

**SERBIA`S ECONOMY:
THE STYLIZED FACTS**

VOLUME TWO

Appendices I-V

Belgrade

January 31, 2006

Authors:

Kori Udovički
Stojan Stamenković
Miladin Kovačević
Ivan Nikolić
Pavle Petrović
Katarina Stanić
Duško Vasljević
Danko Brčerević
Dejan Kovjениć
Jelena Ždrale
Goran Radosavljević
Vuk Đoković
Boris Najman
Gerard Duchêne

Contributors:

Tijana Ječmenica
Aleksandra Nojković
Marina Vojvodičan
Dragiša Bjeloglav

Special thanks to CEVES staff for valuable logistic and analytical assistance and to the institutions that have supported this study: USAID, the Fund for an Open Society-Serbia and the Royal Netherlands Embassy.

TABLE OF CONTENTS

APPENDIX ONE - GROSS VALUE ADDED OF SERBIA `S ENTERPRISE SECTOR: 2001-2004	5
I ANALYSIS OF GROSS VALUE ADDED	6
1. INTRODUCTORY NOTES	6
2. DEFINITIONS OF INDICATORS USED	7
3. ENTERPRISE BREAKDOWNS CONSIDERED	8
II MAIN FINDINGS	10
1. THE BEHAVIOR OF GROSS VALUE ADDED (VA): 2001-2004	10
2. PRODUCTIVITY BY TYPE OF OWNERSHIP	13
3. EMPLOYMENT AND LABOR COSTS	19
4. BEHAVIOR OF VA IN PRIVATIZED ENTERPRISES	21
5. PRODUCTIVITY AND LABOR COSTS	25
6. PRODUCTIVITY IN PRIVATIZED ENTERPRISES	27
7. PRODUCTIVITY BY TYPES OF OWNERSHIP – RECAPITULATED	30
8. PRODUCTIVITY BY SIZE OF ENTERPRISE	31
III IN CONCLUSION	33
1. COMMENTS ON METHODOLOGY AND ITS LIMITATIONS	33
2. SUMMARIZED CONCLUSIONS THAT APPEAR INDUBITABLE	34
IV DATA ANNEX	37
APPENDIX TWO – MACROECONOMIC DEVELOPMENTS IN SERBIA: 2001-2004	62
I PRICE STABILIZATION AND RECENT ACCELERATION: ASSESSMENT AND SUMMARY	63
1. EXCHANGE-RATE-BASED STABILIZATION: 2001-2002	63
2. RESURGENCE OF INFLATION: EXPANDING AGGREGATE DEMAND	65
II MACROECONOMIC DEVELOPMENTS: STYLIZED FACTS	67
1. FISCAL ADJUSTMENTS	67
2. MONETARY DEVELOPMENTS	72
3. PRICES, EXCHANGE RATE AND WAGES	82
APPENDIX THREE - ANALYSIS OF INVESTMENT IN SERBIA IN 2003 AND 2004	89
I EXECUTIVE SUMMARY	90
II INTRODUCTION	92
III TECHNICAL ANALYSIS	95
1. VALUE OF CONSTRUCTION WORKS	95
2. VALUE OF INVESTMENTS IN EQUIPMENT	101
3. OTHER INVESTMENTS	107
4. FINAL TABLES FROM THE TECHNICAL ANALYSIS	108
IV INSTITUTIONAL ANALYSIS	109
1. SUMMARY	109
2. ANALYSIS	109
3. ESTIMATE OF THE PRIVATE SECTOR	112
4. INSTITUTIONAL AND TECHNICAL ANALYSES COMPARED	114

