o/w: excess liquidity	0.1	-6.7	-4.6	-2.7	4.8	-9.1	-9.8	-8.4	-3.6
MEMORANDUM ITEMS									
Gross fx reserves (flow, cumulative from the beginning of the year, in euros)	229.2	299.3	591.0	878.3	1,856.6	388.4	1,221.8	1,422.8	1,753.6
Gross fx reserves (in % of opening H in euros)	73.1	36.1	75.0	110.3	228.6	43.1	124.8	132.5	141.4
H (growth rate, y-o-y, in %)	10.0	14.3	14.8	23.4	22.4	18.9	12.4	24.4	22.4
Currency in circulation (growth rate, y-o-y, in %)	5.1	3.6	4.9	7.3	18.8	16.4	12.5	15.6	8.5

Source: Table P-9. in Analytical Appendix.
Note: definitions of NDA and H - see Analytical and Notation Conventions.
1) Government include: Republic level and cities and municipalities.
2) Net own reserves definition - see Box 4 in text.
3) Up to December 2004, this category included NBS bills, in the January-February 2005 period NBS bills and repo transactions, and as of March 2005 only 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).

NBS fx reserves reached new records

The NBS' restrictive monetary policy completely sterilized reserve money growth

Despite the major increase of net own reserves in the first seven months of 2006 (663 mn euros increase) compared to the same period in 2005 (408 mn euros increase), with its aggressive policy of repo rates and with some support from government, the NBS was able to bring primary money back to last year's level (in 2006, the increase of primary money was reduced to -52 mn euros, much like in 2005 when the increase up to July amounted to -20 mn euros). The 12-m growth of primary money in July was at a similar level as last year (22.4%), thanks in good part to the decrease of the 12-m growth of cash (from 15.6% in June to 8.5% in July 2006).

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Box 3. Despite the Surplus, Government Infused Funds into the Banking System

As noted in *Trends,* fiscal policy was on the whole restrictive in Q2 2006. A closer look at the monetary accounts, however, brings out that the government in June and July frustrated the efforts of the NBS by transferring its deposits from the central bank to commercial banks. Both the central and local governments achieved surpluses, i.e. revenues exceeding total expenditures (including servicing of old debts) in Q2. When such surpluses are deposited with the central bank, government helps to sterilize the excess liquidity in the system. But depositing them with commercial banks means they *directly* enable the growth of credit to the non-government sector and, *indirectly* - by increasing primary money – create multiplicative credit-monetary effects. The monetary accounts do not make it possible to view government revenues separately from others, such as privatization proceeds. Fortunately, the latter reach the state coffers in foreign currency denomination so that partial identification is possible by observing the movement of government foreign exchange and dinar deposits. In the analysis, we point to Table T7-4 in the part on Fiscal Trends and Policy in *Trends* and items relating to net credit to government that appear in each of the tables in this article.[1]

In Q2, government accumulated the less important dinars while leaving the level of foreign exchange deposits mainly unchanged, in keeping with the expansive policy described in the previous issue of *QM*. In late July, foreign exchange deposits remained the same as at the beginning of the year as the strong spending of reserves on FFCD payments was offset in July, most probably with privatization proceeds. For their part, government dinar deposits grew vigorously from March to May and were held mainly at the NBS, contributing to the sterilization of liquidity during that period. But, for reasons *QM* has not been able to determine, June saw a sudden transfer of some 5 bn dinars from local government accounts with the NBS to accounts in commercial banks. This increased in July and, along with the rise in government deposits in commercial banks, enlarged commercial banks' sources of financing by about 144 mn euros.

[1] **The most comprehensive presentation of government in the banking sector is given in Table T7-X in the part on fiscal flows** and policy. All credits and deposits at all levels of government that are indentified in published bank accounts are included. The items are mainly grouped under "Credits to government, net" in the Monetary Survey but also include the deposits of local governments held in commercial banks, which are not shown as government (negative item in net domestic assets) in the Monetary Survey (Tables T8-2, T8-3 in *Trends* , and P-6 in the Analytic Appendix) but as deposits in M2 as they represent part of the effective demand.

In Box 2, as in the previous issue, *QM* notes that government deposits should not be held in commercial banks. Either there has been a mistake in classification or a policy is being pursued that is hard to justify. FREN has addressed the NBS and the Ministry of Finance with a request for an explanation. There has been no response thus far.

Banks find repo operations more attractive than lending to enterprises – it's time for fine-tuning

Commercial banks continue to find repo operations very attractive; in the semester of 2006 and particularly in Q2, they led the sterilization of excess liquidity. After recovering in Q1 2006 and achieving an increase of 14.3 bn dinars, an additional 24.9 bn dinars was sterilized in the following quarter (Table T8-6). The trend continued in July with another 4.2 bn dinars being sterilized. This brought the total increase of repos in the first seven months to a record 43.3 bn dinars (46% of opening H). The reason for the major interest in repos is the average[1] 22% interest rate (in the first two quarters of the year), which banks found stimulating enough. The drop in short-term credits to companies in July, however, signals that the sterilization by the NBS with highly attractive repo rates could have very negative repercussions on overall economic activity. Whether or not the reduction of the rate in August (18.61%)[2] and September (18%)[3] will rekindle banks' interest in lending to companies remains to be seen.

NBS balance sheet reports a loss, as a consequence of very restrictive monetary policy

It would appear that the extremely restrictive monetary policy causes losses to the central bank, both because of the strengthening of the dinar and the high interest rates on repos. This becomes evident when the sign before the increase in the balance item "Other domestic assets, net" is changed – the increase of this category has been in the plus sign since May and reached 1.570 mn dinars in July (Table T8-6).

[1] **Average weighted interest rate on securities with which the NBS operates on the open market. Source: www.nbs.yu.**
[2] **Average weighted interest rate. Source: NBS Average weighted interest rate on securities with which the NBS operates on the open** market. Source: www.nbs.yu.
[3] **On 6 September the NBS starting selling T-bills at repo auctions at a fixed rate of 18%.**

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Box 4. Structure of Serbia's and NBS Foreign Exchange Reserves

Table T8-7.Serbia: Foreign Exchange Reserves, Stock and Flow, 2004–2006

	2004	2005			2006			
	Dec	Mar	Jun	Dec	Mar	*May*	Jun	*July*
stock, in millions of euros								
NFA of Serbia	1,766	1,783	1,972	2,274	2,070	*2,118*	2,442	*2,612*
Commercial banks, net	-367	-632	-732	-1,610	-2,166	*-2,987*	-3,041	*-3,205*
Gross foreign reserves	675	579	655	625	470	*426*	473	*372*
Foreign liabilities	-1,042	-1,211	-1,387	-2,235	-2,636	*-3,413*	-3,514	*-3,577*
NBS, net	2,133	2,414	2,704	3,884	4,236	*5,104*	5,482	*5,817*
Gross foreign reserves	3,065	3,364	3,656	4,921	5,310	*6,143*	6,344	*6,675*
Foreign liabilities	-932	-950	-952	-1,037	-1,074	*-1,039*	-862	*-858*
IMF	-698	-676	-657	-737	-781	*-753*	-571	*-570*
Other liabilities	-234	-274	-295	-300	-293	*-285*	-290	*-288*
NBS, NET RESERVES-STRUCTURE								
1. NBS, net	2,133	2,414	2,704	3,884	4,236	*5,104*	5,482	*5,817*
1.1 Commercial banks deposits	-825	-878	-1,083	-1,725	-1,995	*-2,619*	-2,858	*-2,994*
1.2 Government deposits	-125	-223	-79	-220	-247	*-144*	-123	*-221*
1.3 **NBS own reserves** (1.3 = 1 - 1.1 - 1.2)	1,183	1,313	1,541	1,939	1,994	*2,342*	2,501	*2,602*
in millions of euros, cumulative from the beginning of the year								
NFA of Serbia	-433	16	206	507	-204	*-156*	168	*338*
Commercial banks, net	-732	-265	-365	-1,244	-556	*-1,376*	-1,430	*-1,595*
Gross foreign reserves	-47	-96	-20	-50	-155	*-199*	-152	*-253*
Foreign liabilities	-685	-169	-345	-1,194	-401	*-1,177*	-1,278	*-1,341*
NBS, net	300	281	571	1,751	352	*1,220*	1,598	*1,933*
Gross foreign reserves	229	299	591	1,857	388	*1,222*	1,423	*1,754*
Foreign liabilities	71	-18	-20	-106	-36	*-1*	176	*179*
IMF	33	22	40	-39	-44	*-16*	165	*167*
Other liabilities	38	-40	-61	-66	8	*15*	10	*12*
NBS, NET RESERVES-STRUCTURE								
1. NBS, net	300	281	571	1,751	352	*1,220*	1,598	*1,933*
1.1 Commercial banks deposits	-190	-54	-259	-900	-270	*-894*	-1,133	*-1,269*
1.2 Government deposits	140	-98	46	-95	-27	*76*	97	*-1*
1.3 **NBS own reserves** (1.3 = 1 - 1.1 - 1.2)	250	130	358	756	55	*402*	562	*663*

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).

The NBS's gross foreign exchange reserves rose by 1.4 bn euros from the beginning of 2006 to Q2, and by an additional 331 mn euros in July. This was due to the growth of commercial banks' deposits as well as the own reserves of the central bank, which it acquires through dinar issue purchases. *QM* does not have the data on this kind of purchases, but estimates the NBS's *net own reserves* by excluding government and commercial banks' deposits from the net NBS reserves.[1]

The NBS net own reserves rose by 526 mn euros in the first half of 2006, and by another 101 mn euros in Q2. The extremely restrictive monetary policy in Q2 led to the rise in commercial banks' deposits with the NBS – 863 mn euros in Q2 alone. From the beginning of the year to July, the total increase in commercial banks' funds blocked in the NBS amounted to a record 1.3 bn euros, more than in the whole of the preceding year when the figure was 900 mn euros. The outcome of this policy was the growth of NBS gross reserves in the first seven months by 1.8 bn euros, and they currently stand at 6.7 mn euros. On the other hand, after growing in Q1 by 27 mn euros and declining quite sharply in Q2,[2] the foreign currency deposits of the central and local governments rose again in July and were reduced to the December 2005 level (the total increase in the first seven months was only 1 mn euros). As it is, the NBS's net own reserves reached a record level of 2.6 bn euros in July, or an increase by 663 mn euros from the beginning of the year. A detailed analysis of the central bank's foreign currency reserves is available in the discussion on Serbia's balance of payments in Trends.

1 **More details on the structure of the reserve system and NBS are available in** *QM*3 and *QM*4, www.fren.org.yu.
2 **As a claims item, deposits in balances have a negative sign; hence their increase with a positive sign actually represents their decrease.**

9. Financial Markets

Q2 of 2006 was marked by a major drop in stock prices, with certain stocks plunging by 10% in single day, causing both official stock exchange indices to dip significantly relative to Q1: BelexFM by 3.4% and Belex15 by as much as 10.2%. Such movements are in line with the pervasive crisis of regional stock exchanges – the benchmark MSCI Emerging Market Eastern Europe Index lost more than 11% of its value in May. Late June saw a turnaround, so in July both official stock exchange indices recorded their highest values. Although yields on repo instruments fell in Q2, total investment rose strongly. This is due to the change in investors' expectations regarding exchange rate movements and policy – real repo interest rates calculated against dinar/euro exchange rate reached over 40% in July (see *Spotlight On: 1*). On the FFCD bond market, yields on all maturities rose substantially, as a result of the NBS measures, as well as of global financial movements.

Trade in shares reached its all-time high in Q2

The value of trading on the stock market (in dinar terms) reached an all-time high in Q2 2006 (measured since the beginning of 2004), with a turnover of 18 bn dinars, 27.7% higher than in Q1 2006, and almost three times higher than in the same period last year. The volume of trading in Q2, in terms of the number of sold shares, recorded a rise relative to Q1 of nearly 10%, attaining a volume twice as high as in Q2 2005. The continuous segment of trading, after a decline in Q1, got back on its earlier upward path, both in terms of value (which went up by 41.8% relative to Q1), and in terms of sold shares (an increase of 23.7% relative to Q1). At the same time, the discontinuous trading segment retained the upward trend started in Q3 2005, with an increase of 14.9% relative to the previous quarter.

Graph T9-1. Stock Trading Volume, Value and Structure, 2004–2006

Turnover and volume of the entire stock market are growing
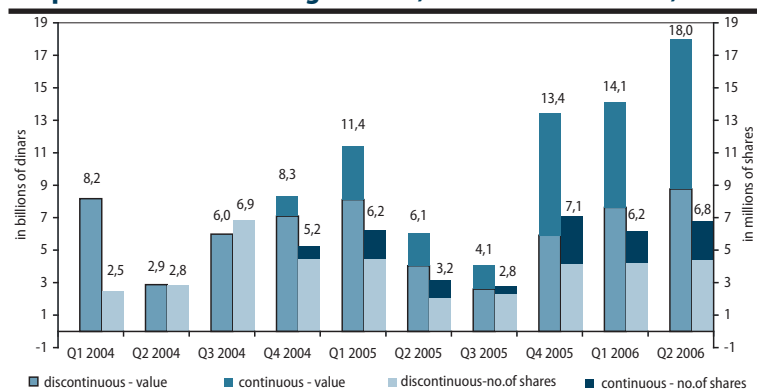
Source: www.belex.co.yu.

Graph T9-2. Stock Trading Volume, Value and Structure, 2004–2006

Even without the most active stocks, the market is growing
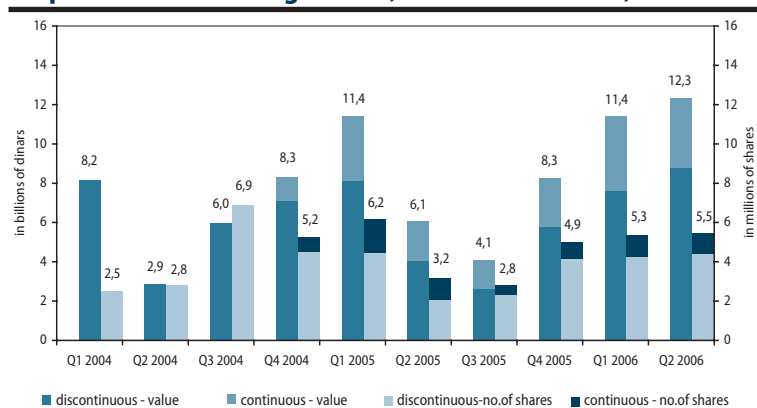
Source: www.belex.co.yu.
Note: measured in CSD and No. of traded shares, excluding AIKB, CEBA, GRNX, RUMA, SRBL and HMFR.

Record values were also achieved in the first semester of 2006 as a whole: the value of stock turnover in the first six months amounted to over 38 bn dinars (around 437 mn euros), while the number of transactions was 72,100, slightly less than in the same period of 2005. The turnover in dinars increased by 77.4% relative to the same period of 2005, while the turnover in euros went up by 170 mn, or 64.9%. In the first six months, out of more than 1000 listed joint stock companies on the free stock exchange market, shares of 543 companies were traded.

Two divergent trends are evident on the stock market (already mentioned in *QM*4), whose intensity varies from month to month. First, trading in stocks with a view to achieving

corporate control (primarily related to the *most active* stocks,[1] whose intensified trading in late 2005 aroused a well-founded suspicion of an upturn of the *takeover market*[2]). Second, trading by professional investors, which contributes to the development of the financial market. Contrary to the performance in Q1, when the second, more positive, trend was predominant, the data for Q2 (particularly the part related to the total reported turnover and turnover on the stock market excluding the most active stocks) reinforce the view on the alternating dominance of these two trends. Similarly, it reveals that the development of this market is still strongly influenced by the trading of a handful of major players, while other listed shares are merely a stage effect that serves to blur the general picture. (For an additional argument see Box 1). By analyzing the stock market at two different levels of observation - (a) after excluding the most active stocks, and (b) by monitoring the development of the overall stock market - it becomes apparent that only a few shares are actively traded in the Serbian market (with the composition of this most active stock basket changing more or less from quarter to quarter), and which consistently account for between 25% (Q1 2006) and 60% (Q4 2005) of the reported turnover. Nonetheless, even after excluding the trading in these stocks, in Q2 the stock market grew significantly, achieving its all-time high of 12.3 bn dinars, which was 16.7% higher than in the previous quarter.

Trade in a small number of shares prevails on the market; the rest are just for stage effect

Graph T9-3. Belgrade Stock Exchange BELEXfm, BELEX15 and the Experimental QMI10 Indices, 2005–2006

BELEXfm and BELEX15 fell in Q2, but they recovered in July

Source: www.belex.co.yu.
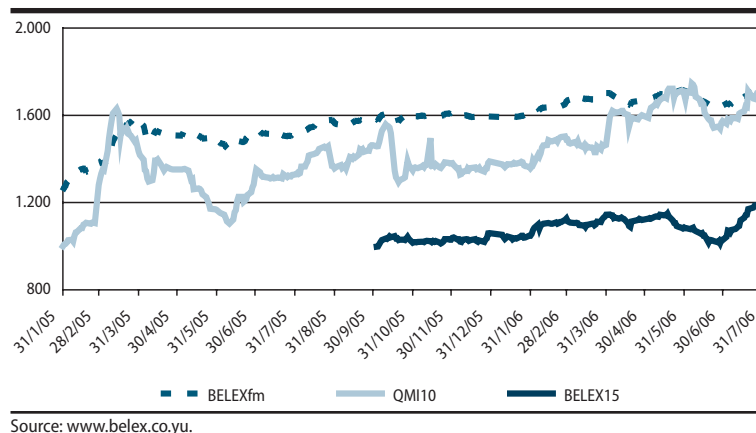
The value of both official stock exchange indices recorded a fall in Q2: BELEXfm by 3.4% and BELEX15 by as much as 10.2%, while the experimental index QMI10 recorded a slight growth in Q2.[3] All three indices fell in April: BELEX15 by 2.17% on a monthly basis, BELEXfm by 2% and QMI10 by 1.3%. When this data is compared with April 2005, the situation regarding the movements in this year does not appear unusual: last April, BELEXfm lost more than 5% of its value, which indicates that an adjustment followed after the record levels achieved in the course of March (like last and this year). Nonetheless, in May BELEXfm and QMI10 recorded their all-time highs: 1716.12 and 1721.95 index points respectively. At the same time, the BELEX15 index recorded a fall in May of 3% on a monthly basis. In June, all three indices fell again: BELEXfm by 4% relative to the last trading day in May, BELEX15 recorded a decline of 5%, and the QMI10 index fell by 7.4%.

Three of the several causes of the fall in the value of the indices and the declining trend in trade, will be discussed here: (1) the positioning in February and March before the publication of official operating results led to a significant slackening of demand in April;[4] (2) certain companies did not live up to the expectations of investors when the new financial statements came out;[5] and,

1 The term 'the most active stocks' refers to the stocks of companies which are traded the most and which were identified in QM4. They include predominantly shares of banks such as: AIK Banka, Centrobanka, Zepter Banka, and companies such as Ruma Fabrika Kože, Srbolek, Hemofarm, Granexport and Univerzal Banka. The use of this term may create some confusion, because it refers both to new shares on the listing of the Belgrade Stock Exchange and to those which have been on it for quite some time now. Nevertheless, for the sake of clarity and a more user-friendly structure of the text, we have opted for this term.
2 The takeover market may be described as a mechanism for establishing corporate control, where the market serves for going private and the acquisition of companies, rather than for going public in order to raise additional capital. In this manner, the purchased majority shareholdings allow the ownership of stocks to be sufficiently concentrated in the hands of one entity or a group of related parties causing such stocks to be withdrawn from the stock exchange.
3 Although all the three indices are market capitalization weighted, the BELEXfm index basket comprises stocks of all issuers in the free stock exchange market (both with continuous and discontinuous trading). On the other hand, the BELEX15 and QMI10 index baskets contain only continuously traded stocks. While BELEX15 applies Rule 80 to include stocks in its index basket, the experimental QM index, QMI10, comprises 10 shares with the highest annual yield.
4 It has already become typical to see a demand crisis on the local market after Q1.
5 The deadline for the submission of 2005 financial statements was 31 March.

(3) developments on the global as well as regional markets, namely the migration of investors to other forms of financial assets on the emerging markets. Due to the rise in the interest rates of the European Central Bank and the U.S. Federal Reserve (as well as in the majority of the countries in the region), both stock prices and the demand for stocks declined. This also happened in West Europe, while certain East European bourses, such as the Russian and Turkish, experienced crashes. In the course of May, the benchmark index – MSCI Emerging Market Eastern Europe Index - lost more than 11%, while indices in Turkey and Russia lost more than 20% of their value. Bearing in mind that foreigners are among the most important investors on the Serbian market, this certainly had a strong impact on domestic developments. In addition to the above factors,

Box 1. Stock Market Recovery in July 2006

Rumors of Hemofarm sale considerably contributed to stock market recovery

After several weeks in which the official indices of the Belgrade Stock Exchange kept falling, early July saw them recover (Graph T9-3) when the prices of a number of companies' stocks stabilized and others rose. Strong interest was recorded on the Belgrade Stock Exchange in the shares of Hemofarm after rumors that it might be taken over by the German pharmaceutical company Stada. The reverberations of a fierce battle between the Icelandic Actavis Group and U.S. BARR over the takeover of Pliva of Zagreb also contributed. Investors evidently took a positive view of the bidding for the price of Pliva's stocks, which soared and, at one point, pushed the Hemofarm stocks from 8,900 to 10,500 dinars, a rise of 18% in just one week. Consequently, in the first week of July, Hemofarm made the largest contribution to the first growth in the BELEX15 index since April. That growth continued during the whole of July, for the first time exceeding 1200 index points on 2 August (1201.6), and reaching its all-time high on 7 August (1218.9).

The speculation over many weeks about the takeover of Hemofarm, Vršac, was officially confirmed on 14 July. Stada announced that it would submit a bid for the takeover of the largest domestic drug manufacturer at a price of 12,345 dinars per share, with the intention of purchasing all 100% of shares, which amounts to around 485 mn for the entire company at the current euro rate. After reaching an agreement with the largest shareholders and institutional investors, as well as with members of the management who agreed to sell their shares on the terms of the bid, Stada contractually secured at least 59% of Hemofarm's shares at that point. The news about the sale of Hemofarm caused the price of its shares to jump by 6.5% in a day, reaching the level of 11,500 dinars, with a daily turnover of 74.5 mn dinars. The news also influenced the price of Stada's shares, which went up by 9% on the Frankfurt Stock Exchange that same day.

It is believed the friendly takeover of Hemofarm will release of a considerable amount of capital, which will then be available for investing in other shares and instruments on the Belgrade Stock Exchange (this has been partially corroborated by the preliminary data on stock trading in July), and that it will contribute to an inflow of foreign investors and an upturn in the stock exchange. There is also some speculation on whether Hemofarm's shares will stay on the Belgrade Stock Exchange, or be listed on a foreign stock exchange. For the time being, this depends on Stada's future business policies.

Graph T9-4. Repo Yields by Maturity, November 2004–June 2006
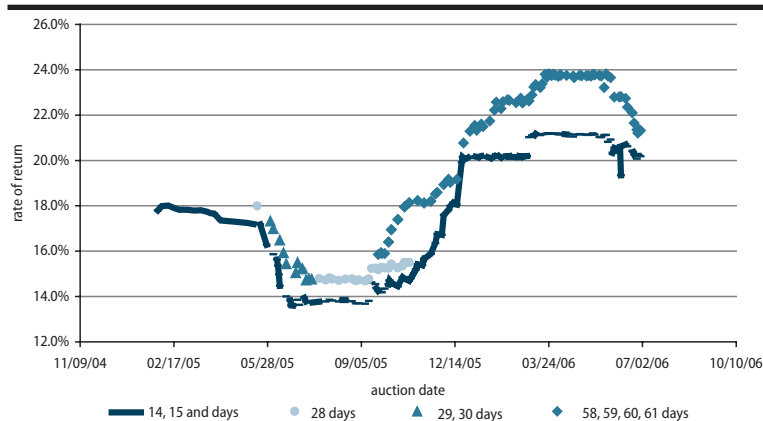
Nominal interest rates on repo instruments are decreasing, but real interest rates are high
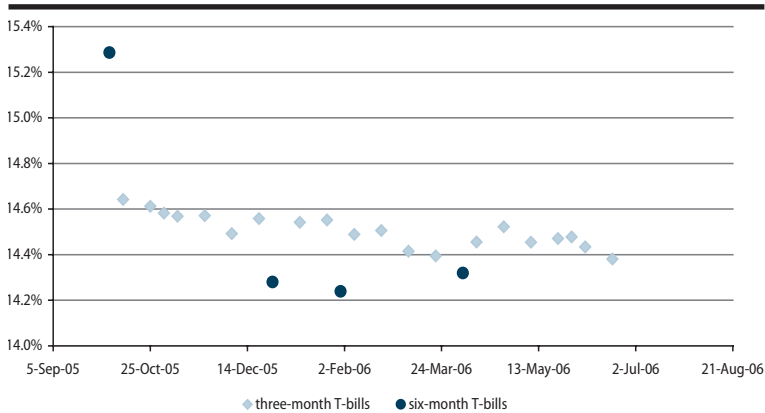

Source: NBS and MoF.

May was also marked by the referendum in Montenegro, which may also have had a significant influence on the decisions of domestic and foreign investors.

Although nominal yields on repo instruments fell in Q2 (Graph T9-4), investments in these instruments continued to grow strongly (more details in *Monetary Flows and Policy*). Several

factors can explain these developments. First, there has been a change in the expectations regarding the exchange rate movements and policy. Real repo interest rates calculated against dinar/euro exchange rate (change in previous three months) instead of against inflation rate, reached over 40% in July. Yields grew significantly because of speeding up of dinar appreciation (see *Spotlight On: 1*). Second, the perception of the risk associated with investing in Serbia in all probability is improving further. Third, exceptionally high foreign exchange inflows (for more details see the section *Balance of Payments and Foreign Trade*) contribute to the rise in demand for these instruments, causing an increase in the price and a decline in yields.

Graph T9-5. Yields in T-Bill Market, 2005–2006

Rates on T-bills are still low

Source: NBS and MoF.

At the same time, the rate of return on the treasury bill market has remained low, with a slightly declining trend. All offered three-month T-bills attained the realization rate of 100%, with the issue values ranging from 500 mn to 1 bn dinars. The three-month T-bill issue worth 1 bn dinars, offered on 25 April, brought the highest yield, 14.52%. In the course of Q2, just one six-month T-bill issue was offered, on 4 April. Its annualized rate of return was 14.32% and the realization rate was a mere 0.78% (Graph T9-5).

From March to July yields on FFCD bonds grew from 40 to 110bp

After a decline in yields in Q1 2006, yields on the FFCD bond market went up in Q2. The rates of return in Q2 roughly ranged from 4.9% to 5.9%, while in June returns on all series stabilized at around 5.3% (Graph T9-6). In July growth in yields continued – between end-May and end-July they went up from 40 to almost 110 bp, depending on maturity.

Graph T9-6. FFCD Yield Curves

Yield curves are shifting upward because of new NBS measures and global developments
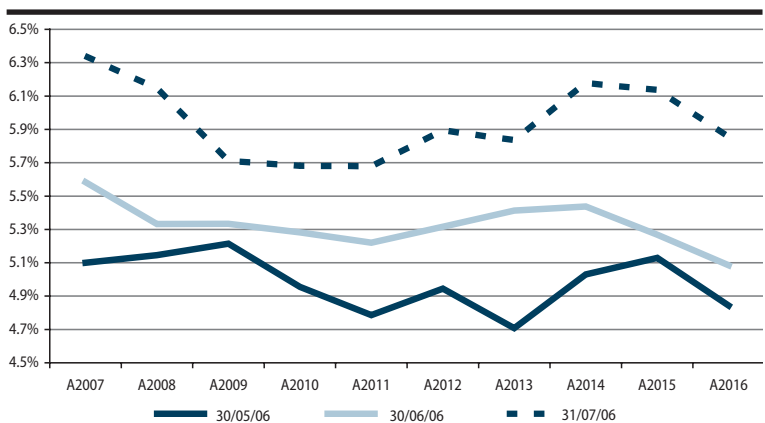
Source: www.belex.co.yu.

The causes of these developments on the local bond market may be sought in two factors. First, the new restrictive NBS measures introduced in June[6]. Due to the liquidity squeeze, banks increased the supply of bonds, which led to a decline in prices and a rise in yields on almost all series. Second, the major hikes in reference interest rates in the euro area, the U.S. and, for the first time since 2001, in Japan. Namely, the Fed's reference interest rate rose from 4.75% in late April to 5.25% in late June (the upward trend was marked by 17 consecutive increases in the interest rate since 2004). There were also restrictive monetary policy steps in the euro area: in early June the reference interest rate on the euro grew by a further 25 basis points (from 2.50% to 2.75%) and, in early August, by yet another 25 bp, to 3%, in a bid to contain inflationary

6 The NBS decision which raised considerably the reserve requirement for commercial banks on dinar deposits in non-resident accounts. See Box 1 in the section Monetary Flows and Policy.

pressures. By the end of the year, the reference interest rate in the euro area is expected to reach 3.25%, or even 3.5%. These developments reversed the long-term trend of declining yields on FFCD bonds in Q2 (Graph T9-7).

Average yield on FFCD bonds is rising in Q2

Graph T9-7. Average Yield on FFCD Bonds[1), 2005–2006
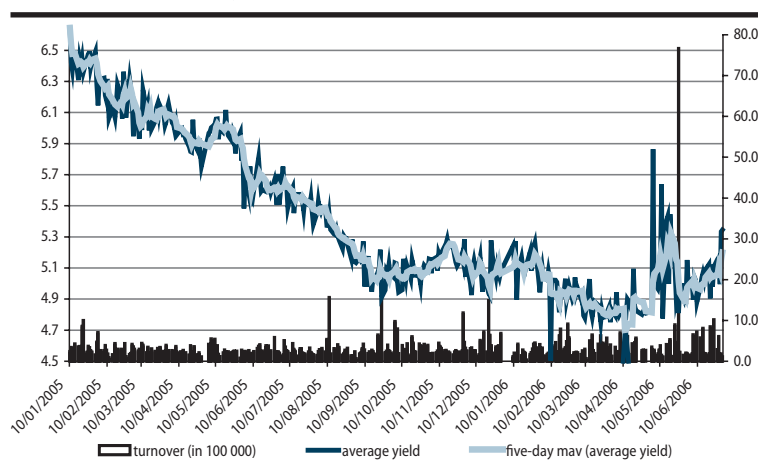
Source: www.belex.co.yu.
1) The graph does not depict extraordinary yield of A2006 bond of 42% on March 10, 2006. Note: The graph was derived as the weighted average yield on securities from A2006 to A2016. The turnover values for each of securities were used as weights. Left axis refers to average yield, while the right axis refers to total FFCD trade volume.

The equity market crisis, which set in on the Belgrade Stock Exchange in Q2, was reflected in the intensified activity on the bond market. In May, when both official indices of the Belgrade Stock Exchange recorded significant falls, record levels of turnover were reached on the bond market. Since the equity market experienced a gradual upturn in late June, the turnover in fixed income instruments was reduced. In Q2 2006, the total reported turnover in the Republic of Serbia's bonds amounted to 28.5 bn dinars - 29,3% up on Q1 – and as much as 44.6% higher than in the same period last year.

Foreign investors' activity around its average level

Graph T9-8. Foreign Investor Participation, 2005–2006
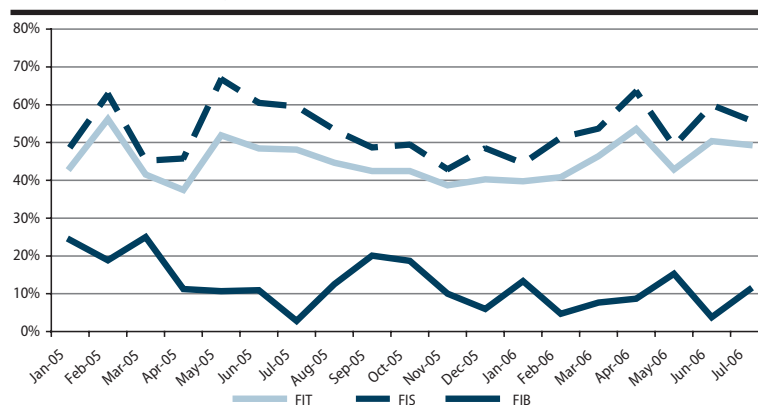
Source: www.belex.co.yu.
Legend: FIT- foreign investors participation in T-bill market, FIS-foreign investors in equity market, FIB-foreign investors in bond market.

Graph T9-8 shows the movements in foreign investors' participation in Serbia's financial markets.[7] Like in the preceding quarters, in Q2 foreign investors' participation in the stock market (the FIS curve) and in the T-bill market (FIT curve) moved along very similar trajectories, while the correlation with foreign investors' participation in the bond market (FIB curve) was almost perfectly negative. The participation of foreign investors in the stock market and in the T-bill market reached its twelve-month highs in April. In May, however, foreign investors' participation in these two segments dropped significantly, which can be explained by global movements on the world financial markets. It is interesting to mention that on 25 May, when the all-time high in the turnover on the bond market was reached, the entire trading was absorbed by domestic investors, a truly rare event since foreign investors were mainly the key actors of high turnover values in this segment in the past.

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7 The data on foreign investors' participation was obtained from the Belgrade Stock Exchange website. According to unofficial information from the BSE, the term foreign investors refers to individuals and corporate entities with trading orders opened with the Central Securities Registry on the basis of businesses registered abroad or foreign passports. This indicates that the group of foreign investors may actually include local investors owning companies registered abroad (e.g. in some tax havens), or small investors holding dual citizenship.

SPOTLIGHT ON:

The Exchange Rate and Policy of the National Bank of Serbia: 2002–2006

Kori Udovički
Vuk Đoković

A new stage in Serbia's monetary policy opened in June 2006, its most visible manifestation being the strong, and it is now clear, quite durable, appreciation of the dinar. Many observers were, and still are, doubtful and asked FREN if it was "real." This article therefore sets out in detail the developments on the foreign exchange market since 2002, and shows that the recent ones cannot be ascribed to NBS interventions aimed at strengthening the dinar. It is, in fact, a watershed that resulted from the NBS' 6-quarter long efforts to rein in, with market instruments, the burgeoning credit growth in the banking sector.

1. Introduction

Prompted by the unexpected and relatively strong nominal appreciation in July 2006, which came in response to the behavior of supply and demand on the foreign exchange and financial markets and their heightened sensitivity to short-term factors, we describe the developments on the foreign exchange market over the past few years. The heightened sensitivity was the result of measures the NBS implemented progressively from late 2004 and intensified in late 2005 and during 2006.

We discuss the issue of the dinar/euro exchange rate since that is the convention (how many dinars we pay for one euro) accepted in Serbia, i.e. the supply and demand for euros. We explain in detail the relatively strong real, and in December 2005 and summer of 2006, nominal, *depreciation* of the euro, i.e. *appreciation* of the dinar.

2. What Propels the Exchange Rate?

Like the price of any other commodity, the price of foreign exchange is determined by changes in supply and demand. Analysis of the behavior of supply and demand, however, differs very much in dependence on whether they are propelled by:

1. the need for foreign exchange to effect payments – *money as a medium of exchange*, or

2. the need for foreign exchange as an asset investment – *money as a store of value*.

If a currency is viewed *as a means of payment*, the level of the exchange rate can be explained by the classic elasticities method, represented with intersecting supply and demand curves (Graph L1-1). As noted in Box 1, a currency can depreciate either because of increased supply or decreased demand for it. These movements can be autonomous, such as increased productivity and improved quality of production for export or, for example, the consequence of intervention by the monetary authorities aimed at strengthening the exchange rate or dampening inflation. Each of these cases has a different implication for economy policy and must be considered separately. Fortunately, the manifestations of each of these cases are also different: the same exchange rate depreciation can be the result of the balancing of supply and demand on fx market, or of intervention by the NBS. Examples of different cases resulting in currency depreciation are discussed in Box 1.

## Box 1. Exchange Rate Determination, Theoretical Framework

Graph L1-1. Foreign Exchange Supply and Demand
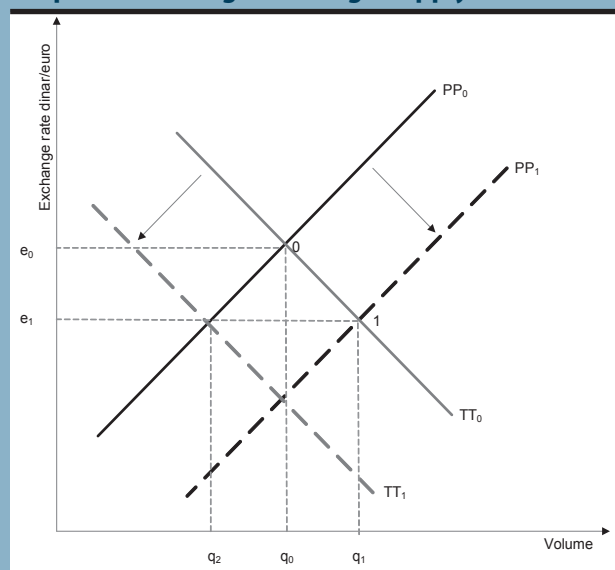
Graph L1-1 shows the euro supply (PP_0) and demand curves (TT_0). To recall, each of them is illustrative of the isolated behavior of one side of the market, i.e. we assume when considering each curve that all the other supply/demand determinants are unchanged and that the price of the euro, i.e. the exchange rate, is changing. We consider the behavior of the monetary authorities as exogenous, meaning that their intervention leads to a shift of the curves of supply or demand for the euro. To start with, let us assume that the total supply of euros consists of the proceeds from exports and remittances from abroad, and that total demand consists of demand for imports, and that there is no NBS intervention. The intersection of supply and demand determines the equilibrium exchange rate (e_0). If there is an exogenous increase in the supply of foreign exchange (case A) owing to a surge in remittances as the result of a sudden improvement in the economic outlook abroad, the supply curve will shift to the right (PP_1). The new equilibrium exchange rate is formed at level e_1. On the other hand, if there is a reduction in demand for foreign exchange[1] (case B), the demand curve shifts to the left (TT_1) and we arrive at the same new equilibrium exchange rate as in the previous case (e_1). Hence the two exogenous changes just described resulted in the same outcome with regard to the dinar/euro exchange rate. From the aspect of the balance of payments, however, the two changes differ considerably. In the first case, there is an *increase* in the realized supply and demand for euros – with more remittances (higher supply of foreign exchange) there will be more imports (more demand relative to the initial equilibrium). In the second case, imports are decreased (demand) as are also exports because of the falling rate of the euro, and the supply and demand transacted on the foreign exchange market is also reduced ($q_2<q_0<q_1$). The macroeconomic consequences of these two depreciations are clearly different.

Graph L1-2. Foreign Exchange Supply and Demand
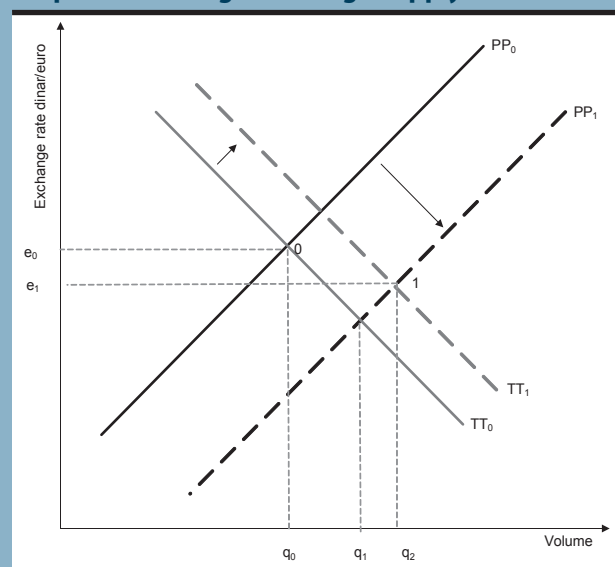
Now, instead of autonomous changes in supply and demand on the fx market, let us assume that the monetary authorities intervene by selling amount q_1-q_2 of foreign exchange (case C). In manifested changes of the supply and demand schedule, this corresponds to the first example (case A). The supply of foreign exchange (PP_0) shifts to the right, to a new position PP_1 (Graph L1-1), so that in this case there is a depreciation of currency (e1). Where the behavior of imports and exports and turnover on the foreign exchange market are concerned, the outcome will be identical as in case A, i.e. exports will fall ($q_0 - q_2$) and fx traded volume and imports covered by the "injected" reserves will rise. The new equilibrium exchange rate is, hence, also the same, e_1. However, in this case the country's foreign exchange reserves are decreased, while they were not in case A (or B). Finally, the most interesting for us is case D, shown on Graph L1-2.

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1 If, say, the quality of the output of import substituting industries is improved, this, reduces import demand given the same nominal exchange rate (the relative real prices will have changed, however)

The initial equilibrium exchange rate (e_0) is determined by the intersection of the supply PP_0 and demand TT_0 curves, and the traded volume on the foreign currency market is q_0. Now let us assume that there has been an autonomous increase in supply from abroad (higher than in case A), which leads to the supply curve shifting to the right from (PP_0) to PP_1 and that the monetary authorities have intervened by buying foreign currency, which makes the demand curve shift to the right to TT_1. In that case, the drop in the euro exchange rate (appreciation of the dinar) to level e_1, comes with an increase in foreign currency purchases on the market as in cases A and C, but this time the depreciation of the foreign currency is accompanied by an increase in the country's foreign exchange reserves. And this is exactly what happened on Serbia's foreign exchange market this summer.

If we observe *demand for currency for the purpose of investment*, the analysis becomes far more complex as the returns no longer depend on the current exchange rate but on its *future* movements. The common assumption in theory is that markets (both of foreign currency and capital flow) adjust with lightening speed to investment demand, meaning that the return on investments denominated in the domestic currency(r_d) always equals the return on investments denominated in foreign currency (r_i), corrected by the expected *change* in the exchange rate (Δe) between the two currencies.

$$r_d = r_i + \frac{E(\Delta e)}{e} \qquad (1)$$

where E is the operator of "expectations." Equation (1) is called the uncovered interest rate parity equation. When we consider interest rate parity, it should be noted that there are three relevant types of investment in Serbia: bank credits to companies indexed in euros that consequently represent euro-denominated investments;[1] frozen foreign currency savings (FFC) bonds, which are denominated in foreign currency; and short-term NBS repo operations with dinar denominated paper (repos)[2]. The uncovered exchange rate parity equation means that the interest rate on NBS repos must equal the interest rate on indexed credits to companies (corrected by the risk premium), plus the expected depreciation of the dinar.

The two kinds of demand for foreign currency are present and intertwined in real life. In Serbia's case, supply and demand for foreign exchange as a *medium of payment* has fluctuated over 2002-2006, and we could isolate a series of different, brief episodes for analysis. When the period is viewed as a whole, however, it becomes evident that both the supply and demand for foreign currency, and the accumulation of reserves (NBS interventions) grew faster than GDP over the entire period, and that there was a real appreciation of the exchange rate over most of the period. This is in accordance with case D described in Box 1 in which the following is manifested:

1. increased inflow/outflow of foreign exchange into the country;
2. increased accumulation of foreign exchange;
3. appreciation of the dinar.