V CONCLUSION	116
VI REPORTS ON VISITS TO COMPANIES	118
1. SUMMARY	118
2. REPORTS ON VISITS	118
VII LIST OF PERSONS INTERVIEWED	121
APPENDIX FOUR - SERBIA: KEY MACROECONOMIC DATA, 2001-2005.....	122
I PRICES AND EXCHANGE RATES	123
1. PRICES	124
2. EXCHANGE RATES	129
II PRODUCTION STATISTICS	134
1. GROSS DOMESTIC PRODUCT IN CONSTANT PRICES	135
2. INDEX OF INDUSTRIAL PRODUCTION	139
3. CONSTRUCTION IN SERBIA	156
4. TRANSPORT, STORAGE AND COMMUNICATIONS SERVICES	168
5. INDEX OF AGRICULTURAL PRODUCTION	173
III WAGES AND REGISTERED EMPLOYMENT	177
IV EXTERNAL SECTOR: BALANCE OF PAYMENTS	186
V MONETARY STATISTICS.....	206
1. BALANCE SHEET OF NBS	209
2. COMMERCIAL BANKS BALANCE SHEET	213
3. MONETARY SURVEY OF SERBIA.....	217
VI FISCAL STATISTICS	221
APPENDIX FIVE - AN ASSESSMENT OF THE HOUSEHOLD SECTOR ACCOUNTS IN SERBIA, 2003	232
I INTRODUCTION	233
II THE CONSUMPTION SIDE OF THE HH ACCOUNT: A COMPARISON OF SNA AND HHBS ACCOUNTS	235
III WHAT IS THE RELATION OF LSMS WITH THE PREVIOUS SET OF DATA?.....	240
IV THE RESOURCES SIDE OF THE HOUSEHOLD ACCOUNTS: A LOOK INTO WAGES.....	242
V CONCLUSION.....	244

Serbia's Economy: The Stylized Facts

APPENDIX ONE

Gross Value Added of Serbia's Enterprise Sector: 2001-2004

I ANALYSIS OF GROSS VALUE ADDED

1. Introductory notes

1. The purpose of this research is to analyze the value added of the enterprise sector of Serbia, as recorded from financial reports submitted to the Solvency Center in 2001-2004, and its behavior with regard to forms of ownership, size and activities, and then assess the impact of ownership structure and its changes on economic growth, productivity, employment and labor costs.

2. Profitability and changes in motives to report profits are not the central issue here, but they could prompt other research focusing on profit and capital.

3. At this stage, conclusions cannot be definitive or comprehensive. They are presented only when indicated by the data. When this is not the case, additional analyses are required and the questions are left open.

4. The main data sources were the annual financial statements for the years from 2001 to 2004. Since the 2004 statements were done in accordance with international accounting standards (IAS), comparability with 2003 had to be established with the aid of appropriate keys. Certain indicators of the comparability of 2004 with previous years may be incomplete.¹ The years 2001 and 2002 are comparable also by coverage as the 2001 results are shown in the 2002 financial statements for the sake of comparison.

5. When IAS were introduced, data on the ownership structure of capital was not included in the balance sheets; nor was it presented in the annex. This is not a problem in developed economies from where these standards were taken over, but the information is crucial in transitional economies undergoing rapid ownership changes. This is why changes in selected indicators in dependence on the majority share of private and social capital and the concentration of private ownership (small shareholders or majority owners) within the mixed sector could not be assessed here.

6. Additional data was obtained by pairing with the Commercial Registers Agency and the Privatization Agency's data base. When pairing the Privatization Agency data and the data from the financial statements, the aggregated data on certain groups of enterprises (total privatized enterprises and by year, complementary group excluding the privatized, majority share capital), does not provide an up to date response with regard to the type of ownership (which is shown by the Solvency Center). This is why, for instance, the group of privatized enterprises consists of enterprises in different types of ownership.