As set out in Box 1, a combination of these three events means that the appreciation of the dinar is a consequence of an exogenous increase in inward capital flows, dampened by interventions of the NBS, and not, say, the consequence of sales of NBS reserves to strengthen the dinar. These manifestations are also characteristic of the specific episode of nominal dinar appreciation (euro depreciation) in June and July 2006. At that time, the NBS also intervened on the dinar market, and this makes the analysis that more complex, affecting the foreign exchange market not only directly (with its purchases) but indirectly, through the interest rate and uncovered parity channel.

Where the interest rate parity effectiveness in Serbia is concerned, three stages of market development can be distinguished:

• first, (to the end of Q3 2004) in which interest rate parity did not have a decisive influence on forming the exchange rate

• second, a transitional period (from Q4 2004, when integration with the world capital market started, to mid-2006) in which the NBS endeavored to strengthen its influence on the behavior of banks by a more radical tightening of reserve requirements and increases of the repo rate

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1 Credits to companies in dinars are far less present, and are typically the result of segmentation of the market (banks without acess to foreign markets lend to clients without access to other banks (see article "Interest Rates in Serbia in 2005,"QM2).
2 Although NBS started its repo operations in 2004, we use the term repo for all NBS open market operations.

• third (started in June/July 2006) in which NBS operations on the open market become for the first time clearly connected with the movements and expected movements of the exchange rate. Specifically, the market perception that the dinar exchange rate must always depreciate has changed, i.e. the market has realized that the NBS is prepared to allow a more durable nominal appreciation of the dinar – and this resulted in the decrease of money market interest rates.
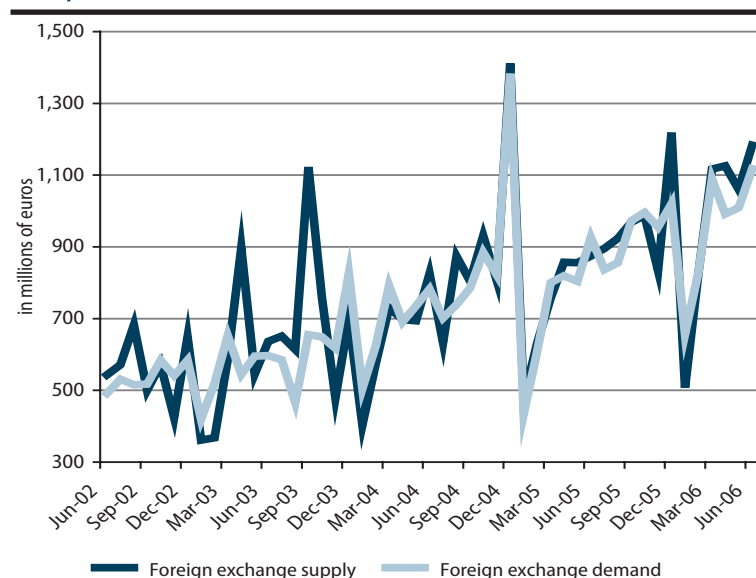
3. Foreign Exchange Market in Serbia

Graph L1-3. Serbia: Nominal and Real Dinar/Euro Exchange Rate, Indices, 2002–2006

Dec. 2002=100

Nominal exchange rate   Real exchange rate
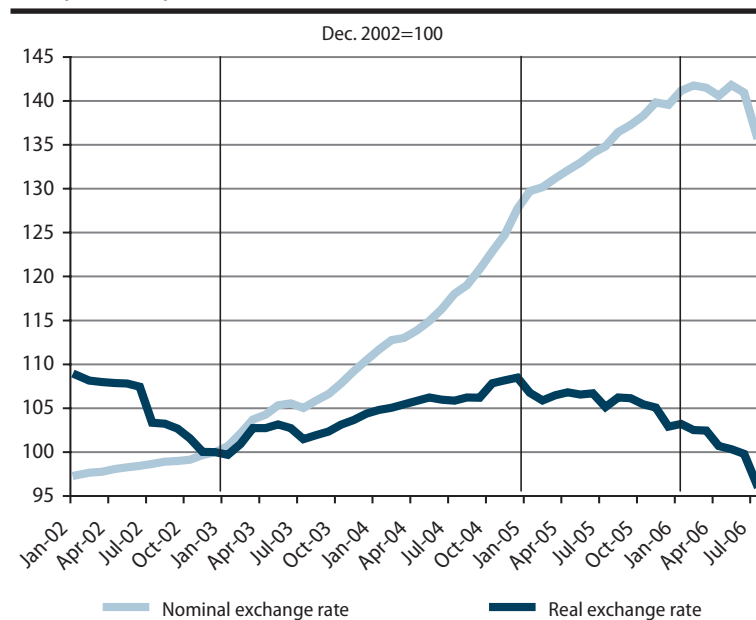
Source: NBS.

Graph L1-4a. Serbia: Foreign Exchange - Supply and Demand, Flow, 2002–2006

in millions of euros

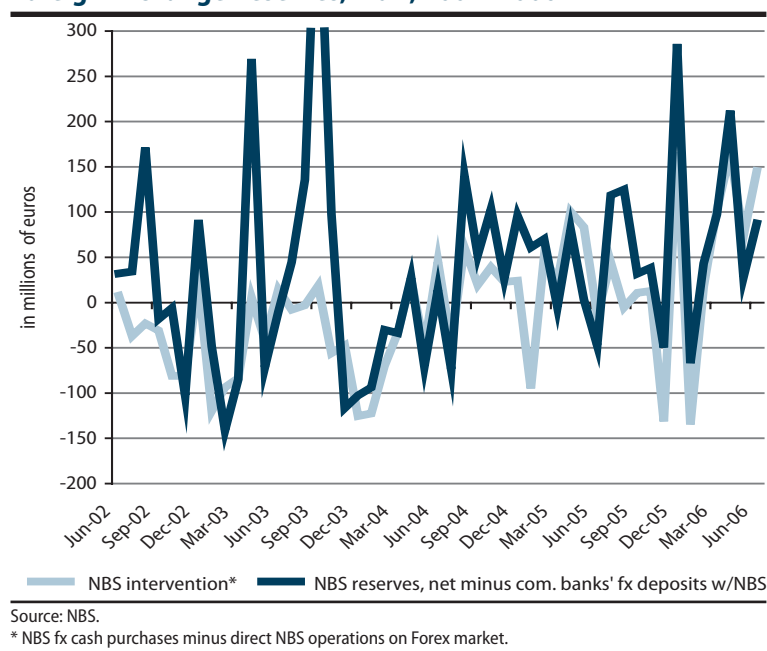Foreign exchange supply   Foreign exchange demand

Source: NBS.

Graph L1-3 shows the movements of the nominal and real indices of the euro rate against the dinar. Four distinct periods can be identified. First, up to January 2003, when the nominal dinar/euro rate was fixed; second, in which there was a real depreciation of the dinar (from January 2003 to January 2005); third, when the real rate of the dinar appreciated; and, fourth, when the nominal dinar/euro rate stabilized and subsequently dinar appreciated. The first and second periods correspond with the first stage of the interest parity effectiveness; while the third and fourth periods correspond with the second, and subsequently the third, stage of interest parity effectiveness.

The movement of the monthly realization of supply and demand for foreign exchange in Serbia in the June 2002-June 2006 period is presented on Graph L1-4a.[a] Realized demand consists of key outflows in the balance of payments (imports and debt repayment), while supply consists of all (net) inflows into the balance of payments: exports, remittances, FDIs, borrowing by companies, government and banks, and other minor items.[b] [3]

a) We stress that this is realized supply and demand, for a given (realized) exchange rate.

b) Errors and omissions are included in the supply, on the assumption that they mainly represent the movement of funds from and into the informal sector. FREN plans to turn the spotlight on the balance of payments and treatment of each item in the supply and demand for foreign exchange in a coming issue of QM.

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3 FDIs and borrowing by companies and government may be considered as an investment supply of foreign exchange, but only in the measure to which interest rate parity plays a role in their movement by acting over a longer term and in the framework of long-term anticipations. For the purposes of this analysis, we can therefore treat these flows as being primarily motivated by real factors. In that sense, they have an effect similar to that of current transactions on the supply and demand of foreign exchange. Banks, however, have different motives for borrowing. Namely, bank borrowing is also included in the supply of foreign exchange, but at least a portion of it in 2006, and perhaps earlier, must primarily be considered a response to the movement of the exchange rate parity and further short-term anticipation of the movement of the exchange rate.

The difference between the transacted supply and transacted demand for foreign exchange represents the NBS's intervention. In the broader sense, we consider NBS *intervention* to mean the total participation of the NBS on the foreign exchange market. Foreign exchange flows into the Serbian central bank mainly through inflows to government fx borrowing and privatization proceeds, and through fx cash purchases from it's network of exchange bureaus. In general, the NBS sells a portion of the total foreign exchange purchased by its bureaus, on the interbank foreign exchange market (daily fixing) as well as outside the fixing sessions, directly to banks. In general, these sales have been smaller than its purchases.

Graph L1-4b. Serbia: NBS Intervention on Forex Market and Foreign Exchange Reserves, Flow, 2002–2006

in millions of euros

NBS intervention*   NBS reserves, net minus com. banks' fx deposits w/NBS

Source: NBS.
* NBS fx cash purchases minus direct NBS operations on Forex market.

NBS intervention is estimated in two ways in Graph L1-4b. First, it is presented as the change in NBS foreign exchange reserves (netted as described below), and second as the aggregate of NBS operations – net fx purchases from exchange bureaus and fx sales to banks. We call that sum *net intervention* and it differs from the net change in foreign exchange reserves by the inflow of government foreign exchange deposits. Inflows of fx government deposits are not included as they do not represent active NBS intervention in the foreign exchange market and as we do not observe it directly. These inflows are deposited directly into accounts with the NBS and change owners when the government sells them to the NBS (so far these sales have always been realized directly, not through the institutionalized fx market).

NBS foreign exchange reserves shown in Graph L1-4b have been netted of its liabilities to the IMF and of commercial banks' fx required deposits with the NBS. Hence, we have "cleansed" the foreign currency reserves of liabilities in order to observe the reserves the NBS really has at its disposal. We also do not include commercial banks' foreign exchange deposits in the thus shown NBS reserves as the required reserves rate for banks' foreign borrowing has suffered very radical changes throughout the period of observation (from 0% to 40/60% depending on term) and hence bank deposits, which do not strongly affect the foreign exchange market, dominate the apparent growth of gross reserves. Government foreign exchange deposits in the NBS, however, are included in these reserves. They have no effect on the foreign exchange market at the time they are deposited but, when the government converts its foreign exchange and spends it, then they indirectly influence the exchange rate – through the dinar market. Unfortunately, we do not yet have the data on foreign exchange inflows to the government and their conversion into dinars. The net intervention of the NBS and net foreign exchange reserves are presented on Graph L1-4b.

As Graph L1-4a shows, in the period under review the total inflow of foreign currency to the country was mainly higher than demand, which led to the increase of foreign exchange reserves. At times, however, realized demand was higher than inflow, (e.g. in the January-March 2003 and November-April 2004 periods), resulting in spending net foreign exchange reserves. The periods in which the net accumulation of NBS reserves was *positive* were the most frequent. That means that although NBS operations on the fx market were *negative*, (the light blue curve is below zero), the inflow of foreign currency to NBS (including government proceeds) was higher

than demand (the dark blue curve on Graph L1-4b is above zero). In these periods the NBS was actually accumulating a portion of the government fx proceeds, while funneling the other portion into the economy, that spent them for imports or other external payments.

NBS *net intervention* was mostly negative until Q4 2004 but the NBS accumulated reserves. As in this period NBS behavior on the foreign exchange market was generally accommodating, the net accumulation of reserves reflects that the government did not undertake to spend its privatization proceeds and other foreign exchange revenues in this period.[c] As the government dis not spend the dinar equivalent of foreign exchange inflows, there was no infusion of dinars into the economy, and the economy then did not have the dinars with which to purchase the foreign exchange "accumulated" by the government. From September 2004, however, apart from some seasonal exceptions, intervention becomes positive on a net basis, i.e. the NBS begins to purchase and accumulate foreign exchange.

c) See Fiscal Flows and Policy, Trends, QM3.

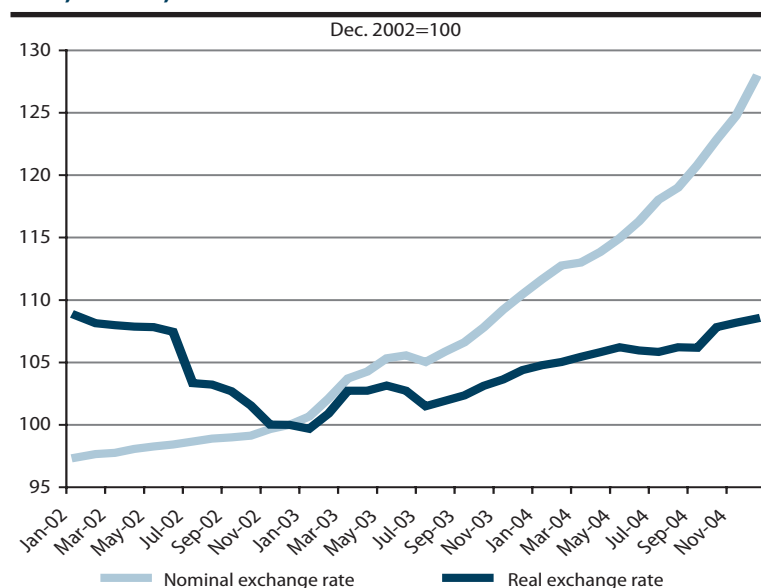### 3.1. First stage of exchange rate parity: to the end of 2004

Graph L1-5a. Serbia: NBS Repo Yields, Flow, 2002–2004
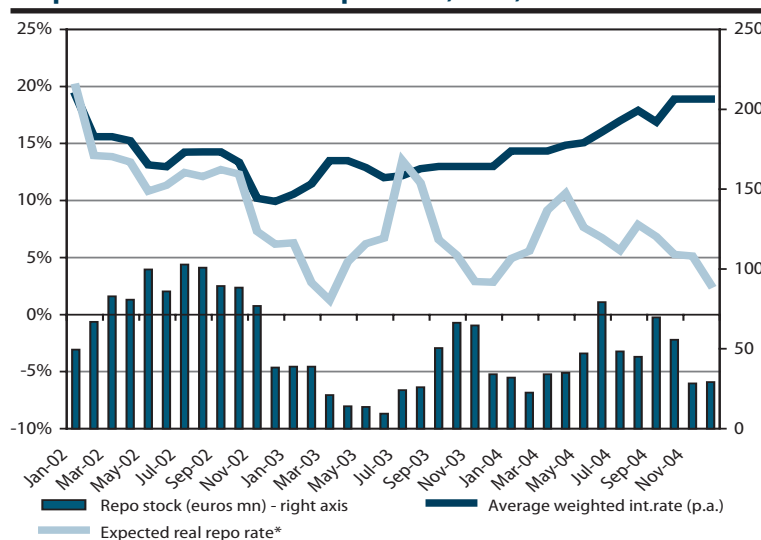
Izvor: NBS. Source: NBS.
* Calculated using 3-month change in dinar/euro exchange rate.

Graph L1-5b. Serbia: Nominal and Real Dinar/Euro Exchange Rate, Indices, 2002–2004

Source: NBS.

Some of the characteristics of the first stage of effectivness of the parity equation in the development of the foreign exchange market can be seen on Graph L1-5a, which shows the average and real interest rates on NBS repos as well as the stock of repos outstanding. We calculate the real interest rate as the nominal rate corrected by the expected movement of the exchange rate. We assume that actors on the market base their expectations on the movement of the exchange rate over the preceding three months. After a long period of nominal stability, in early 2003 the dinar started to depreciate, both in nominal and real terms (Graph L1-5b). Operations on the open market (repos) are less profitable than lending to companies as they produce a lower expected real return measured in euros. Repo transactions are minor – around 50 mn euros – but are completely in step with the movement of the real interest rate.

In the first part of this period, the NBS intervened by fixing the nominal exchange rate (first stage on

Graph L1-3), and then by targeting the movement of the real rate toward a mild depreciation of the dinar (second stage on Graph L1-3). The intervention was thus an adjustment to the pressure of foreign exchange supply, with the NBS accumulating only surpluses which, with their inflow, did not at the same time produce demand.

This was a period of very high and certain returns in the banking sector since credit to companies was indexed in euros, a currency that could reasonably be expected to strengthen against the dinar. Nonetheless, the equalization of interest rates on credits in euros (or euro-indexed) on domestic and international markets did not occur because the inflow of capital was limited to the expansion potential of a relatively small number of foreign banks – domestic banks on the whole did not have access to the world capital market. Furthermore, the number of creditworthy projects did not rise quickly until amendments were made to legislation that provided for more flexible credit insurance.[d]

d) Primarily the Pledge and Mortgage Laws of 2003 and 2004, respectively.

3.2. Second stage of interest rate parity: end-2004 to mid-2006

The high earnings on the Serbian financial market, along with the accelerated restructuring of the banking sector, began to attract a tremendous amount of foreign capital toward the end of 2004. The efforts of the NBS to curb the inflow and the resultant high, inflationary, monetary growth marked the second stage in the development of Serbia's financial market.

In that period, until the end of 2005, the NBS targeted a mild real appreciation of the dinar (Graph L1-6b). Concerned about the monetary expansion while inflation was running unabated, the NBS very clearly indicated that the real appreciation of the dinar could be sustained over a longer period. This eased the market's apprehensions about a sudden depreciation of the domestic currency.

Credit to the non-government sector expanded strongly from September 2004 to March 2005, at annual rates of over 50%, and was followed by an acceleration of monetary growth. The NBS first tightened reserve and lending requirements in November 2004 and did so seven more times in the course of 2005 and 2006, which made capital more expensive.[e]

e) See Box 1, Monetary Flow and Policy, Trends.

f) See Spotlight article on interest rates, QM2.

More expensive capital did not lead to an increase in active rates (owing to competitive pressures amid very high bank profit margins in the preceding period), but rather only cut the profit margins down. Though there are no reliable official data, *QM*'s research[f] confirms the general impression that lending rates fell in 2005. Since real interest rates on NBS repos started rising in the middle of the year, it may be assumed that the difference between them and returns on credit to the non-government sector began to diminish. The credit expansion continued unabated, with accelerated imports of capital, in good part meeting the NBS' increased reserve requirements (see *Trends*, *QM*2). The NBS responded by further raising repo interest rates (Graph L1-6a), but the real interest rate (light blue curve, Graph L1-6a, again measured in terms of the depreciation of the dinar against the euro) fell. Interestingly, despite the high nominal interest rates of some 15%, repo transactions at the beginning of the period fell to a very low level (Graph L1-6a). The real interest rates show why: as inflation gathered pace in late 2004, the nominal depreciation of the dinar accelerated, which resulted, in turn, in a drop of expected returns on NBS repos measured in euro terms. The drop brought the expected return to below the reference rate for euro lending. As depreciation slowed down, eventually expectations as to a slower depreciation of the rate became firmer as well, in Q2 2005; investments in NBS repos measured then begun to increase and the nominal interest rate declined. The NBS then raised the nominal rate to attract repos in Q3 and, in Q4. As the exchange rate stabilized further, the real rate in euro terms started rocketing.

The first serious nominal appreciation of the dinar, i.e. depreciation of the euro, happened in December 2005. Graph L1-4b shows that the positive intervention of the NBS – purchases of foreign exchange – was high in that month, indicated that the NBS intensified its intervention because of the larger inflow of foreign exchange from abroad, but not to an extent that would have completely neutralized the effects of these inflows on the exchange rate. Since NBS repos were not growing in December 2005, the assumption is that the high inflows were exogenous and not caused by monetary policy.

Graph L1-6a. Serbia: NBS Repo Yields, 2005–2006
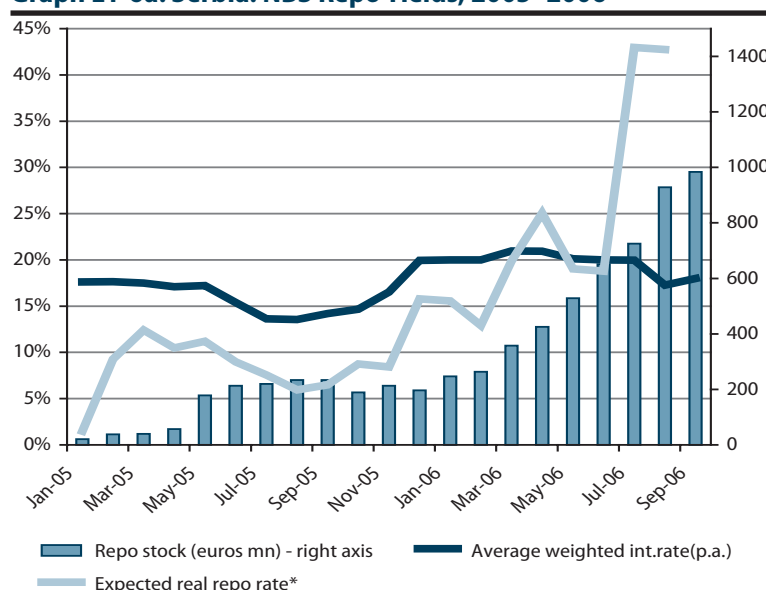
Izvor: NB Source: NBS.
* Calculated using 3-month change in dinar/euro exchange rate S.

Graph L1-6b. Serbia: Nominal and Real Dinar/Euro Exchange Rate, 2005–2006

Source: NBS.

In the first quarter of 2006, the high real returns on NBS repos started to attract growing amounts of dinars into NBS repos, but had no effect on credit expansion to the non-government sector. The inevitable conclusion is that banks' foreign borrowing financed the credit expansion and operations on the open market. These inflows began to increase the supply of foreign exchange and demand for dinars for investment into NBS repos. Hence the increased supply of foreign exchange led to the stabilization of the nominal dinar exchange rate, but the high rates were not yet able to pare down the growth of credit to the non-government sector.

Q2 2006 saw a surge in foreign exchange inflows as the result of the significant expected real interest rates on NBS repos (Graph L1-6a). Both supply and demand for foreign exchange were considerably higher than in the same periods in previous years. At the same time, the intervention with which the NBS accumulated foreign exchange was also higher than in previous periods. The only conclusion can be that the strengthening of the real exchange rate of the dinar in Serbia was due to the increased supply of foreign exchange, aided by the high interest rates on dinars. In fact, it was the efforts of the NBS to sterilize the excess liquidity caused by the foreign exchange inflows that led to repo rate rise. For their part, the change in the exchange rate policy and the expected foreign exchange inflows led to further positive expectations regarding the dinar stability and the real profitability of the NBS repos. Growth of credit to the non-government sector peaked in May

3.3. Third stage of exchange rate parity: from June/July 2006 to the present

It was only in June and particularly in July 2006 that a turnaround occurred: banks started investing in repos at the expense of credit to the non-government sector. The object of operations on the open market is to curtail credit activity by changing interest rates, in this case raising them: on the one hand, investors stay away from projects whose returns do not exceed the new interest rate and, on the other, banks invest the released liquidity into repos sold by the monetary authorities instead of into non-government sector lending. As noted, up to June 2006, the raising

g) Since the majority are euro-indexed.

h) Only after all the channels of "speculative" borrowing were closed, see Box 1, Monetary Flows and Policy, in Trends.

of the real interest rate on NBS repos did not really eat into credit to the non-government sector as the margins in the latter were still higher, especially taking into account that they pose no exchange rate risk.[g] When the reserve requirements on short-term foreign borrowing were raised up to 60%, financing of the non-government sector became so expensive[h] that July saw a drop in absolute terms of short-term lending to companies, and a significant deceleration of credit to households (it would appear that long-term lending to companies did not suffer major consequences). But investments in repos continued to grow.

The spread between the price of foreign borrowing[4] and the real interest rates on the market in June and early July 2006 was without doubt excessive. The need was to slow down, not stop, the growth of credit to the non-government sector. But the change is nonetheless a breakthrough in the NBS's capacity to manage monetary trends in advance of its monetary policy switch to the policy of targeted inflation. According to our model, real interest rates on NBS repos exceeded 40%. If the market becomes certain that the dinar can appreciate further, there is no doubt that nominal interest rates will have to be slashed if credit to the non-government sector is not to cease altogether. The NBS soon realized that the repo rates in July and August were too high, and reacted by considerably reducing them, as shown on Graph L1-6a. It remains an open question if the stable interest rate of 18% and, perhaps, an appreciating nominal exchange rate will make the economy attractive enough for lending – but this time at a slower pace. Only when the data on credit activity in August becomes available will it be possible to answer this question.

4. Conclusion

In this article we analyze the movements of fx supply and demand, the monetary authorities' interventions on the foreign currency market, the movements of nominal and expected real interest rates, and investment in open market operations since 2002 to the present. Data on interest rates on lending to companies are not available in the necessary time series format, but on the basis of the known developments, we draw conclusions on the movements of the interest rate parity on the Serbian market.

Up to late 2004, Serbia's access to the world capital market was effectively restricted. This protected the exceptionally high returns on euro-indexed credits to companies while repos, given the prevalent interest parity, did not represent an attractive investment alternative. The long run boundaries of the foreign exchange rate were determined by the supply and demand for fx as a medium of exchange, while short term fx supply and demand were inelastic to exchange rate movements. Within those broad boundaries, the exchange rate was, in effect, set by the NBS. The short-run inelasticity of supply and demand, gave the NBS ample scope for fixing the rate.

Serbia's banking sector integration with the world's in late 2004 resulted in capital flooding into the country, attracted by the high returns. Although the NBS intervened to rein in the inflows and make them more expensive, interest rates fell during 2005.

The efforts of the NBS to change the spreads between returns on lending in Serbia and those on the world markets, and to bring these returns and expected returns on NBS repos to parity, began to yield results in June 2006. The tough NBS measures described in *Trends* (section on Monetary Flows and Policy), lowered the returns on corporate lending and raised the expected returns on NBS repos to such an extent that foreign capital flows shifted into dinar denominated NBS repos instead of short-term euro-indexed lending to companies.

It is clear that and understandable why, the NBS went overboard when it changed the ratio of returns with its June measures, causing an extreme bank reaction and the withdrawal of capital from short term lending to companies. We see that it then tried to fine-tune the ratios, and that interest rates on NBS repos fell in July. We have yet to see the results: can the growth of lending to the non-government sector be fine-tuned at a time when there are such extremes in returns and costs and on a very undeveloped and shallow market? If the answer is yes, it will be a "lesson" to countries in the region that have not managed to do it thus far. If the answer is no, it will also be a lesson, but a costly one for Serbia.

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4 The price includes the country risk premium and the reserve requirement on this kind of borrowing.

Inflation Targeting: The Experience of Romania

Laurian Lungu[*]

Following in the footsteps of other Eastern European countries, Romania has recently adopted inflation targeting (IT) as an operating framework for monetary policy. This article highlights some of the challenges which the Romanian central bank might face in implementing IT. It also discusses several issues, relevant to the transition period between the monetary policy regimes. The economies in transition, and in particular those who want to adopt the euro in the near future, are more prone to be confronted with the issue of multiple objectives. This raises the question whether a European Central Bank type policy with less stringent requirements, based on a strong commitment to price stability, would have been a more appropriate choice.

1. Introduction

In recent years a number of central banks around the world have moved towards the implementation of inflation targeting (IT). The wide popularity of IT stems partly from the fact that the central bank's objective can be easily understood and monitored by the general public. Moreover, the empirical evidence tends to suggest that IT has played a significant role in anchoring long-run inflationary expectations, which is one of the prerequisites for a successful implementation of this monetary policy regime. Under the IT system, the central bank manages its monetary policy instruments with the direct goal of containing inflation over the medium run. In this set-up, inflation becomes the central goal of monetary policy and it is solely the inflation projection that shows whether the central bank's policy is on track. All other indicators, i.e. output gap, money growth, the exchange rate, etc. become subsidiary variables and, although in practice most central banks monitor them carefully, they do not commit themselves to any target criteria of those.

Among the first countries to start implementing IT were New Zealand in 1990, followed by Canada and Chile in 1991, then Israel and the United Kingdom in 1992, Sweden in 1993 and so on. More recently, a string of countries from Eastern Europe claim to have adopted this monetary policy framework[1]. Given that other countries in Eastern Europe, such as Serbia, are currently considering introducing IT, a brief look at the Romanian experience could be a useful exercise in highlighting some of the challenges ahead facing by the central bank. The next section outlines briefly the characteristics of the IT regime. Section 3 describes Romanian recent changes in its monetary policy framework, stressing out some practical difficulties faced by the National Bank of Romania (NBR) in the implementation of IT and section 4 concludes.

2. What is Inflation Targeting?

Although there is a vast literature on IT, this has fallen short of producing an universally accepted definition about what inflation targeting is. Different authors have proposed different definitions and in practice there is considerable variation in the specifics for a characterization of IT. A broad definition of IT would simply be a monetary policy framework that accords overriding importance to the maintenance of price stability, usually defined as some low and stable rate of consumer price inflation. However, such a loose definition fails to offer the necessary guidance – from a policymaker's point of view - on the conduct of monetary policy beyond the identification of the central bank's objective.

In practice, central banks tend to adopt either a formal approach or a more flexible one. The distinction between the two is that the former entails the specification of an inflation target while the latter, does not[a]. Both approaches however, require a forward-looking behavior from the central bank; such an approach is necessary because of the transmission lags in monetary policy. In general it is a common view that it takes between 6 to 8 quarters for changes in monetary policy to make their full impact on the economy. Thus, the central bank has to react today in order to bring inflation as close as possible to the target in the future. Moreover, any changes in the central bank's policy are being made according to its inflation projections. So, the adoption of IT implies that the central bank has the technical ability to be able to produce a reliable conditional forecast inflation for 6-8 quarters ahead. It also has to use its instruments in order to bring the forecast close to the target. For this, the central bank needs to have a clear understanding of how the monetary policy mechanism works and to be able to quantify the effects of its policy changes on the economy.

From an institutional point of view a basic prerequisite for IT is both the autonomy and independence of the central bank. The central bank needs to be granted full control over its instruments and any political interference over its decisions ought to be avoided. Also there are a few practical considerations which need to be taken into account, among these being the choice of a price index on which the inflation target should be based upon, a time horizon over which the target is defined and whether this is set as a point or a range, the design of the central bank's communication strategy and co-ordination among fiscal, debt management and monetary policies.

Arguably, the most important aspect of the IT framework is central bank's credibility. If announcements made by the central bank are credible by market participants, the process of anchoring inflation expectations could be achieved far more easily.

Despite these apparent facile requirements, the pursuance of IT by a central bank in a transition economy is not an easy task. Incomplete structural adjustment, often encountered in these economies, together with a practical difficulty of accomplishing a long-lasting co-ordination among monetary, fiscal and exchange rate policies might prevent the central bank's ability to consistently hit inflation targets.

a) The so called 'just-do-it' approach.

3. Inflation Targeting in Romania

The Initial Conditions. Undoubtedly, from the operational point of view of monetary policy, passing the law granting the independence of NBR in the late 1990s was a major step forward which changed completely the way monetary policy was conducted. In effect this put an end to the practice of government debt re-monetization that was largely responsible for the observed high inflation rates[2]. Between years 2000 and 2004 the NBR pursued a managed floating strategy targeting a euro/US dollar currency basket, whose weights were changed at various intervals. The policy, also favored under the IMF agreements[b], has been successful in bringing the inflation down from around 60% in early 2000 to 9% at the end of 2004 with interest rates following suit. However, in order to prevent the persistence of excess liquidity in the financial system, the NBR was forced to sterilize its interventions in the foreign exchange market. This, in turn, imposed high operational costs on the part of central bank.

b) The IMF stabilisation programmes for Romania at that date envisaged an export-led economic expansion which was helped by a managed floating monetary policy.

An essential condition for the provisory completion of the EU negotiations[c] was the opening of the capital account. The measure kept being postponed until the last moment, when, in April 2005 the NBR had to partially remove one of the last restrictions on capital controls, allowing foreigners to hold domestic denominated bank deposits[d]. The move was feared to spark off an inflow of foreign funds that would seek to take advantage of high interest rate differentials. Arguing that a managed floating regime would be difficult to follow in these circumstances, the

c) All negotiating EU chapters had to be closed before May 2005 when the country EU report was due.

d) The last restrictions on capital account are scheduled to be removed in September 2006.

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2 In year 2000 for instance, the budget deficit was 4% of GDP while public debt amounted to 31.3% of GDP. Since then, there has been a fall in both indicators. Moreover, budget deficit figures are somewhat misleading because of the existence of quasy-fiscal deficits – arrears consisting of unpaid contributions to the budget by loss-making companies, especially state-owned enterprises and public utilities. In 2004 these were estimated to be around 4% of GDP.

NBR announced a shift in its monetary policy towards an inflation targeting regime[3]. Thus, the timing for the opening of the capital account was dictated more by political rather than economic considerations.

Although the macroeconomic picture had improved markedly over the last years (see Table L2-1), fears over volatile exchange rate movements – once the capital account was opened - were justified because of the incomplete structural adjustment of the economy.

**Table L2-1. Romania: Selected Macroeconomic Indicators, 2003–2006**

	2003	2004	2005	2006[f]
Real GDP growth (%)	4.9	8.4	4.1	6.50
CPI Inflation — Dec., annual change (%)	14.2	9.3	8.7	6.30
Current Account Balance (% of GDP)	-6.2	-8.5	-8.7	-9.2
Exchange Rate (e.o.p., RON/EUR)	4.11	3.97	3.68	3.54
Unemployment Rate – Year End (%)	7.4	6.2	5.8	5.7
Government Budget Balance (% of GDP)	-2.4	-1.0	-0.9	-2.8
Public Debt (% of GDP)	27.0	22.4	18.9	20.3
NBR Reserves in Months of Imports	4.6	5.9	6.6	6.8

Source: IMF, NBR, and author's calculations.
f – forecast values.

e) Since mid-2004 the NBR has also started to issues T-Bills to absorb excess liquidity in the market.

Targeting Inflation, Brighter Prospects for NBR's Monetary Policy? Early on, in spite of the fact that *de facto* the NBR was targeting inflation, from an operational point of view there were minor changes. The NBR continued[e] to borrow resources for a one month period from commercial banks, its main instrument being the volume of 'attracted deposits' (Graph L2-2).

Graph L2-2. The NBR's Stock of Attracted Deposits[1), 2003–2006
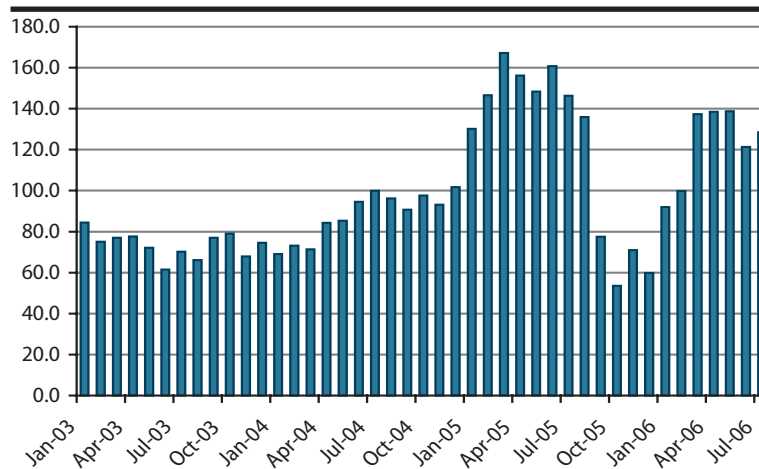
Source: NBR.
1) In millions of RON, 2005 prices.

f) Subsequent to the introduction of IT, in April 2005, the NBR has started a monetary reform, slashing four zeros from domestic currency denominations. Thus, one unit of the new currency, 'hard' Leu (RON) was worth 10,000 'old' Lei (ROL).

One oddity with this policy is that the NBR was in fact a net debtor to the banking system, and not a net creditor, a situation which prevails in developed economies. A series of stress tests on the financial system tended to indicate that a reasonable value for the exchange rate in the short term would be around 3.6 RON[f] for one euro. Initially the NBR planned to make the official switch to the IT in early 2004. But because the nominal exchange rate was deemed to be too weak, the central bank decided it needed more time to allow for an appreciation of the domestic currency and postponed the announcement of its change in the monetary policy regime[4]. Although the IT was formally introduced in August 2005, the NBR limited its foreign exchange market interventions long before that, starting with September 2004. As a consequence, the RON/euro exchange rate appreciated by around 13% in nominal terms from 4.11 at the end of September 2004 to 3.60 at the end of June 2006[g]. This has been followed by a real appreciation (Graph L2-3) and led to a worsening of the terms of trade and growing current account deficits (Table L2-1).

g) This appreciation could have been even stronger had the NBR not increased the volume of its attracted deposits in early 2006 (Graph L2-2).

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3 **In fact the abandoning of the managed floating exchange rate regime was announced several months before April 2005. The** aim was to see how the economy would cope with more volatility in the foreign exchange markets.
4 **There were other issues that called for this delay. Among other things, the NBR needed at least two quarters to test its model** inflation forecast against realised inflation. Moreover, sizeable reductions in corporate and income tax, implemented at the start of 2005 by the newly elected government, entailed the adoption of a 'wait and see' approach by the NBR in order to quantify the effects of these changes on inflation. Also the design process of the NBR's communication strategy required more time.

Graph L2-3. Real Exchange Rate Index, RON/Euro[1], 2003-2006
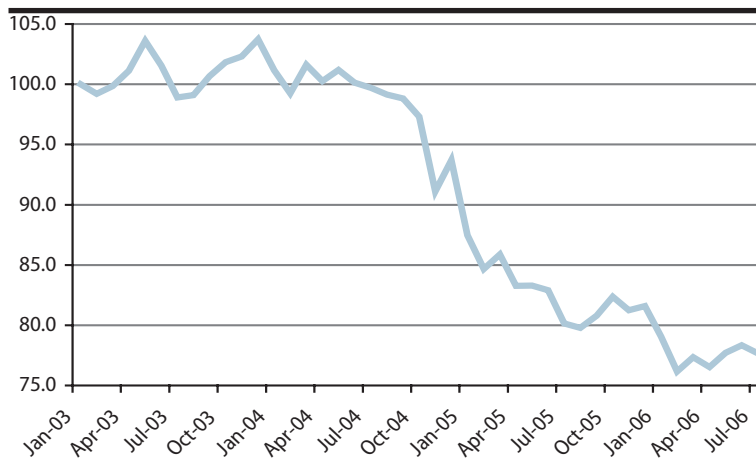
Source: Author's calculation.
1) January 2003=100.

Thus, the transition from managed floating to IT happened rather smoothly between September 2004 and August 2005. It was a gradual process during which the NBR announcements stressed the bank's increasing commitment to controlling inflation in favor of stabilizing exchange rate movements. So, in fact, during this period the NBR was pursuing a mix of objectives by trying to influence market's inflation expectations while preventing an excessive appreciation of domestic currency. The change in the central bank's behavior is reflected in the evolution of its reference rate. As it can be observed in Graph L2-4 below, prior to autumn 2004, the NBR deliberately offered high real returns to deposits it attracted from the commercial banks. In this way the central bank ensured that commercial banks were willing to supply the amount of funds it was interested to attract from the money market. With inflation on a downward trend, after September 2004 the NBR reduced abruptly its reference rate. The move was aimed, primarily, at reducing the interest rate differential and thus making Romania less interesting for speculative capital inflows. However, the NBR's main policy instrument still remains its volume of attracted deposits. This situation would probably continue to persist until the excess liquidity on the market fades away.

The challenges posed by the switch to the IT started to be revealed soon. Although the NBR announced its official adoption of the IT regime in August 2005, inflation targets – for a three-year time span - were made public long before that. Initially, the year end 2005 inflation target was set to 7%. This was changed later in the year to a target band of +/- 1% centered around a parity of 7.5%. Actual inflation proved to be 8.6%, falling slightly outside the upper limit of the band. This proved how difficult was to hit an inflation target even though the time horizon was only a couple of months.

Graph L2-4. NBR's Reference Rate, Inflation Rate and Targets, 2003-2006

Legend:
— Annual Inflation ■ IT_Hi ▲ IT_Lo ━ R_NBR

Source: NBR.
Legend: R_NBR – NBR's reference rate, IT_Hi and IT_Lo – upper and lower limit of inflation target, respectively.

Although for year 2006 the NBR set an initial inflation target band of 5% +/-1%, at the time the target was announced, the central bank acknowledged that the target would, very likely, be missed. The NBR's decision to aim for an inflation rate which even it considered to be unrealistic is questionable since the public's inflation expectations – i.e. the ones that matter – ceased to be influenced by the pre-announced inflation target anymore. This behavior together with repetitive changes of inflation targets could cast some doubts on the NBR's overall approach to IT management. Certainly, the implementation of IT is

still in its early stages and the central bank has been following a 'learning by doing' approach but the relative hastiness with which the switch to the IT was made, compounded the NBR's problems.

Firstly, the incidence of shocks – most of which being outside the central bank's control - is far greater in a transition economy compared to a developed one. The NBR was trying to deal with this issue in the usual manner by defining a so-called 'core index' which excludes administered prices[h)] and most volatile prices such as oil and food.

h) These include energy prices, public transport and drugs.

Secondly, the timing of the introduction of IT did not seem to be too well chosen. In mid 2004 oil prices have already started to creep up increasing the risk of imported inflation. Moreover, the newly elected government embarked on an extensive tax cut programme in early 2005. Notably the reduction in income taxes led to higher disposable incomes[i)] and thus greater demand. In turn this raised the upside risk of demand pull inflation.

i) Another factor that lead to increased household's disposable income has been the growth in domestic credit.

Thirdly, the transmission mechanism of monetary policy is far from being well understood. The interest rate channel of monetary policy is still weak. This is not too surprising given the fact that the degree of financial intermediation is pretty low. A proxy of this, the ratio of domestic credit to M2, stood at 63% at the end of 2005. In addition, the competition in the banking sector, although growing, is in its earliest stages yet. At the end of June 2006 the biggest three banks held together almost 50% of the banking system's total assets which gives them a certain degree of market power[5]. This aside, the high degree of euroisation of the banking system (i.e. euro-denominated deposits held by residents at domestic commercial banks) places additional hurdles on the effectiveness of monetary policy. At the end of June 2006 almost 30% of M2 was held in foreign currency[j)]. The high degree of euroisation of the banking system makes the NBR's task of controlling inflation more difficult since a large part of broad money is outside central bank's main instrument control. To make lending in foreign currency less attractive and, at the same time, encourage borrowing in domestic currency, the NBR resorted to a series of prudential-style measures. Between September 2004 and June 2006 alone the NBR changed no less than seven times its provisions for reserve requirements. Thus, reserve requirements for foreign-currency liabilities were increased in several successive steps from 25% to 40% while those for RON-denominated liabilities were raised from 16% to 20%[6]. These measures, together with the introduction of a ceiling to foreign exchange-denominated loans, consisting of 300% of a bank's funds, led to a fall in the share of foreign currency deposits in M2. However, the ratio is still high compared to other countries in Eastern Europe.

j) The share of foreign currency in M2 has been falling since 2001, when it reached a peak of more than 45%.