¹ The comparability problem is particularly pronounced in the case of salaries and wages. The significant growth of the gross wages and net wages shown in 2004 was the result of methodology, i.e. implementation of the new accounts framework with a substantively enlarged group of accounts number 52 (wages, compensation for lost wages and other expenditures on personnel). From the 55 group of accounts (non-material costs) under the old accounts framework, the part pertaining to the costs of contributions payable by employers and the costs of other payments (in contracts for intellectual services, hiring of temporary and occasional employees) were transferred to the 52 group of accounts. The larger volume of wages can also be explained with the large severance payments in 2004, which are also included in the value of gross wages and salaries and cannot be set out separately. Therefore, comparability of wages data shown with 2003 is not complete as, although it was possible to exclude the costs of contributions payable by employers, this was not the case with costs of remuneration on other bases, which are not itemized in the annual accounts.

2. Definitions of indicators used

- The basic indicator is **gross value added** (VA)

Calculating VA

Gross VA by definition represents the difference between the value of production, i.e. output (P), and the value of inter-phase expenditure (MF):

$$\mathbf{VA=P-MF,}$$

with P denoting total sales (PP) less the acquisition cost of goods purchased for resale (NV). It follows that

$$\mathbf{VA=PP- NV-MF}$$

On the basis of the financial statements, VA is calculated as the difference between total sales and a part of operating expenditures (operating expenditures minus the costs of wages, depreciation, reservation, taxes and contributions. Thus reduced, operating expenditures represent the sum of the costs of materials, energy and fuel (the largest item), and the acquisition cost of goods purchased for resale.

Total sales includes revenue from the sale of goods and services at home and abroad, revenue from premiums and subsidies, revenue from the activation of outputs and goods, increase in the value of output stocks minus the decline in the value of stocks, and other total sales.

$$PP = PRU+PS+PA+SZ+OP$$

Where:

PRU - sale of goods, products and services at home and abroad

PS - revenue from subsidies

PA - revenue from activation of inputs and goods

PZ - increase in the value of input stocks

SZ - reduction of the value of input stocks

OP - other revenue

Inter-phase spending includes the costs of materials and other operating expenditures (excluding taxes and contributions). The figure is arrived at via the annual financial statements when the costs of wages and other payments (TZ), depreciation and reservation (AM), and other expenditures relating to costs of taxes and contributions are subtracted from operating expenditures.

$$\mathbf{MF=PR-(AM+TZ-DD)}$$

PR - business expenditures

AM - depreciation and reservation

TZ - cost of wages

DD - part of other spending (only costs of taxes and contributions)

Thus obtained, VA represents value added in core prices, including all subsidies and excluding all taxes on products.

In order to assess the effect of subsidies, the VA of the group under review minus the subsidies for that group of enterprises, or **VA-s**, will be shown separately.

Gross domestic product (GDP) in market prices at the level of the whole economy is the sum of all value added (in core prices), increased by all taxes on products, including customs duties, and reduced by all subsidies on products.

VA per worker is obtained as the sum of VA and the number of workers at the end of the month.

- **Other basic indicators:**

- **number of employees (NI)**
- **gross wages and salaries (WS)**
- **productivity (P)**, defined as value added per worker ($P=VA/NI$)
- **labor costs (LC)**, defined by the coefficient representing the ratio of gross wages and salaries to VA ($LC=WS/VA$).

Other indicators were also analyzed (net wages and salaries, net earnings per employee, net profit or loss), but they are marginal, either because they were of secondary importance for this analysis or because of their unreliability.

- **Coverage**

All enterprises submitting financial statements are covered. As the following table shows, their number has increased:

Table A1-1. Number of Enterprises, 2001-2004

Year	2001	2002	2003	2004
Total enterprises and cooperatives	66,878	66,878	73,829	75,477

The year 2001 is shown on the basis of comparable data for that year in the annual financial statements for 2002; hence the number of enterprises encompassed is the same in both those years. No information is available on the structure of the increase in the number of enterprises in 2003 and 2004, i.e. to what extent coverage was expanded and how many new enterprises there were. Cooperatives are not included in the analysis because of their unclear ownership and because their share in VA is only about 1%.