Fourthly, there is the issue of multiple objectives. By unequivocally choosing inflation as a nominal anchor the NBR could face potential dilemmas if, for instance, exchange rate appreciated too much following capital inflows[k)]. This is already happening as a reduction in inflation differentials, together with expectations of higher return due to the EU accession, attract increased foreign capital inflows. Moreover, there will be a potential conflict of objectives when Romania plans to enter into the ERM II[7]. And preserving the value of domestic currency against the euro within the band while, at the same time, targeting inflation could cause potential conflicts for the conduct of monetary policy. Lastly, there are fiscal policy considerations. Although the design and implementation of monetary policy lies ultimately with the NBR, the fiscal position plays a decisive influence on inflation expectations. And, the pressure on budget deficits is likely to grow in the years to come as the EU accession costs will have to be added to the costs of reforming the social security system, healthcare or the pension system[l)], thus pushing up inflation expectations.

k) In this respect Hungary's recent experience is suggestive.

l) This year alone the government revised its budget deficit targets twice from 0.5% to 2.5% of GDP.

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5 It is fair to say that most of the banks operating in Romania are foreign-owned. The largest Romanian bank, Commercial Romanian Bank (BCR), was privatised in December 2005.

6 Since no interest is paid on reserves, reserve requirements are in effect a tax on the private sector. Thus, although they could help prevent potentially disruptive fluctuations in the money market, they may also distort the optimal allocation of resources in the financial sector. Moreover, frequent use of reserve requirements as a monetary policy instrument prevents the proper functioning of the interest rate channel in the economy.

7 All countries that intend to join the EMU (and all new EU members have to do so sooner or latter) are required first to spend a period of minimum two years in the ERM II. This means that the central bank will have to maintain a +/-15% exchange rate band against the euro - around some predetermined central parity.

4. Conclusion

The rationale for IT is essentially a long-term one and it is far too early to judge how well the IT framework woks in Romania. However, a few points can be made.

The NBR's choice of a more stringent IT regime represented more a lack of choice. As inflation rate was falling towards single digits in 2004 it became apparent that the need for structural adjustment required the adoption of a more flexible approach to the existing exchange rate policy[8]. Money growth targets have not been suitable given the instability of money demand. With nominal income or price level targeting not favored for different reasons[9], the move towards inflation targeting seemed particularly appealing because of its apparent simplicity. However, in hindsight, a 'just-do-it' variant of IT, such as followed by the ECB, would have probably been a more appropriate choice. This would have involved a strong commitment to price stability but have avoided the specification of a numerical target. Following the success of its managed floating regime the NBR already had a strong capital of credibility, which could have been built upon. And, as Romania plans to join the euro area in a decade or so, it would have made more sense to adopt a monetary policy similar to the one employed by the ECB.

The danger with consistently missing inflation targets is that it could damage the NBR's credibility, an essential attribute to a successful implementation of the IT regime. Moreover, it is the implementation of sensible domestic fiscal and monetary policies, aided by favorable external inflation developments that lead to a low inflation environment. If these policies continue to be pursued responsibly there are no reasons to think why the inflation rate could not be maintained at low levels even in the absence of a strict IT regime.

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8 An exchange rate peg or target band is more prone to a currency attack, a risk worthwhile considering in countries where a combination of high interest rate differentials and a tendency for a domestic currency appreciation existed.

9 Nominal income targeting has proved to be imprecise while price level targeting imposes more stringent restrictions on the behavior of the central bank since any over/undershooting of the price level target will have to be subsequently corrected - so as to hit the target - implying a finite price level variance. This contrasts to inflation targeting where the price level variance tends to infinity.

Serbia's Residential Property Market

Dragana
Cvijanović*

The most active and, according to many, most attractive investment market in Serbia – real estate - is still pretty much an unknown. In spite of efforts by distinguished economists to shed some light on important principles and institutional issues, there has been no in-depth analysis of this market so far. By analyzing the database of prices and characteristics of around 40,000 housing units in Belgrade, this article will endeavor to arrive at the facts on the conditions and movements in Serbia's real estate market. Unfortunately, the database covers a relatively short period (2005 and the first half of 2006).

1. Introduction

In transition societies, the real estate market is without doubt an important indicator of the extent to which their inherited economies have been liberalized. The right to freely buy and sell property is a hallowed principle in every democratic society. A regulated real estate market[1] transforms assets into capital. The value of real estate can be uniformly determined only when buyers and sellers are able to acquire it in line with institutional and legal regulations, in simple and transparent procedures.

a) For a more detailed analysis of legislation regulating Serbia's real estate market, see Milikić (2004), and for an analysis of the development of mortgage loans from a practical perspective, see SERBIANA (2005) and USAID (2004).

Research into Serbia's real estate market has so far dealt mostly with institutional and general issues: Milićević (2004) gives a historical overview of the market's development from the 1950s to the present day; Marosan and Vasović (2005) focus on the market's problems and the steps taken to resolve them; Bay (2002) analyzes the advantages and disadvantages of investing in the market.[a] This article presents the first-ever attempt to quantitatively examine the data on transactions in Serbia's real estate market.[2] Based primarily on an econometric analysis of data on Belgrade's real estate market over the past two years,[3] it focuses on three groups of questions: what kind of real estate market data do we have; is the relation between supply and demand on the market regulated and, if so, to what extent; and the application of the most reliable methodology to describe the market.

The analysis shows that Serbia's fledgling real estate market is functioning. Price movements in the 2005-2006 period were primarily caused by the law of supply and demand and the government's regulatory measures.

This article is organized as follows: the first part looks into the basic problems in analyzing real estate market trends and proposes possible methods for solving them. The database used and the results of the econometric analysis are described. The second part is an overview of the market's development from the perspective of supply/demand and the government's regulatory measures. The third part describes real estate price movements by analyzing two indices: (1) the average price index, which does not take into account the problem of structural differences in aggregate real estate in different periods, and (2) the hedonic price index, which solves the problem of heterogeneity and isolates the impact of market conditions on prices. Finally, the conclusion reviews the obtained results and makes recommendations for future development.

1 Generally, real estate encompasses: (1) land and all permanent and immovable property on it, such as buildings, houses, commercial space etc. as well as their permanent infrastructure (lighting, waterworks, heating…) or any other infrastructure that would be otherwise treated as personal property; (2) ownership of permanent immovable property and the property itself.

2 To the best of our knowledge, the only available paper on the creation of real estate price indices in Serbia (i.e. South-eastern Europe) is Cvijanović (2006) – it examines the formation of home prices in Belgrade [3] using hedonic methods.

3 [4] In professional literature, the market is commonly divided into: (a) housing market (houses, apartments) and (b) commercial real estate market (office space).

2. Methodology Issues

Apart from the specifics common to an underdeveloped real estate market (the severe liquidity squeeze, the heterogeneity of real estate as an investment instrument, high transaction costs, the duration of the transaction process, etc.), the lack of data on transaction prices of real estate is the main obstacle and biggest methodological problem in objectively analyzing the current state of the market.

Serbia still does not have a digital real estate cadastre, even though a project to establish one was launched back in 2001. Hence, real estate data (prices, ownership structure, characteristics, etc.) are kept in book form. The lack of available information on past transactions has a major impact on real estate price movements and, presumably, limits the level of foreign investment. Furthermore, registered transaction prices are commonly lower than the actual amounts that change hands[b], making taxable amounts smaller. Poor electronic communication between some of the main links in the chain (the real estate cadastre, courts, municipalities, tax authorities, and surveying offices) slows down the sale procedure and reduces the transparency of transactions.

b) According to several real estate agencies, the difference can range from 5% to 15%.

To obtain a general idea of developments on the market over the past several years, *QM* created a data base of home *asking prices* in Belgrade. Descriptions of *real estate price movements* based on asking prices data have already been used in analyses. Empirical findings in the Clapp and Giacotto (1992) study on Italy's real estate market and the Platis and Nerouppos (2004) study on Cyprus' market show that paths described by those indices – as well as transaction indices – are very similar and that they differ by 3% to 6%, while the difference between cumulative increases in the indices stands at 1%. Also, research conducted by the Halifax Building Society in the UK shows that the UK's two best known commercial indices based on asking prices, Rightmove and Hometrack (to an extent), are very reliable indicators of future price trends and that revisions are minimal once transaction prices are released.

The created base is for 2005 and 2006. The period, which was chosen due to practical limitations – a lack of available data for earlier years has proved to be very interesting, as economic policy measures have had a visible impact on the market, the supply/demand ratio is clear and the market is clearly divided into several characteristic segments. The base of asking prices includes over 40,000 observations on asking prices, or about 40% of Belgrade's housing market. We chose Belgrade as a representative market, since its geographic location gives it a major gravitational economic pull in the region and its development performances make it a very interesting real estate market with a strong growth outlook. Even though the Serbian Bureau of Statistics data shows that over 35% of new residential units in Serbia and Montenegro was built in Belgrade in 2005, real estate agencies that operate both in Belgrade and the East European region consider that Belgrade's real estate market still lags behind the markets of neighboring countries' capitals.

The database used includes information on: *the asking price, location, size, number of rooms, number of floors, type of heating, the existence of phone lines, cable TV infrastructure, elevators,* etc.

The article focuses on examining changes in the value of real estate as a form of capital, an investment instrument. This means that prices must first be cleansed from the effects of changes in the structure (size, location and other characteristics) of an average home in the sample. The multivariate regression analysis[c] applied to this data enables us to do just that – describe:

c) Due to the incomplete database, the analysis was conducted on a sample of 6,792 observations.

d) For more details information, see Cvijanović (2006).

1. changes in the prices of Belgrade real estate, by excluding the element of their structure, i.e. to give the measure of market impacts on prices[d], by creating a hedonic price index, with the real estate price, as an *endogenous variable*, regressing to its characteristics (*exogenous variable*), and with the hedonic index movement given as the regression line intercept varying in time, and

2. to measure each structural factor's contribution to the average home price.

By assessing the regression equation (see Appendix at the end), we quantified the various structural factors' (which will henceforth be referred to as *characteristics*) contribution to a home price. Table L3-1 shows assessed coefficients of characteristics that proved to be statistically important. The

dependent variable in regression is the property's price, which depends on certain quantitative characteristics (such as the number of rooms, distance from downtown, and size) and some qualitative characteristics (the number of floors, the type of heating, etc.). The assessed coefficient for quantitative characteristics shows that the price of a property increases if a characteristic's quantity rises by 1%. To properly interpret coefficients of qualitative characteristics, we must define the "basic apartment": it is on the first floor of a building with less than four floors in the Belgrade borough of Savski Venac and has electric storage heating. Any characteristics that differ from the basic apartment increase/decrease the price by their assessed coefficients.

Table L3-1. Apartment Characteristics and Apartment Price Change[1]

Effect of 1% increase in quantitative characteristics on apartment price		Effect of qualitative characteristics on apartment price increase	
Quantitative characteristics	Coefficient	Qualitative characteristics	Coefficient
Area	0.88%	Central heating	15.65%
No. of rooms[2]	0.02%	Gas heating	10.18%
Distance from center	-0.13%	Lift	6.09%
		Balcony	2.36%
		Telephone	4.52%
		Lower ground floor	-15.50%
		Level 4	-4.90%
		Level 7 and higher	-9.38%
		Building with 4-7 floors	2.72%
		Building with 7+ floors	-2.73%
		RAKOVICA	-27.14%
		VRAČAR	12.51%
		ZEMUN	-20.84%
		VOŽDOVAC	-8.57%

Source: FREN.
1) Retaining all other characteristics identical to those of the basic apartment
2) Living room included.

Where quantitative characteristics are concerned, the results of our econometric analysis have confirmed views that real estate prices in Belgrade increase with the size, or the number of rooms of a property, and decrease when they are of smaller size and farther away from downtown. The price mostly depends on the size: a 1% increase in size brings a 0.88% higher price. A 1% increase in the distance from downtown, measured in kilometers, reduces a property's price by 0.13%.

When it comes to qualitative characteristics, the price mainly depends on the type of heating: an apartment with central heating, along with other characteristics of the basic apartment, is 15.65% more expensive than the basic apartment. Buyers who want long-distance, independent central heating, or natural gas heating have to pay more than for an apartment with electric heating. All other attributes have a much smaller impact on the price of an apartment, compared to the basic apartment. Among them, a phone line (4.52%) is almost twice as desirable an attribute as the existence of a balcony (2.36%). The number of floors also affects prices, with the most expensive apartments being on the first floor (the basic apartment) and the cheapest those in the basement (15.5% cheaper than the basic apartment). Surprisingly, apartments in buildings with four to seven floors are more desirable than apartments in buildings with up to four floors (2.72%), while flats in high-rises are less desirable (-2.73%)[4]. Location will significantly affect the price and those looking to buy in the Vračar borough will pay the highest premium (12.51%). Vračar is followed by the Savski Venac borough (the basic apartment), while all other boroughs are cheaper with the outlying Rakovica borough at the tail end of the location-to-price-ratio list (-27.14%).

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4 Also interesting is a comparison with some other European cities (for example Paris – see Maurer et al., 2004) – the prices of apartments on higher floors fall and the prices of apartments on lower floors rise (with the rate at which the price falls increasing the higher up the apartment is).

3. Serbia's Housing Market: General Characteristics of Supply and Demand

Based on the analysis, it can be said with certainty that Serbia's real estate market is clearly governed by the laws of supply and demand, and that, despite the inherited and institutional problems, the market works in line with the theory. Movements in prices and transactions on the market in the 2005-2006 period were mainly influenced by: (a) autonomous processes of supply and demand and (b) the effects of the government's regulatory measures. This section reviews the impact of these two main factors.

To facilitate understanding of the analysis, two types of demand are differentiated:

1. potential demand: the need for property accompanied by the ability to pay over time which would be realized if there were no liquidity constraints, and

2. effective demand: existing demand accompanied by the ability to pay.

e) For details, see Milićević (2004).

The following is a brief overview of ownership and legal transformation that has had an impact on the structure of supply/ demand, without going into the history of residential construction and ownership.[e] Until 1989, 95% of apartments were socially (state) owned. The adoption of the Law on Housing Relations in 1989 (this became the Housing Law in 1992) envisaged the purchase of socially owned apartments by their occupants, so that the numbers and status of private and socially owned apartments began to change, which in turn led to the emergence of the first real estate market. After the socially owned apartments became private property, residential construction was negligible over the next 10 and more years due to the unfavorable economic climate: annual construction in the 1994-2002 period was quite low (see Table L3-2). This appears to have created a huge gap between the *existing supply* of modern homes and *potential demand.* By comparison, 9,700 apartments were built in 1998, against 56,000 annually two decades earlier,[5] according to Colliers International Belgrade. The SBS's figures (Table L3-2), however, show that the number of apartments built in Serbia in 2004 rose to about 16,000, up 68% on 1998. But, apart from the huge difference in the numbers of newly built apartments in the 1970s and from the 1990s to the present, account should also be taken of the *type* and *quality* of housing construction until 1989 (the 1950-1970 period): the typically socialist-era huge apartment buildings with almost identically designed apartments whose floor space ranged from 30 square meters to 90 square meters on the average. On the other hand, in the early 1990s, when the real estate market was emerging (after occupants were given the opportunity to buy their apartments at very low prices and were able to freely trade in real estate, which freed a significant amount of liquidity) and private investors were starting to operate, a new type of more diverse construction started to develop: there were more luxurious apartments and larger houses whose prices per square meter were higher than the average.

Table L3-2. No. of Completed Apartments, 1995–2004

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Republic of Serbia	11,400	11,834	10,828	9,700	11,036	10,372	10,496	10,713	13,871	16,388
Central Serbia	8,493	9,382	8,679	7,726	8,996	7,812	8,704	7,951	10,670	12,278
Vojvodina	2,835	2,211	1,956	1,954	2,017	2,540	1,792	2,605	3,168	4,108

Source: SBS.

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5 **Since the veracity and reliability of this data is questionable and since FREN researchers note in the publication** *General Characteristics of Serbian Economy's Macroeconomic Structure in 2000-2005* that the official figures for 2003 are by 47.4% lower than those obtained in an independent analysis of the housing construction segment, the figure of 56,000 apartments a year is also in question and should be taken with caution. We believe that they illustrate the difference in the volume of construction in the two periods, although determining the magnitude of the difference is an issue that should be separately examined.

The change of regime in 2000 and the subsequent creation of an institutional framework for a modern market economy made investment in real estate as a form of capital more attractive and less risky, which resulted in a turnaround in the movement of real estate supply. Foreign and local contractors and investors responded to the movement of effective demand on the market. Demand and hence also supply split into two segments. Construction started of *high-end* housing units intended for a high-income target group who wanted fine apartments and houses with three or more rooms. Therefore, *demand* for this type of high-quality property was fuelled by a very limited market segment: wealthy locals, members of the diplomatic corps and Serbian nationals living and working abroad who were looking to invest in homes and other real estate here. Primarily, their intention was to build a portfolio of high-end real estate (with a floor space exceeding 100 square meters), which could serve as investment instruments or for renting.

Demand for *middle- and low-end* properties started to grow somewhat later, and Belgrade's market in particular developed two distinct *segments:*

1. high-end real estate market[6] and

2. middle- and low-end real estate market[f].

f) Middle-end properties include housing units intended for the the middle-income segment, from one-room to three-room apartments.

The percentage of one- and two-room apartments in overall housing construction has consistently followed been on an upward trend (Graphs L3-3 and L3-4). The graphs show an acceleration of construction of smaller apartments since 2003 and, especially, in 2005, while the construction of large apartments has dipped since 2004. The share of four-room and larger apartments has been growing at a far smaller rate and this trend is expected to continue over the long term, as has been the case in most East European capital cities.

Graph L3-3. No. of Competed Apartments in Serbia, 2000–2004
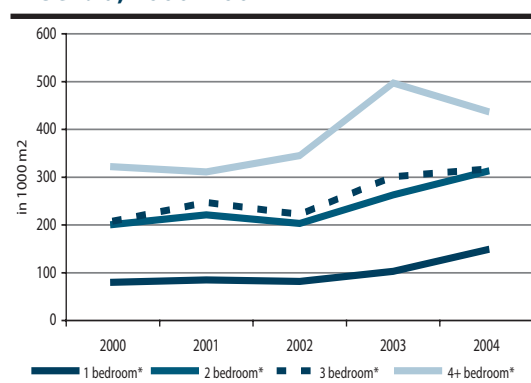
Source: SBS.
*Living room included.

Graph L3-4. No. of Competed Apartments in Belgrade, 2002–2005
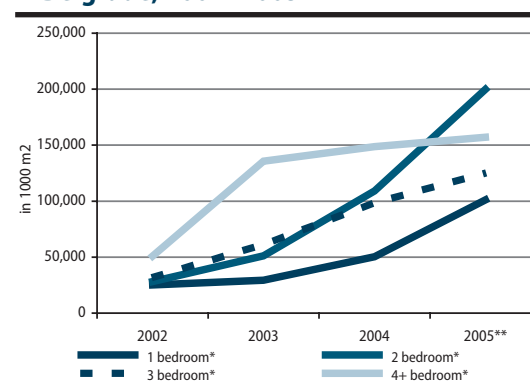
Source: SBS, taken from Colliers International Belgrade.
*Living room included.
**Colliers International estimate based on Jan-Aug 2005 data.

The balance between *effective demand* for the middle-end segment and *the existing supply*, as shown by positive results in 2005 and 2006, i.e. the strong *growth of the middle-end segment* – has been primarily caused by:

1. the development of banking services in Serbia, and

2. the availability of housing loans following better protection against risk for banks since the founding of the National Housing Loan Insurance Corporation (see Box 1).

The reasons for the growth of this market segment should, however, be sought also in the fact that the founding of the National Housing Loan Insurance Corporation and integration with the European capital market through the privatization of banks has contributed to the creation of a positive climate, which may be unrealistically optimistic, where real estate become more affordable to a large majority, i.e. the segment of demand that needed additional liquidity.

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6 *High-end properties* include units built according to modern standards, fitted with state-of-the-art equipment, mostly of large sizes (over 90 square meters), and most often located in desirable parts of the city, such as Vračar, Dedinje, Senjak etc.

Box 1. National Housing Loan Insurance Corporation

In order to encourage the development and functioning of the mortgage market in Serbia, two institutional models of the policy have been established: the National Housing Loans Insurance Corporation (NHLIC) and the Program for long-term housing loans for people under the age of 45. NHLIC was established in May 2004 and officially started operating in October that year. So far, 16 banks have signed agreements with the NHLIC. The concept is based on a Canadian model and was drawn up in cooperation with the Canada Mortgage and Housing Corporation (CMHC).

NHLIC insures loans that banks or other financial organizations grant to individuals for *purchase*, *renovation* and *construction* of housing, and which are secured by a *mortgage*. When a commercial bank concludes a contract with the NHLIC, it submits for insurance an individual loan that meets the requirements of the NHLIC. If these requirements are met, the NHLIC decides to insure that loan and take its share of the risk of a possible default. In practice, this means that 75% of the net loss of the bank through defaults are borne by the NHLIC. By sharing the risk, the NHLIC reduces the bank's total risk, which could help to cut the interest rate banks charge their clients. The highest interest rate banks can charge on loans insured by the NHLIC is **8.95%** per annum on a loan *with down payment* and **7.45%** per annum on a loan *with a guarantee deposit*.