3. Enterprise Breakdowns Considered

Basic classification of enterprises enables observation in matrix form. All the enterprises are classified:

1. By *size*, in TOTAL and:
 - 1.1. large (over 250 employees²);
 - 1.2. medium (between 51 and 250 employees);
 - 1.3. small (up to 50 employees).
2. By *ownership*, in TOTAL³ and:
 - 2.1. social sector;
 - 2.2. private sector;
 - 2.3. mixed sector,
 - 2.4. state sector.

² Additional criteria relating to capital exist, but do not have a significant effect on this classification.

³ The cooperatives sector is excluded since its share in VA in 2001 was 1%, in 2002 and 2003 0.8%, and in 2004 1.2%.

3. Segregation by ownership is further elaborated by separating out those enterprises which were *privatized* in the 2002-2004 period (according to the Privatization Agency's list), and which are also classified by size, in TOTAL and:

- 3.1. privatized in 2002;
- 3.2. privatized in 2003;
- 3.3. privatized in 2004.

The group of enterprises *excluding privatized* enterprises is complementary to this group.

4. Enterprises as a whole and according to the following activities were observed in all the cited classifications:

4.1. Industry and mining in total and their sectors:

- 4.1.1. Mining and quarrying,
- 4.1.2. Manufacturing industry,
- 4.1.3. Production of electricity, gas and water,

and divided into industrial sectors by separating out a total of 11 enterprises (production of fibers and fabrics and of clothes are taken together) with a joint share in total industry of 64.3% (plus two totals - for the remaining sections in the sectors of *mining and quarrying* and the *manufacturing industry*).

Where privatized enterprises are concerned, two sectors (mining and quarrying and the manufacturing industry) have been separated, and nine sections whose total VA in 2004 made up 82.8% of the VA of all privatized industrial enterprises (84.7% in the manufacturing industry).

4.2. Trade total and segregated into:

- 4.2.1. wholesale trade,
- 4.2.2. retail trade, excluding vehicles,
- 4.2.3. sale of oil products
- 4.2.4. other.

4.3. Construction

4.4. Other KD activities .

5. A group of **public enterprises** is treated separately and includes:

- 5.1. eight public enterprises under IMF monitoring (republican)
- 5.2. other public enterprises (local).