The NHLIC and the Ministryy **of Finance have set up a housing loan scheme for young people. Thus** far, 11 banks have joined the program and 900 mn dinars were allocated for loans in 2005. The Serbian Budget Law stipulates that a total of **1.3 bn dinars is to be set aside for this purpose in 2006.** Under the scheme, the down payment constitutes of 30% of the property price, i.e. of the requested loan, while the guarantee deposit is 10% of the property price, i.e. of the requested loan. The borrower must secure 10% of the down payment while 20% comes from the Serbian budget as a long-term housing loan, as does also 10% of the price of the property. The remaining 70% of the price of the property, i.e. of the requested loan, is a loan from a commercial bank. The borrower is to repay the bank loan within a maximum period of 20 years (70% of the property price), and starts repaying the funds borrowed from the Serbian budget after the bank loan is paid up in full, but not exceeding a period from 20 to 25 years from the loan release. The bank sets the interest rate for the share of the loan it finances in accordance with its business policy, but it cannot exceed the maximum EURIBOR plus 4.865% per annum. The interest rate on the part of the loan that comes from the Serbian budget is 0.1% per annum, without payment of intercalary interest.

In the 18 months since it started operating, the NHLIC has insured 100 mn euros in housing loans. The amount was disbursed to 3,500 individual loans, of which 1,100 are subsidized loans from the Serbian government's scheme to help people younger than 45 years of age buy homes.

Source: NHLIC

Over the long run, it is the supply/potential demand ratio that holds sway over the Serbian real estate market. The question is, however, how big is the gap between the two? The weak housing construction activity in the 1990s suggests that it is large. But it was narrowed by the change in the *demographic structure of demand* during the 1990s when a large proportion of the demand remained unrealized (*potential demand*) due to the *liquidity squeeze*, i.e. because of the near impossibility of obtaining loans. Therefore potential buyers, mainly younger people, started looking for alternatives to buying homes for themselves. It is common for parents to leave their apartments in town to their children, usually by moving into their weekend homes. All of this indicates that the *demand* for apartments has not really decreased over the past few years, or two or three decades: what did happen was (a) that its demographic structure changed, and (b) a large proportion of it has remained unrealized due to the lack of liquidity.

4. Apartment Prices in Belgrade, 2005-2006

Even though the *average price of a square meter* is the most often used indicator of movements in the *housing* market, it is only interesting statistically as if fails to take into account the qualitative difference between properties. Creating a price index by applying econometric methods – the *hedonic index*, (more details in the Appendix at the end), on the other hand, shows only the effect of *factors* such as: demand for apartments accompanied by the ability to pay, or the rate of residential construction, that is, the supply of new apartments, thereby differentiating them from structural factors such as location, quality, the number of rooms, and the like.

The following comparative analysis of the movements of average prices and the hedonic price index in Belgrade's real estate market in 2005-2006 is a possible interpretation of the developments we believe shaped the market in this period.

Average real estate prices in Belgrade differ considerably, depending on the location and quality of building. Generally speaking, they can be up to 60% higher than in other municipalities/towns in Serbia (Table L3-5), meaning that would-be buyers of homes in Belgrade should expect to pay a premium. Average prices of luxury apartments at prestigious locations range from 1,700 €/m² to 2,100 €/m², while rents are between 11 and 15 €/m² per month (Table L3-6). Yet, because of the considerable differences in quality and location, their absorption rates in 2005 were meager. Prices of apartments in new, bigger buildings in the Novi Beograd borough range from 1,200 to 1700 €/m². The difference in prices of new apartments is especially evident in downtown areas (the center and Vračar borough) and the Savski Venac borough (the plush Dedinje and Senjak residential areas), where prices go from 1,100 to 1800 €/m², depending on the building's location, the quality of interiors, and other relevant factors. *Middle-end* real estate in "good," yet not expensive parts of the city, fetches a average price of between 1,100 to 1450 €/m², while rents range from 7 to 10 €/m² per month. *Low-end* real estate in poorer condition sells at prices ranging from 650 to 900 €/m².

Table L3-5. S&M Apartment Average Price in 2005

	Average price (eur / m²)
Belgrade	1360
Niš	795
Novi Sad	912
Subotica	702
Kragujevac	733
Kruševac	735
Podgorica	998

Source: SBS, taken from Colliers International Belgrade.

Table L3-6. Average Asking Prices and Rental Prices in Belgrade, 2005

	Price (eur / m²)	Rental prices (eur / m², monthly)
Center	1,556	12.76
Vračar	1,608	11.87
Savski Venac	1,265	12.89
Voždovac	1,123	10.02
Zvezdara	1,145	9.33
Novi Beograd	1,201	10.12

Source: Colliers International Belgrade.

Even a simple indicator like the average price per square meter is sufficient to show the existence of two different segments of the market: high and middle-end (low) (Graph L3-7). It is clear that the average price per square meter for middle and low-end segments follows a relatively similar curve, which over most of the period shown on Graph L3-7 also corresponds with the curve of the high-end market (though with less pronounced peaks), except in the first two months of 2005 and from February to June 2006. The difference between these two curves is especially evident in February 2005 and in 2006. QM believes that the drop reported in early 2006 was the consequence of the uncertain political situation due to the Kosovo and Montenegro problems (the latter especially in March), as well as of economic policy, an issue that will be addressed below.

Graph L3-7. Average Asking Prices of Apartments in Belgrade, per m², 2005–2006

Eur / m2
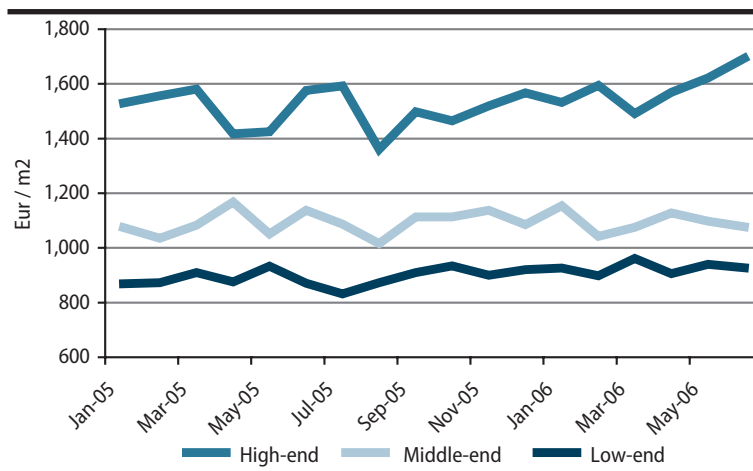
Legend: High-end: Vracar, Savski venac, Stari grad; Middle-end: Novi Beograd, Palilula, Zvezdara, Voždovac; Low-end: Zemun, Rakovica, Cukarica.

Source: FREN.

High-end   Middle-end   Low-end

Besides the interpretation of the movements in the average home price, we have also made a direct comparison with the movements in the hedonic index price. These two indicators are shown on Graph L3-8 (bars signify the average prices, and the curve represents the price index).

There are two peaks in the *hedonic index movements*: one in December 2005 and the other in late May 2006. It is most likely that prices between these two points in time dropped because of seasonal effects (the weaker trading activity characteristic for January and February); another reason may be that a majority of people still cannot afford housing loans. Although several realtors reported zero turnover in the first months of 2006 and despite reports that prices had dropped by up to 20% in Belgrade, *QM*'s findings give a milder picture. According to our research, in January 2006 prices dropped by 1.6% against December 2005, while the sharpest decline of 4.5% occurred in March, relative to the same period last year.

Graph L3-8. Belgrade: Average Price (eur/ m²) & Residential Real Estate Price Index, 2005–2006

Average price Eur/m2   CCC Index

Source: FREN.

The introduction of the VAT in January 2005 did not affect the real estate market as much as expected due to the expansive supply in late 2004. Hoping to maintain the high profits they reaped in 2004, builders and investors tried to lower prices in order to attract effective demand. But anxiety about the new tax regime prompted potential buyers to wait, which caused the drop in demand in January 2005. As the index shows, this situation lasted until the end of February. Furthermore, construction activity in 2004, which was out of proportion with the developments over the past 10 years, resulted in an excessive supply of mainly *high–end* properties for which effective demand remained low, which also contributed to the drop in prices. In March, the market started recovering, partly because the VAT "scare" diminished and also because of the adjustment to a new business climate.

Three price hikes in 2005 coincided with the times at which the market was strongly impacted by factors related to economic policy: June, August and December. In June 2005, nominal interest rates for housing loans insured by the NHLIC decreased (for example, Raiffeissen Bank cut its interest rate on mortgage loans with a 20% down payment from 8.95% to 8.75% per annum). The lower rates presumably led to a rise in effective demand, which then produced higher prices in June. In late August 2005, passage of a new mortgage law (which, among other things, would allow loans for unregistered property under construction and similar) was announced, and led to

an additional rise in prices after the summer slump. At the same time, the Ministry of Finance and the NHLIC came out with a program designed to help young couples obtain housing loans by partially financing them (see Box 1). Proposed in October 2005, the Mortgage Law was enacted in late December that year, when the index hit its all-time record of 102.55 base points.

We believe that the three mentioned measures fueled the strong growth trend, which was especially high at the end of the year. The expectation alone of the possibility of apartments becoming affordable to a larger number of people - i.e. of a large portion of *potential demand* turning into *effective demand* following the elimination of the liquidity constraints on many households – may have resulted in the movement of prices. Prices moved along the supply line to a higher level, to a new, expected position of the "shifted" demand line. The price hikes in December were probably also a reflection of the strong global trends in real estate prices. (For example, prices in central London recorded a 3.8% inflation in December, and in the last quarter of 2005 alone, this hit 5.3% - source www.nationwide.co.yu). As mentioned above, prices dropped considerably already in early 2006. We believe that this can mainly be ascribed to the fact that a major segment of the public realized that the increased availability of housing loans was only an illusion engendered by a series of government regulatory measures. More time will have to pass for the effects of the measures to be assessed properly.

5. Conclusion

The real estate market in Serbia, although not yet well developed and regardless of all its shortcomings, functions in accordance with all market principles. The process will certainly continue with a further liberalization of the market and government regulatory measures. The results of the analysis for the 2005–2006 period show that movements in apartment prices in Belgrade, as a representative sample, like in any other European city, depend, on the ratio between supply and demand.

Using a multivariate regression analysis we were able to isolate and describe the impact of market conditions (such as demand for apartments accompanied by the ability to pay, supply of new apartments) and *structural* factors (location, number of rooms, and other characteristics) on the movement of prices. Our preliminary results show a series of structural effects on prices, e.g. the most expensive apartments in Belgrade are located in the Vračar and Savski Venac boroughs, while Rakovica is the cheapest; basement apartments are the cheapest, the most desirable ones are on the first floor and the price falls with every higher floor, and similar. Observing the movements in the hedonic index of prices derived from this analysis, a measure of coincidence is evident between local maximum prices (peaks of the index line) and the announcement of government measures designed to regulate the market. This, however, should be taken with caution and only time will make it possible to clearly separate seasonal from one-off effects, and arrive at more definite conclusions.

Based on a series of repeated cases, it became clear in this period that the unrealized demand for *middle* and *lower-end* properties (primarily by the younger generation) from the 1990s has started to be absorbed through newly built residential complexes intended for this group. The reasons for this trend should definitely be sought also in the launching of the mortgage loan market, regional integration of the local capital market and, in part, the founding of the NHLIC.

Where the further development of the real estate market is concerned, we believe that the strengthening of the mortgage market, especially through the implementation of the new legislation, could help to release enough liquidity for channeling the accumulated demand and thereby creating a healthy and self-sustainable market. Other urgently needed requirements include transaction figures being made accessible to the public, and a precisely formulated and practicable legal framework to regulate the work of real estate agencies and others in the real estate market.

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6. Appendix

Hedonic Indices of Real Estate Prices

The hedonic approach to modeling real estate prices, along with the (weighted) *repeated sales method* is one of the most frequently applied approaches in creating real estate price indices. Unlike indicators based on the *average price per square meter*, the hedonic indices eliminate the factor of structural change of real estate and provide information on price movements that follow market trends. They are therefore often called *constant quality indices* or *quality adjusted indices.* This approach resolves the problem of real estate *heterogeneity,* as an investment instrument, by applying the econometrical model based on the assumption that the value of a certain product (in this case real estate) can be completely described by using a vector of separately analyzed characteristics. Hence the value of real estate is a function of *structural attributives* and the *characteristics of the area* where the real estate is located (e.g. location, condition, size, etc) and *the time* of the transaction. Statistically, the hedonic approach is based on the multivariate regression model, under which the recorded transaction prices are an endogenous variable, while real estate attributes are an exogenous variable. In practice, this means that the real estate price regresses to its characteristics. The assessed coefficients for each of the characteristics can be interpreted as shadow prices of each characteristic (or their functions) and are used to calculate the price of each property, as the functions of its characteristics:

$$p_{it} = b_t + \sum_k a_{kt} c_{ikt} + \varepsilon_{it} \qquad \text{for } i = 1,\ldots,n \quad (1)$$

In the equation, we labeled time with t, while b_t stands for intercept for every t, i.e. the measure of all the effects specific for period t. Coefficient a_{kt} is the shadow price of characteristic k in period t. The model (1) shows that the registered prices p depend on: the factors specific for period t, which we call "market climate" - (through b_t), k characteristic of one property (c_k), and accidental error (ε). A change of intercept b_t in time shows a change in real estate price between period τ and $\tau+1$, maintaining the real estate characteristics as a constant. It represents a change in the real estate price (this change is sometimes called "pure" price change) between periods τ and $\tau+1$, which is in no relation with the change of real estate's characteristics. So it gives purified information about market trends.

Graph L3-10. Hedonic Residential Real Estate Price Indices in Belgrade, 2005–2006

g) For a more detailed description of mentioned methods see: Cvijanović (2006).

Source: FREN.
Note: Hedonic indices constructed by using Time-Dummy Variable (TDV), Hedonic Imputation (HI) and Continuously Compounding Coefficients (CCC) approach.
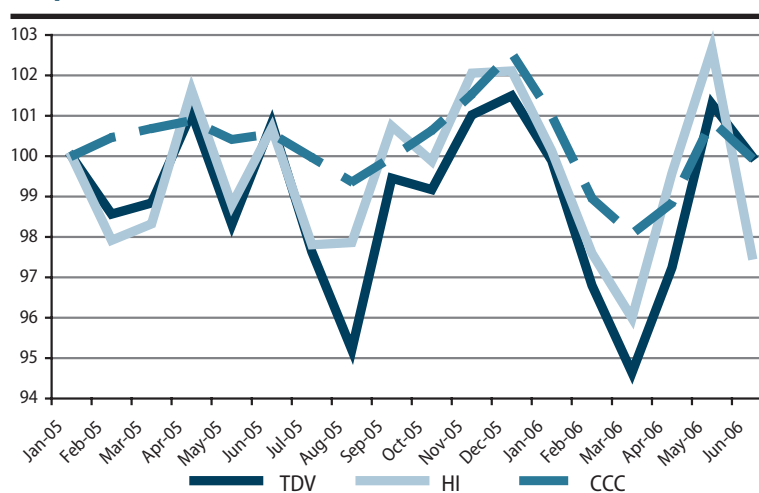
Graph L3-10 shows three hedonic indices based on: (1) time-dummy variable method (VVP), (2) hedonic property value method (HPV) and (3) continuously compounding coefficient method (CCC). The first two are based on the already established hedonic methods, whereas the third index has not been applied thus far in the real estate domain[g].

The results of this regression analysis are shown in Table L3-9, while a detailed interpretation of the evaluated coefficients is given at the beginning of this article.

Table L3-9. Regression Analysis Results, 6.792 Apartments Sample[1]

Variable	Coefficient	Standard deviation	t-statistics	p
C	7.5819	0.0567	133.7483	0.0000
LNAREA_SQUAREMETERS[2]	0.8802	0.0172	51.0425	0.0000
ROOMS	0.0231	0.007	3.2889	0.0010
LNDISTANCE	-0.1276	0.0061	-21.0632	0.0000
DCENTRALHEATING	0.1565	0.0072	21.7104	0.0000
DGASHEATING	0.1018	0.0137	7.4353	0.0000
DFLOORHEATING	0.0764	0.01	7.6258	0.0000
DTAHEATING/CENTRALHEATING	0.0662	0.0297	2.2272	0.0260
DLIFT	0.0609	0.006	10.1556	0.0000
DTERRACE	0.0236	0.0055	4.288	0.0000
DPHONE	0.0452	0.0084	5.3482	0.0000
DFLOOR-1	-0.155	0.0181	-8.5473	0.0000
DFLOOR0	-0.0667	0.0096	-6.9456	0.0000
DFLOOR4	-0.049	0.0076	-6.4123	0.0000
DFLOOR5	-0.0473	0.0099	-4.7751	0.0000
DFLOOR6	-0.069	0.0127	-5.4223	0.0000
DFLOOR7+	-0.0938	0.0093	-10.0706	0.0000
DTOTALFLOORS_4-7	0.0272	0.0066	4.1101	0.0000
DTOTALFLOORS_7+	-0.0273	0.0088	-3.1019	0.0019
DLOC_ZVEZDARA	-0.127	0.0169	-7.5142	0.0000
DLOC_CUKARICA	-0.2005	0.0166	-12.066	0.0000
DLOC_RAKOVICA	-0.2714	0.0174	-15.6233	0.0000
DLOC_STARIGRAD	-0.0588	0.0134	-4.3778	0.0000
DLOC_NOVIBEOGRAD	-0.108	0.0163	-6.6069	0.0000
DLOC_VRACAR	0.1251	0.0136	9.2255	0.0000
DLOC_ZEMUN	-0.2084	0.0224	-9.2901	0.0000
DLOC_PALILULA	-0.2548	0.0177	-14.3888	0.0000
DLOC_VOZDOVAC	-0.0857	0.0163	-5.2529	0.0000

$$R^2 = 0,8663 \qquad \text{Adjusted } R^2 = 0,8658$$

Source: FREN.
1) Dependent variable - LNPRICE.
Note: R2 - determination coefficient.
2) Estimation results suggested that the log-linear specification is the most appropriate, yielding the best
fit to the data and the highest significance of the parameters combined with the economic interpretation of the coefficients. Hence, all the variable are given in logarithmic form, as marked by using prefix LN (this
interpretation however, does not apply to dummy variables - for their detailed treatment see Halvorsen and Polakowski 1980).

ANALYTICAL APPENDIX

Table P-1. Serbia: Retail Price Index (RPI), 2001–2006

	RPI			RPI components				
				GOODS	Agricultural products	Food	Non-food	SERVICES
	Dec. 2002=100	y-o-y index	cumulative index[1]	cumulative index[1]				
annual indices[2]								
2001	76.8	194.3	140.6	132.3	127.4	133.1	135.0	175.3
2002	93.2	121.4	114.8	109.4	113.8	98.8	114.1	133.0
2003	104.1	111.7	107.8	106.6	93.6	106.0	107.8	111.1
2004	114.3	110.1	113.7	112.8	108.1	113.9	113.2	116.1
2005	134.0	116.5	117.7	115.4	136.1	115.9	114.0	124.1
quarterly indices[2]								
2004								
Q1	109.1	107.6	101.8	101.0	105.1	101.6	100.4	103.9
Q2	111.9	108.5	105.1	105.1	125.6	104.6	103.8	105.3
Q3	116.1	110.6	109.2	109.4	105.7	110.7	109.3	108.5
Q4	120.1	112.3	113.7	112.8	108.1	113.9	113.2	116.1
2005								
Q1	127.5	116.9	105.1	103.8	115.0	104.7	109.6	106.6
Q2	131.2	117.2	108.0	107.0	147.8	107.1	104.6	110.7
Q3	135.9	117.1	111.8	110.7	119.2	110.1	111.2	115.3
Q4	141.6	117.8	117.7	115.4	136.1	115.9	114.0	124.1
2006								
Q1	146.4	114.8	102.2	102.6	111.0	101.5	103.3	101.1
Q2	151.6	115.6	105.7	106.8	129.9	103.7	107.4	102.6
monthly indices								
2005								
January	125.9	116.3	102.7	100.9	103.1	102.1	100.2	107.8
February	127.8	116.9	104.2	102.7	108.1	103.1	102.1	108.5
March	128.8	117.4	105.1	103.8	115.0	104.7	109.6	106.6
April	129.8	117.4	105.9	104.7	125.6	105.5	103.1	109.3
May	131.3	117.5	107.1	106.2	143.5	106.2	104.0	109.7
June	132.4	116.8	108.0	107.0	147.8	107.1	104.6	110.7
July	135.0	117.5	110.1	109.3	133.0	107.6	109.2	112.6
August	135.6	117.2	110.6	109.3	126.0	108.3	109.2	114.3
September	137.1	116.5	111.8	110.7	119.2	110.1	111.2	115.3
October	139.4	117.9	113.7	112.8	122.7	113.1	112.6	116.3
November	141.1	118.0	115.1	114.1	128.5	114.7	113.5	118.1
December	144.2	117.7	117.7	115.4	136.1	115.9	114.0	124.1
2006								
January	144.9	115.1	100.5	100.4	103.5	100.7	100.7	100.3
February	146.9	115.0	101.9	102.3	107.8	100.7	103.5	100.6
March	147.4	114.5	102.2	102.6	111.0	101.5	103.3	101.1
April	150.0	115.5	104.0	105.1	116.3	102.0	106.4	101.3
May	152.4	116.0	105.7	107.0	132.4	102.8	108.0	102.3
June	152.4	115.1	105.7	106.8	129.9	103.7	107.4	102.6
July	152.3	112.8	105.6	106.6	106.4	104.7	108.0	102.8
August	153.3	113.1	106.3	107.3	99.9	105.4	109.3	103.6

Source: SBS.
1) Cumulative is the ratio of given period and December of previous year.
2) Twelve-month averages for annual data, i.e. three-month averages for quarterly data.

Table P-2. Serbia: Selected Price Indices, 2001-2006

	RPI		Consumer price index		Industrial producer's price index		Agricultural producer's price index	
	Dec. 02=100	y-o-y	Dec. 02=100	y-o-y	Dec. 02=100	y-o-y	Dec. 02=100	y-o-y
annual indices[1]								
2001	76.8	194.3	79.1	195.1	87.1	187.3	100.0	188.7
2002	93.2	121.4	94.5	119.5	96.4	110.7	101.2	101.3
2003	104.1	111.7	103.8	109.9	102.1	105.9	102.3	101.1
2004	114.3	110.1	115.2	111.0	111.8	109.5	118.4	115.7
2005	134.0	116.5	133.8	116.1	127.2	113.7	131.1	110.7
quarterly indices[1]								
2004								
Q1	109.1	107.6	109.5	108.5	106.7	106.4	113.7	114.5
Q2	111.9	108.5	113.4	110.2	110.5	109.5	118.0	117.6
Q3	116.1	110.6	117.1	112.3	113.6	110.3	118.7	117.5
Q4	120.1	112.3	121.0	112.9	116.6	111.9	123.1	113.4
2005								
Q1	127.5	116.9	126.9	116.0	119.8	112.3	127.6	112.2
Q2	131.2	117.2	132.0	116.4	123.3	111.6	129.2	109.6
Q3	135.9	117.1	135.2	115.5	129.7	114.2	131.8	111.0
Q4	141.6	117.8	141.1	116.6	136.0	116.7	135.8	110.3
2006								
Q1	146.4	114.8	145.5	114.6	138.5	115.6	137.7	107.9
Q2	151.6	115.6	150.8	114.2	144.2	116.9	140.2	108.5
monthly indices								
2005								
January	125.9	116.3	125.1	115.0	118.2	112.1	124.4	112.3
February	127.8	116.9	127.0	115.9	120.4	112.8	128.7	112.2
March	128.8	117.4	128.7	116.9	120.9	112.0	129.7	112.0
April	129.8	117.4	130.0	116.4	122.0	111.7	128.1	109.0
May	131.3	117.5	132.6	117.0	123.1	111.2	130.2	111.2
June	132.4	116.8	133.5	115.8	124.9	112.0	129.4	108.5
July	135.0	117.5	134.7	116.0	128.1	113.5	129.3	112.7
August	135.6	117.2	134.8	115.7	128.8	113.9	130.8	111.4
September	137.1	116.5	136.1	114.7	132.2	115.0	135.3	109.1
October	139.4	117.9	139.2	116.2	134.9	116.3	134.3	109.6
November	141.1	118.0	141.0	116.6	136.2	117.1	135.8	109.5
December	144.2	117.7	143.2	117.0	136.8	116.5	137.2	111.8
2006								
January	144.9	115.1	144.3	115.3	137.4	116.3	137.3	110.3
February	146.9	115.0	145.7	114.8	138.7	115.1	137.1	106.6
March	147.4	114.5	146.5	113.9	139.4	115.3	138.7	106.9
April	150.0	115.5	148.8	114.5	142.7	117.0	138.2	107.8
May	152.4	116.0	151.7	114.4	144.8	117.6	140.4	107.9
June	152.4	115.1	151.7	113.6	145.0	116.1	142.1	109.8
July	152.3	112.8	150.4	111.7	146.9	114.7	142.5	110.2
August	153.3	113.1	150.8	111.9	147.3	114.3	-	-

Source: SBS.
1) Twelve-month averages for annual data, three month averages for quarterly data.

Table P-3. Serbia: Euro / Dinar Exchange rate, 2001–2006

	Nominal				Real				CPI in Euro area[4] (Dec. 02=100)
	Exchange rate (FX)[1]	Base index (Dec. 02=100)	y-o-y index	cumulative index[2]	real FX[3] (Dec. 02=100)	y-o-y index	cumulative index[2]	EURO/USD rate	
annual exchange rate[5]									
2001	59.4929	96.6	116.5	100.4	122.2	61.2	72.7	0.8920	97.0
2002	60.6763	98.6	102.0	102.8	104.8	85.7	91.5	0.9397	99.1
2003	64.9743	105.6	107.1	110.5	102.4	97.8	104.4	1.1241	101.0
2004	72.6215	118.0	111.8	115.6	106.3	103.8	103.9	1.2392	103.0
2005	82.9188	134.7	114.2	109.3	105.8	99.5	94.9	1.2433	105.3
quarterly exchange rate[5]									
2004									
Q1	69.2361	112.5	110.1	102.3	105.1	103.9	101.0	1.2382	101.9
Q2	70.8080	115.0	109.5	105.3	106.0	103.0	101.5	1.2084	103.1
Q3	73.4267	119.3	112.7	109.4	106.1	104.1	101.7	1.2113	103.2
Q4	77.0150	125.1	114.6	115.6	108.2	104.3	103.9	1.2993	103.9
2005									
Q1	80.2421	130.4	115.9	102.7	106.4	101.2	98.1	1.3145	104.0
Q2	81.8942	133.0	115.7	105.0	106.7	100.7	98.3	1.2606	105.2
Q3	83.8302	136.2	114.2	107.5	105.8	99.8	97.8	1.2199	105.6
Q4	85.7085	139.2	111.3	109.3	104.5	96.6	94.9	1.1898	106.2
2006									
Q1	87.0875	141.5	108.5	101.4	102.7	96.6	99.6	1.2031	106.3
Q2	86.8674	141.1	106.1	101.0	100.3	94.0	97.9	1.2552	107.7
monthly exchange rate									
2005									
January	79.8494	129.7	116.2	101.6	106.8	101.9	98.4	1.3287	103.6
February	80.1272	130.2	115.4	101.9	105.9	100.8	97.6	1.3076	103.9
March	80.7498	131.2	116.1	102.7	106.5	101.0	98.1	1.3074	104.5
April	81.3236	132.1	116.0	103.4	106.8	100.9	98.5	1.2955	105.0
May	81.8419	133.0	115.7	104.1	106.6	100.3	98.2	1.2715	105.3
June	82.5172	134.1	115.3	105.0	106.7	100.7	98.3	1.2180	105.3
July	82.9982	134.8	114.2	105.6	105.1	99.3	96.9	1.2040	105.3
August	83.9965	136.5	114.7	106.8	106.2	100.0	97.9	1.2294	105.5
September	84.4958	137.3	113.6	107.5	106.2	100.0	97.8	1.2265	106.0
October	85.1413	138.3	112.6	108.3	105.4	97.8	97.2	1.2026	106.3
November	86.0770	139.8	112.1	109.5	105.1	97.1	96.9	1.1809	106.1
December	85.9073	139.6	109.3	109.3	102.9	94.9	94.9	1.1861	106.3
2006									
January	86.9033	141.2	108.8	101.2	103.2	96.7	100.3	1.2122	105.9
February	87.2558	141.8	108.9	101.6	102.5	96.8	99.6	1.1960	106.2
March	87.1033	141.5	107.9	101.4	102.5	96.2	99.6	1.2013	106.7
April	86.5391	140.6	106.4	100.7	100.7	94.3	97.9	1.2239	107.4
May	87.3023	141.8	106.7	101.6	100.3	94.1	97.5	1.2750	107.8
June	86.7609	140.9	105.1	101.0	99.8	93.5	97.0	1.2677	107.9
July	83.7931	136.1	101.0	97.5	96.4	91.7	93.7	1.2684	107.8
August	82.8893	134.7	98.7	96.5	94.8	89.3	92.2	1.2803	108.0

Source: NBS, SBS, Eurostat (www.epp.eurostat.cec.eu.int)
1) Month average, official daily NBS mid rate
2) Cumulative index-ratio of given period and December of previous year
3) Real fx calculation include Euro area inflation. See footnote 5) in Table T3-5.
4) *"Harmonized indices of consumer prices"*.
5) Twelve-month averages for annual data, i.e. three-month averages for quarterly data.

Table P-4. Serbia: Registered Employment, 2004–2006

| | Total No. of employed (employees and entrepreneurs) | Employees in legal entities | Employees with natural entities | | | Total No. of employees |
			Total	No. of entrepreneurs	No. of employees within entrepreneurs	
	1 (=2+3)	2	3 (=4+5)	4	5	6(=2+5)
quarterly data						
2004						
Q1	2,050	1,589	461	207	253	1,842
Q2	2,059	1,592	468	208	259	1,851
Q3	2,045	1,570	475	209	266	1,836
Q4	2,048	1,559	489	216	273	1,832
2005						
Q1	2,065	1,557	507	225	283	1,840
Q2	2,062	1,544	518	228	289	1,833
Q3	2,063	1,536	527	229	298	1,834
Q4	2,055	1,521	533	230	304	1,825
2006						
Q1	2,035	1,500	535	228	307	1,806
monthly data						
2005						
January	2,059	1,558	501	221	280	1,838
February	2,065	1,557	508	225	283	1,840
March	2,070	1,557	513	228	285	1,842
April	2,066	1,551	515	228	287	1,838
May	2,060	1,543	517	228	289	1,832
Jun	2,059	1,538	521	229	292	1,830
July	2,062	1,538	524	229	295	1,833
August	2,062	1,535	527	229	298	1,833
September	2,067	1,536	531	230	300	1,836
October	2,062	1,530	532	230	302	1,832
November	2,054	1,520	534	230	304	1,824
December	2,048	1,514	534	229	305	1,819
2006						
January	2,039	1,505	534	229	305	1,810
February	2,033	1,498	535	228	307	1,805
March	2,032	1496	536	228	308	1,804

Source: SBS (March and September data).
Note: Number of employed for months other than March and September is estimated with linear interpolation.
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. natural entities - 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.
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.
2) Employees in legal entities (companies, organizations, institutions).
SOURCE: Semi-annual Report on the Employed and Wages RAD-1/P (Column 10), and the Additional Survey to the Semi-annual RAD-1 Report.
3) Owners of small businesses and self-employed persons (natural entities) and their employees (Column 4 + Column 5).
4) Owners of small businesses.
5) Employees of small businesses (natural entities).
SOURCE: Semi-annual Report on Small Businesses and their Employees RAD-15.

Table P-5. Serbia: Balance of Payments, 2003–2005[1]

	2004	2005					2006		
	Dec	Mar	May	Jun	Sep	Dec	Mar	May	Jun
	cumulative, in millions of euros								
CURRENT ACCOUNT	**-2,197**	**-354**	***-580***	**-695**	**-1,187**	**-1,843**	**-732**	***-966***	**-1,259**
GOODS AND SERVICES	-5,156	-742	-1,460	-1,845	-3,121	-4,507	-1,190	-2,088	-2,515
Goods	-5,311	-717	-1,464	-1,863	-3,148	-4,513	-1,160	-2,058	-2,485
Exports , f.o.b.[2]	2,991	757	1,351	1,671	2,624	3,736	950	1,663	2,058
Imports , f.o.b.	-8,302	-1,474	-2,815	-3,534	-5,771	-8,249	-2,110	-3,721	-4,543
Exports/ Imports (%)	36	51	-48	47	45	45	45	45	45
Services	155	-25	3	19	27	7	-30	-30	-30
Receipts	1,171	247	463	584	936	1,297	299	542	678
Expenditures	-1,016	-272	-460	-565	-909	-1,290	-330	-572	-708
Income, net	-172	-59	-111	-141	-198	-256	-58	-122	-165
Earnings	64	12	22	32	53	80	32	52	66
Payments	-235	-71	-133	-174	-250	-335	-90	-173	-232
Current transfers	2,728	415	920	1,209	1,984	2,651	479	1,181	1,338
Private remittances, net	340	40	112	177	239	298	-16	34	96
Inflow	796	184	335	423	682	953	95	95	94
Outflow	-456	-144	-223	-246	-443	-656	-278	-410	-442
F/X accounts of non-residents	568	37	63	108	340	518	183	401	306
F/X purchases, net	1,592	320	714	884	1,329	1,631	289	702	882
Other[3]	228	17	32	41	76	203	23	44	54
Official grants	403	33	71	82	148	269	37	63	83
ERRORS AND OMISSIONS	**168**	**-179**	***33***	**-63**	**-271**	**-203**	**0**	***138***	**-21**
CAPITAL AND FINANCIAL ACCOUNT	**2,377**	**712**	***893***	**1,180**	**2,333**	**3,659**	**1,076**	***2,036***	**2,814**
Financial account	2,377	712	893	1,180	2,333	3,659	1,076	2,036	2,814
Foreign direct investment (FDI)	773	263	375	504	964	1,200	173	411	715
Other investment	1,604	450	518	676	1,369	2,459	903	1,626	2,099
Medium/long term loans[4]	1,221	159	408	606	990	1,572	414	1,188	1,646
Government	229	15	36	44	105	177	67	92	75
Commercial banks	417	68	129	209	292	545	146	777	1,121
Other	574	76	243	353	593	850	201	319	450
Short-term loans	164	94	23	28	104	391	208	163	192
Other assets and liabilities	187	120	28	11	204	396	136	100	115
Commercial banks F/X reserves (increase,-)	33	77	58	30	71	100	144	175	146
NBS reserves, net [4] , (increase,-)	**-349**	**-180**	***-344***	**-421**	**-875**	**-1,613**	**-344**	***-1,208***	**-1,535**
IMF disbursements	192	0	0	0	151	151	75	75	75
IMF amortization[5]	-188	-47	-61	-93	-133	-166	-15	-15	-203
MEMORANDUM ITEMS									
Capital balance excluding com.banks deposits	2,188	659	758	921	1,896	2,759	806	1,142	1,681
Com. banks' foreign liabilities, net[6]	581	162	152	238	396	936	353	941	1,313
NBS reserves excl. com. banks deposits	-159	-126	-210	-162	-438	-713	-74	-314	-402
Total foreign loans minus com. banks deposits[7]	1,195	200	298	376	657	1,063	352	457	705
	in % of GDP								
Exports of goods and services	23.1	5.1	9.3	11.6	18.2	25.8	5.9	10.4	12.9
Imports of goods and services	-51.7	-8.9	-16.8	-21.0	-34.2	-48.9	-11.5	-20.3	-24.8
Balance of goods and services	-29.4	-3.7	-7.5	-9.6	-16.1	-23.1	-5.5	-9.7	-11.7
Current account	-12.2	-1.8	-3.0	-3.6	-6.1	-9.4	-3.5	-4.6	-6.0
GDP in euros[8]	18,039	19,510	19,510	19,510	19,510	19,510	21,149	21,149	21,149

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 Montenegro and Kosovo.
4) Excluding IMF.
5) Principal repayments.
6) Commercial banks' long term foreign debt, and inflow of short term foreign loans.
7) Includes long term foreign debt and short term foreign loans.
8) Converted into euros using annual average of monthly rates.

Table P-6. Serbia: Consolidated General Government Fiscal Operations[1)], 2004-2006

	in billions of dinars								in % of GDP		
	2004	2005					2006		2003	2004	2005
	total	total	Q1	Q2	Q3	Q4	Q1	Q2			
I TOTAL REVENUE	**589.4**	**701.6**	**146.0**	**168.4**	**177.0**	**210.2**	**175.3**	**201.6**	**43.1**	**45.0**	**43.1**
o/w: Public revenues excluding government VAT liabilities and offsets with SDF [2),3)]	*580.6*	*679.0*	*141.7*	*163.7*	*172.7*	*200.9*	*176.8*	*199.5*	*43.1*	*44.3*	*41.7*
1. Current revenue	583.4	693.7	144.4	166.6	174.9	207.8	173.2	199.3	42.7	44.5	42.6
Tax revenue	540.8	638.9	135.5	155.0	162.6	185.8	159.4	185.1	39.9	41.3	39.2
Personal income tax	76.9	94.3	19.5	23.5	24.1	27.2	25.8	29.2	7.0	5.9	5.8
Corporate income tax	6.9	10.3	3.9	1.8	1.8	2.8	7.9	2.9	0.5	0.5	0.6
Value added tax and retail sales tax	159.1	215.9	47.4	52.0	54.3	62.2	46.3	57.9	11.5	12.1	13.3
o/w: Net VAT and retail sales tax [2)]	*159.1*	*198.8*	*44.4*	*48.9*	*50.8*	*54.7*	*47.9*	*55.8*	*11.5*	*12.1*	*12.2*
Excises	69.1	71.3	13.2	18.3	19.8	20.0	14.7	21.1	5.3	5.3	4.4
Custom duties	34.3	39.0	7.0	9.3	10.4	12.3	9.6	12.7	2.7	2.6	2.4
Social contributions	159.0	184.0	38.6	44.4	46.4	54.6	48.5	54.1	10.6	12.1	11.3
o/w: contributions excluding offsets with SDF [3)]	*150.2*	*179.1*	*37.2*	*42.9*	*45.7*	*52.8*	*48.4*	*54.1*	*10.6*	*11.5*	*11.0*
Other tax	35.5	24.1	5.9	5.7	5.7	6.8	6.5	7.2	2.3	2.7	1.5
Non-tax revenue	42.6	54.8	8.9	11.5	12.4	22.0	13.8	14.2	2.8	3.3	3.4
2. Capital revenue	6.1	7.9	1.6	1.8	2.1	2.4	2.1	2.3	0.4	0.5	0.5
II TOTAL EXPENDITURE	**-572.0**	**-667.8**	**-141.1**	**-164.5**	**-167.1**	**-195.1**	**-169.7**	**-185.3**	**45.7**	**43.7**	**41.0**
1. Current expenditure	-535.0	-634.8	-135.7	-155.4	-159.4	-184.3	-162.4	-174.5	43.7	40.8	39.0
Wages and salaries	-138.0	-166.3	-36.1	-41.0	-41.5	-47.7	-44.6	-45.6	10.6	10.5	10.2
o/w: wages and salaries excluding severance payments [4)]	*-0.26*	*-1.31*	*-0.1*	*-0.4*	*-0.5*	*-0.2*	*-0.62*	*-0.17*	*..*	*-0.02*	*-0.08*
o/w: Health Insurance Bureau severance payments [5)]	*0.00*	*-2.17*	*0.00*	*0.00*	*0.00*	*-2.17*	*-0.90*	*0.00*	*0.00*	*0.00*	*-0.13*
Expenditure on goods and services	-78.3	-92.2	-17.2	-22.2	-23.1	-29.7	-22.4	-25.1	6.6	6.0	5.7
Interest payments	-24.6	-24.5	-5.9	-5.0	-5.8	-7.8	-2.6	-4.9	1.0	1.9	1.5
Subsidies	-63.8	-54.5	-11.1	-13.5	-14.1	-15.8	-10.1	-12.7	5.3	4.9	3.3
Social transfers	-217.0	-281.5	-62.2	-69.8	-70.8	-78.7	-79.2	-81.6	19.3	16.6	17.3
o/w: pensions [6)]	*-151.1*	*-186.1*	*-41.9*	*-45.8*	*-46.9*	*-51.5*	*-52.7*	*-55.7*	*11.6*	*11.5*	*11.4*
Other current expenditure	-13.3	-15.8	-3.1	-3.9	-4.2	-4.6	-3.5	-4.6	0.9	1.0	1.0
2. Capital expenditure[7)]	-37.0	-33.0	-5.4	-9.0	-7.8	-10.8	-7.3	-10.8	2.0	2.8	2.0
III "OLD" DEBT REPAYMENT AND GOVERNMENT NET LENDING	**-25.2**	**-36.7**	**-2.5**	**-17.4**	**-8.9**	**-7.9**	**-4.4**	**-17.1**	**-2.6**	**1.9**	**2.3**
1. Debt repayment - FFCDs and LRS	-18.9	-21.9	-0.9	-15.1	-5.1	-0.8	-1.0	-14.6	-1.7	1.4	1.3
2. Pensions[8)]	-4.5	-9.8	-1.3	-1.5	-1.4	-5.6	-1.6	-1.7	-0.3	0.3	0.6
3. Budget credits, net[9)]	-1.8	-4.9	-0.3	-0.8	-2.3	-1.5	-1.8	-0.8	-0.8	0.1	0.3
IVa CASH BALANCE (I+II), MoF definition[10)]	**17.5**	**33.8**	**4.9**	**3.9**	**9.8**	**15.2**	**5.6**	**16.3**	**-2.6**	**1.3**	**2.1**
Republic budget	-0.78	26.8	-0.9	4.7	6.0	17.0	-0.7	7.5	-1.4	-0.1	1.6
Pension and Disability Insurance Employee Fund	-0.8	-0.5	-1.0	0.0	1.2	-0.7	-1.5	1.4	-0.9	-0.1	0.0
Pension and Disability Insurance Self-employed Fund	2.7	2.5	0.2	0.1	-0.1	2.3	0.6	1.2	0.1	0.2	0.2
Pension and Disability Insurance Farmers Fund	0.0	0.0	0.2	-0.1	0.0	-0.1	0.1	0.0	0.0	0.0	0.0
Health Insurance Fund	1.4	-0.5	1.3	-0.7	1.1	-2.2	0.9	2.5	0.1	0.1	0.0
National Employment Service	0.8	0.8	-0.3	0.3	-0.4	0.0	0.3	0.8	0.0	0.1	0.0
Vojvodina budget	-0.6	-1.8	0.3	-0.1	-0.1	-1.9	0.7	0.0	0.1	0.0	-0.1
Local government	..	3.8	5.4	0.0	1.3	-2.9	5.6	3.3	..	..	0.2
IVb OVERALL BALANCE (IVa+III.3.), IMF definition, MoF data[11)]	**15.7**	**28.9**	**4.6**	**3.1**	**7.5**	**13.7**	**3.8**	**15.5**	**-3.4**	**1.2**	**1.8**
IVc ANALYTICAL BALANCE (I+II+III), FREN's definiton[12)]	**-7.7**	**-2.9**	**2.4**	**-13.4**	**0.8**	**7.3**	**1.2**	**-0.8**	**-5.5**	**-0.6**	**-0.2**
V FINANCING (FREN's definition)	**23.9**	**27.8**	**12.9**	**-3.9**	**11.8**	**7.0**	**11.7**	**1.4**	**4.2**	**1.8**	**1.7**
Grants[13)]	0.9	0.2	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.0
Privatization receipts[14)]	14.2	21.7	12.1	-2.1	14.0	-2.3	9.1	1.3	3.0	1.1	1.3
Domestic financing[15)]	5.9	5.0	1.5	1.7	0.7	1.1	4.6	0.2	0.2	0.5	0.3
Foreign financing[16)]	7.4	6.7	0.0	1.5	1.9	3.3	-0.4	1.4	0.9	0.6	0.4
Expenditures for principal repayments to domestic and foreign creditors[17)]	-4.5	-5.8	-0.7	-5.0	-4.9	4.8	-1.7	-1.7	-0.1	-0.3	-0.4
									0.0	0.0	0.0
VI ACCOUNT BALANCE CHANGE (IVc+V)	**16.2**	**24.9**	**15.3**	**-17.3**	**12.6**	**14.3**	**12.9**	**0.6**	**-1.3**	**1.2**	**1.5**
MEMORANDUM ITEMS											
Government net position in banking system, change:											
- based on recorded fiscal flows (IVc+V)	16.2	24.9	15.3	-17.3	12.6	14.3	12.9	0.6	-1.3	1.2	1.5
- based on commercial bank's financial reports (NBS data)	-7.0	38.1	20.2	16.0	-9.5	11.4	10.5	5.1	0.7	-0.5	2.3
Enterprises' claims on VAT (FREN's estimate)[18)]	...	17.1	3.0	3.1	3.5	7.5	-1.6	2.1	...	...	...
Offsets with SDF[19)]	8.8	5.5	1.4	1.6	0.7	1.8	0.1	0	...	0.7	0.3
IVb Total fiscal result, IMF data[20)]	8.0	25.4	..	..	..	..	..	..	-2.7	0.6	1.6
Investment projects (FLIPs) , IMF data[21)]	-8.3	-6.1	..	..	..	..	..	..	-0.5	-0.6	-0.4

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 2007 with 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 (see footnote 19).

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.

18) FREN's estimate, based on: unofficial information that tax credit of enterprises at end-2005 amounted to around 11 billion, and VAT refund flows presented in the PFB.

19) These are offsets of the Serbian Pension and Disability Insurance Funds debt to the Serbian Development Fund and contribution arrears of companies that are debtors of the Serbian Development Fund.

20) Line item "Overall balance, excluding project loans", Table 8. Serbia: General Government Fiscal Operations, 2003-06, INF Country Report No. 06/58, February 2006, page 37.

21) FLIPs - Foreign loan financed investment projects, data from IMF Country Report No. 06/58. According to the IMF's methodology, FLIPs are classified as part of capital expenditure, while, according to the methodology used by the Ministry of Finance they are not. A comparison with the IMF data, however, suggests that this item may have been included in official capital expenditure figures in 2004 after all.

Note: The figures do not always sum up due to rounding off.

Table P-7. Serbia: Monetary Survey, 2004–2006

	2004	2005				2006			
	Dec	Mar	Jun	Sep	Dec	Mar	May	Jun	July
					in millions of dinars, end of period[1]				
Net Foreign Assets (NFA)	**141,120**	**144,478**	**163,230**	**193,028**	**194,397**	**179,886**	**185,602**	**209,994**	**216,773**
Net Foreign Assets (NFA) (in euros)	1,766	1,783	1,972	2,279	2,274	2,070	2,118	2,442	2,550
Assets	298,778	319,616	356,821	411,422	474,205	502,260	575,697	586,263	584,865
Assets (in euros)	*3,740*	*3,943*	*4,311*	*4,857*	*5,546*	*5,780*	*6,569*	*6,817*	*6,881*
NBS	244,837	272,654	302,596	358,226	420,769	461,414	538,365	545,592	554,015
NBS (in euros)	*3,065*	*3,364*	*3,656*	*4,229*	*4,921*	*5,310*	*6,143*	*6,344*	*6,518*
Commercial banks	53,941	46,962	54,225	53,196	53,436	40,846	37,332	40,671	30,850
Commercial banks (in euros)	*675*	*579*	*655*	*628*	*625*	*470*	*426*	*473*	*363*
Liabilities (-)	-157,658	-175,138	-193,591	-218,394	-279,808	-322,374	-390,095	-376,269	-368,092
Liabilities (-) (in euros)	*-1,973*	*-2,161*	*-2,339*	*-2,578*	*-3,273*	*-3,710*	*-4,451*	*-4,375*	*-4,330*
NBS	-74,433	-76,969	-78,810	-87,305	-88,684	-93,292	-91,027	-74,099	-71,218
NBS (in euros)	*-932*	*-950*	*-952*	*-1,031*	*-1,037*	*-1,074*	*-1,039*	*-862*	*-838*
Commercial banks	-83,225	-98,169	-114,781	-131,089	-191,124	-229,082	-299,068	-302,170	-296,874
Commercial banks (in euros)	*-1,042*	*-1,211*	*-1,387*	*-1,548*	*-2,235*	*-2,636*	*-3,413*	*-3,514*	*-3,493*
Net Domestic Assets (NDA)	**182,147**	**187,226**	**211,299**	**229,820**	**265,051**	**294,481**	**320,808**	**307,761**	**306,495**
Domestic credits	268,158	281,113	311,930	343,784	383,168	426,703	452,989	462,547	452,769
Net credits to goverment[2]	4,866	-9,400	-4,098	-12,510	-30,447	-33,667	-40,428	-36,464	-46,835
Credits	42,915	44,388	39,207	41,172	37,371	37,722	35,069	35,356	31,638
Dinar credits	28,991	29,304	24,352	22,379	20,099	17,307	16,066	15,269	14,827
NBS	21,427	21,235	16,636	16,013	15,208	13,707	13,707	13,446	13,443
Commercial banks	7,564	8,069	7,716	6,366	4,891	3,600	2,359	1,823	1,384
Fx credits	13,924	15,084	14,855	18,793	17,272	20,415	19,003	20,087	16,811
Fx credits (in euros)	*174*	*186*	*179*	*222*	*202*	*235*	*217*	*234*	*198*
NBS	0	0	0	0	180	183	185	181	179
NBS (in euros)	*0*	*0*	*0*	*0*	*2*	*2*	*2*	*2*	*2*
Commercial banks	13,924	15,084	14,855	18,793	17,092	20,232	18,818	19,906	16,632
Commercial banks (in euros)	*174*	*186*	*179*	*222*	*200*	*233*	*215*	*231*	*196*
Deposits (-)	-38,049	-53,788	-43,305	-53,682	-67,818	-71,389	-75,497	-71,820	-78,473
Dinar deposits	-24,485	-32,024	-29,827	-34,529	-43,485	-43,808	-53,946	-55,000	-54,581
NBS	-22,966	-30,234	-28,219	-32,783	-40,708	-39,437	-49,246	-49,781	-49,358
Commercial banks	-1,519	-1,790	-1,608	-1,746	-2,777	-4,371	-4,700	-5,222	-5,223
Fx deposits	-13,564	-21,764	-13,478	-19,153	-24,333	-27,581	-21,551	-16,817	-23,892
Fx deposits (in euros)	*-170*	*-269*	*-163*	*-226*	*-285*	*-317*	*-246*	*-196*	*-281*
NBS	-9,989	-18,088	-6,571	-14,392	-18,806	-21,464	-12,618	-10,587	-18,344
NBS (in euros)	*-125*	*-223*	*-79*	*-170*	*-220*	*-247*	*-144*	*-123*	*-216*
Commercial banks	-3,575	-3,676	-6,907	-4,761	-5,527	-6,117	-8,933	-6,230	-5,548
Commercial banks (in euros)	*-45*	*-45*	*-83*	*-56*	*-65*	*-70*	*-102*	*-72*	*-65*
Credit to the non-government sector	263,292	290,513	316,028	356,294	413,615	460,370	493,417	499,011	499,604
Households	64,441	69,844	82,569	102,707	124,930	141,352	157,309	161,981	166,608
Enterprises	198,851	220,669	233,459	253,587	288,685	319,018	336,108	337,030	332,996
Other item, net[3]	-86,011	-93,887	-100,631	-113,964	-118,117	-132,222	-132,181	-154,786	-146,274
o/w: Capital and Reserves (-)	-118,891	-127,754	-140,174	-147,854	-156,920	-177,927	-196,271	-206,330	-208,231
NBS	-15,738	-15,735	-22,565	-22,562	-22,573	-22,570	-37,396	-37,395	-37,396
Commercial banks	-103,153	-112,019	-117,609	-125,292	-134,347	-155,357	-158,875	-168,935	-170,835
Broad money: M2[4]	**323,267**	**331,704**	**374,529**	**422,848**	**459,448**	**474,367**	**506,410**	**517,755**	**523,268**
Dinar denominated M2[5]	146,604	144,144	160,778	180,452	192,758	190,872	207,982	210,046	211,616
M1	111,235	110,049	120,456	134,514	144,884	137,741	152,301	148,510	147,457
Currency outside banks	45,165	39,368	42,316	47,283	53,650	45,825	46,353	48,926	48,970
Demand deposits (households and economy)	66,070	70,681	78,140	87,231	91,234	91,916	105,948	99,584	98,487
Time and savings deposits (households and economy)	35,369	34,095	40,322	45,938	47,874	53,131	55,681	61,536	64,159
Fx deposits (households and economy)	176,663	187,560	213,751	242,396	266,690	283,495	298,428	307,709	311,652
Fx deposits (households and economy), in euros	*2,211*	*2,314*	*2,582*	*2,862*	*3,119*	*3,262*	*3,405*	*3,578*	*3,666*
o/w: households[6]	110,714	124,107	141,477	162,667	190,136	207,609	218,557	222,105	222,707
o/w: households [6] (in euros)	*1,386*	*1,531*	*1,709*	*1,921*	*2,224*	*2,389*	*2,494*	*2,583*	*2,620*

Source: FREN, 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 enterprises; and time and savings fx deposits of households and enterprises. Enterprises also include non-profit and other non-government entities.

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.

Analytical Appendix

Table P-8. Serbia: Commercial Banks Balance Sheet, 2004–2006

	2004	2005				2006			
	Dec	Mar	Jun	Sep	Dec	Mar	May	Jun	July
				in millions dinars, end of period[1]					
Net foreign reserves	**-29,284**	**-51,207**	**-60,556**	**-77,893**	**-137,688**	**-188,236**	**-261,736**	**-261,499**	**-266,024**
Net foreign reserves (in euros)	-367	-632	-732	-920	-1,610	-2,166	-2,987	-3,041	-3,130
Gross foreign reserves	53,941	46,962	54,225	53,196	53,436	40,846	*37,332*	40,671	*30,850*
Gross foreign reserves (in euros)	*675*	*579*	*655*	*628*	*625*	*470*	*426*	*473*	*363*
Gross reserve liabilities (-)	-83,225	-98,169	-114,781	-131,089	-191,124	-229,082	*-299,068*	-302,170	*-296,874*
Gross reserve liabilities (-) (n euros)	*-1,042*	*-1,211*	*-1,387*	*-1,548*	*-2,235*	*-2,636*	*-3,413*	*-3,514*	*-3,493*
Net Domestic Assets (NDA)	**29,284**	**51,207**	**60,556**	**77,893**	**137,688**	**188,236**	**261,736**	**261,499**	**266,024**
Domestic credits	105,021	126,333	143,467	169,729	233,400	295,040	*370,163*	395,203	*399,631*
Net claims on goverment[2]	8,406	9,121	2,022	6,177	4,318	2,791	*-1,099*	-4,882	*-7,939*
Claims	22,756	24,262	23,743	26,578	24,131	26,239	*23,773*	24,498	*21,119*
Dinar credits	8,832	9,178	8,888	7,785	7,039	6,007	*4,955*	4,592	*4,487*
Fx credits	13,924	15,084	14,855	18,793	17,092	20,232	*18,818*	19,906	*16,632*
Fx credits (in euros)	*174*	*186*	*179*	*222*	*200*	*233*	*215*	*231*	*196*
Liabilities (-)	-14,350	-15,141	-21,721	-20,401	-19,813	-23,448	*-24,872*	-29,380	*-29,058*
Dinar deposits	-10,753	-11,431	-14,784	-15,599	-14,247	-17,287	*-15,921*	-23,138	*-23,495*
Fx deposits	-3,597	-3,710	-6,937	-4,802	-5,566	-6,161	*-8,951*	-6,242	*-5,563*
Fx deposits (in euros)	*-45*	*-46*	*-84*	*-57*	*-65*	*-71*	*-102*	*-73*	*-65*
Net claims on NBS	97,570	99,401	136,504	159,417	204,890	235,988	*309,019*	340,147	*353,818*
Claims	99,325	101,154	137,023	160,153	205,625	236,445	*309,602*	341,953	*354,248*
Cash	4,281	3,812	4,430	4,822	7,053	6,793	*7,755*	6,799	*9,913*
Required reserves	20,953	20,676	21,855	24,673	26,046	26,387	*28,266*	33,352	*34,094*
Excess reserves	6,569	1,766	2,790	3,349	7,294	-1,505	*-2,578*	-127	*1,178*
Deposits (-)	66,013	71,694	90,317	107,501	148,337	173,476	*229,530*	245,649	*248,532*
o/w: dinar deposits	156	95	140	120	155	147	*145*	116	*123*
NBS bills/repo [3]	1,509	3,206	17,631	19,808	16,895	31,294	*46,629*	56,280	*60,531*
Liabilities (-)	-1,755	-1,753	-519	-736	-735	-457	*-583*	-1,806	*-430*
Net claims on the rest of the economy	-955	17,811	4,941	4,135	24,192	56,261	*62,243*	59,938	*53,752*
Claims	261,826	289,156	314,487	354,522	411,171	457,662	*490,525*	495,943	*496,197*
Households	64,283	69,616	82,293	102,435	124,651	141,069	*157,029*	161,700	*166,329*
Long-term claims	48,848	53,801	66,112	84,542	103,234	115,492	*127,942*	132,102	*134,790*
Short-term claims	15,435	15,815	16,181	17,893	21,417	25,577	*29,087*	29,598	*31,539*
Enterprises	197,543	219,540	232,194	252,087	286,520	316,593	*333,496*	334,243	*329,868*
Long-term claims	87,347	90,442	98,695	103,549	124,713	137,844	*146,081*	149,074	*150,897*
Short-term claims	110,196	129,098	133,499	148,538	161,799	178,749	*187,415*	185,099	*178,972*
Liabilities (-)	-262,781	-271,345	-309,546	-350,387	-386,979	-401,401	*-428,282*	-436,005	*-442,445*
Dinar deposits	-87,037	-84,710	-96,889	-109,007	-121,474	-119,500	*-132,079*	-130,786	*-132,044*
Households	-12,737	-12,634	-14,970	-16,028	-16,564	-17,712	*-18,047*	-21,304	*-19,468*
Enterprises	-74,300	-72,076	-81,919	-92,979	-104,910	-101,788	*-114,032*	-109,482	*-112,576*
Fx deposits	-175,744	-186,635	-212,657	-241,380	-265,505	-281,901	*-296,203*	-305,219	*-310,401*
Households[4]	-110,714	-124,107	-141,477	-162,667	-190,136	-207,609	*-218,557*	-222,105	*-222,707*
Households (in euros)	*-1,386*	*-1,531*	*-1,709*	*-1,921*	*-2,224*	*-2,389*	*-2,494*	*-2,583*	*-2,620*
Enterprises	-65,030	-62,528	-71,180	-78,713	-75,369	-74,292	*-77,646*	-83,114	*-87,694*
Enterprises (in euros)	*-814*	*-771*	*-860*	*-929*	*-882*	*-855*	*-886*	*-966*	*-1,032*
Other item, net[5]	**-75,737**	**-75,126**	**-82,911**	**-91,836**	**-95,712**	**-106,804**	**-108,427**	**-133,704**	**-133,607**
o/w: capital and reserves	-100,865	-108,453	-113,967	-119,871	-123,677	-138,281	*-141,654*	-168,935	*-170,835*

Source: FREN and NBS: Statistical Bulletin
1) Unless otherwise indicated.
2) Government include: Republic level and cities and municipalities.
3) Repo transactions include treasury bills and NBS bills, which were initially substituted by T-bills in January 2005, only to be introduced anew nine months later.
4) Household savings.
5) Includes: Other assets: Deposits of enterprises undergoing liquidation; Capital and reserves; Other liabilities; and Interbank, net.

Table P-9. Serbia: National Bank of Serbia Balance Sheet, 2004–2006

	2004	2005				2006			
	Dec	Mar	Jun	Sep	Dec	Mar	May	Jun	July
	in millions dinars, end of period[1]								
Foreign assets , net	**104,530**	**124,514**	**134,123**	**164,055**	**184,618**	**194,752**	**217,830**	**225,710**	**234,312**
Foreign assets, net (in euros)	1,308	1,536	1,620	1,937	2,159	2,241	2,486	2,625	2,823
Gross foreign reserves	244,837	272,654	302,596	358,226	420,769	461,414	538,365	545,592	554,015
Gross foreign reserves (in euros)	3,065	3,364	3,656	4,229	4,921	5,310	6,143	6,344	6,675
Gross foreign liabilities (-)	-140,307	-148,140	-168,473	-194,171	-236,151	-266,662	-320,535	-319,882	-319,703
Gross foreign liabilities (-) (in euros)	-1,756	-1,828	-2,035	-2,292	-2,762	-3,069	-3,657	-3,720	-3,852
o/w: fx deposits of commercial banks	-65,874	-71,171	-89,663	-106,866	-147,467	-173,370	-229,508	-245,783	-248,485
o/w: fx deposits of commercial banks (in euros)	-825	-878	-1,083	-1,262	-1,725	-1,995	-2,619	-2,858	-2,994
Net Domestic Assets (NDA)	**-27,561**	**-58,814**	**-62,632**	**-83,861**	**-90,399**	**-116,603**	**-137,964**	**-136,786**	**-140,145**
Domestic credits	-13,944	-39,936	-41,262	-59,163	-63,828	-87,498	-109,490	-110,773	-123,480
Net claims on government[)	-16,630	-37,448	-26,469	-41,230	-50,049	-59,002	-65,459	-58,003	-65,105
Claims	21,427	21,235	16,636	16,013	15,388	13,890	13,892	13,627	13,622
o/w: other dinar credits	21,427	21,235	16,636	16,013	15,208	13,707	13,707	13,446	13,443
Deposits (-)	-38,057	-58,683	-43,105	-57,243	-65,437	-72,892	-79,351	-71,630	-78,727
Dinar deposits	-28,068	-40,595	-36,534	-42,851	-46,631	-51,428	-66,733	-61,043	-60,383
o/w: municipalities	-5,102	-10,361	-8,315	-10,068	-5,923	-11,991	-17,487	-11,262	-11,025
Fx deposits	-9,989	-18,088	-6,571	-14,392	-18,806	-21,464	-12,618	-10,587	-18,344
Fx deposits (in euros)	-125	-223	-79	-170	-220	-247	-144	-123	-221
Net claims on banks	2,554	-2,672	-15,080	-18,045	-13,834	-28,157	-43,485	-51,913	-57,374
Claims	4,594	3,644	2,671	2,907	3,126	3,012	2,949	4,172	2,895
o/w: other dinar credits	3,007	1,576	371	505	856	409	417	1,625	433
o/w: Fx credits	1,587	2,068	2,300	2,402	2,270	2,603	2,532	2,547	2,462
o/w: Fx credits (in euros)	20	26	28	28	27	30	29	30	30
Liabilities (-)	-2,040	-6,316	-17,751	-20,952	-16,960	-31,169	-46,434	-56,085	-60,269
o/w: NBS bills, repo transactions	-1,752	-3,206	-17,607	-19,804	-16,828	-31,087	-46,344	-55,981	-60,164
Net claim on the rest of the economy	132	184	287	112	55	-339	-546	-857	-1,001
Claims	198	248	369	353	296	301	296	299	304
Dinar and fx credits	198	248	369	353	296	301	296	299	304
Liabilities (-)	-66	-64	-82	-241	-241	-640	-842	-1,156	-1,305
Dinar deposits	-66	-64	-82	-241	-241	-640	-842	-1,156	-1,305
Other items, net[3]	-13,617	-18,878	-21,370	-24,698	-26,571	-29,105	-28,474	-26,013	-16,665
Reserve money (H)	**76,969**	**65,700**	**71,491**	**80,194**	**94,219**	**78,149**	**79,866**	**88,924**	**94,167**
Currency in circulation	45,165	39,368	42,316	47,283	53,650	45,825	46,353	48,926	48,970
Commercial bank's reserves	31,804	26,332	29,175	32,911	40,569	32,324	33,513	39,998	45,197
Required reserves allocated	20,953	20,676	21,855	24,673	26,045	26,387	28,266	33,352	34,094
Excess reserves	10,851	5,656	7,320	8,238	14,524	5,937	5,247	6,646	11,103
Overnight deposits	5,076	2,825	3,004	3,394	4,759	590	583	2,321	2,227
Giro account and cash	5,775	2,831	4,316	4,844	9,765	5,347	4,664	4,325	8,876

Source: FREN, 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.