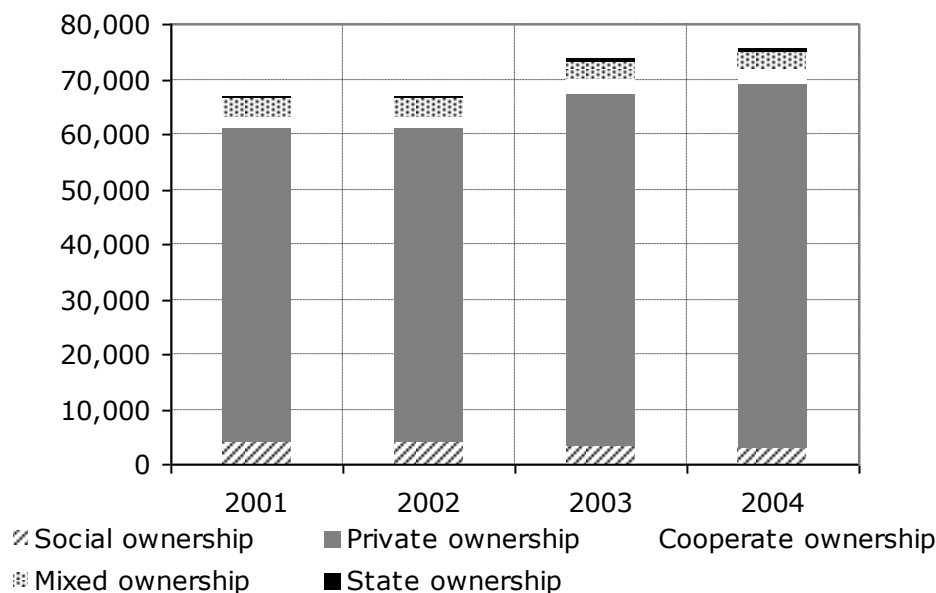
II MAIN FINDINGS

1. The Behavior of Gross Value Added (VA): 2001-2004

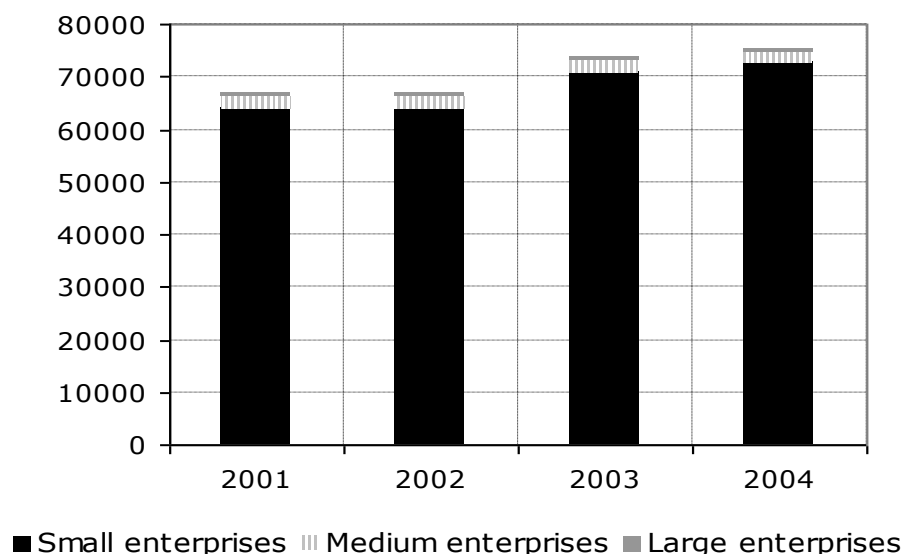
Total - all enterprises

The total number of enterprises increased significantly in 2003 and 2004, by 10.4% and 2.2% respectively. From 66,900 in 2002, their number rose to 75,5 thousand in 2004. Three factors possibly led to this rise: a) expansion of coverage of enterprises that submit financial statements; b) more newly established enterprises than closures; and c) the fragmentation of major enterprises. The third factor may be excluded as crucial (though there is a tendency toward decomposing major companies in preparation for their privatization), as small enterprises accounted for the entire increase in numbers in 2003 and 2004.

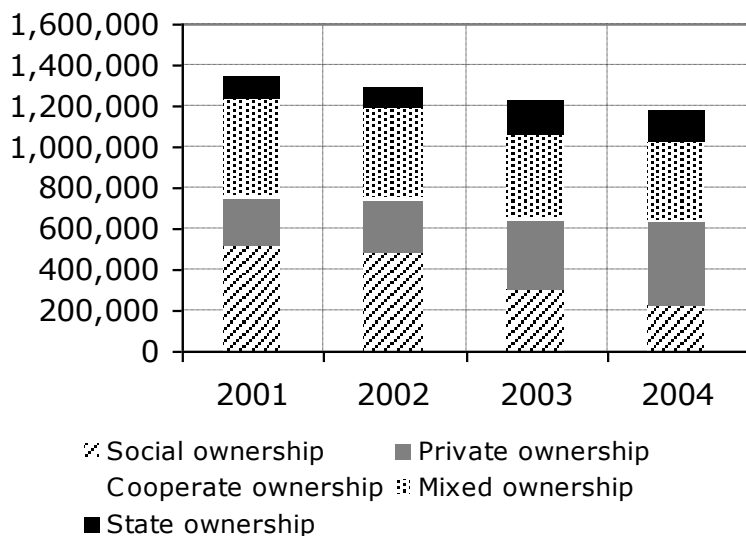
Graph A1-2. Number of Enterprises by Type of Ownership



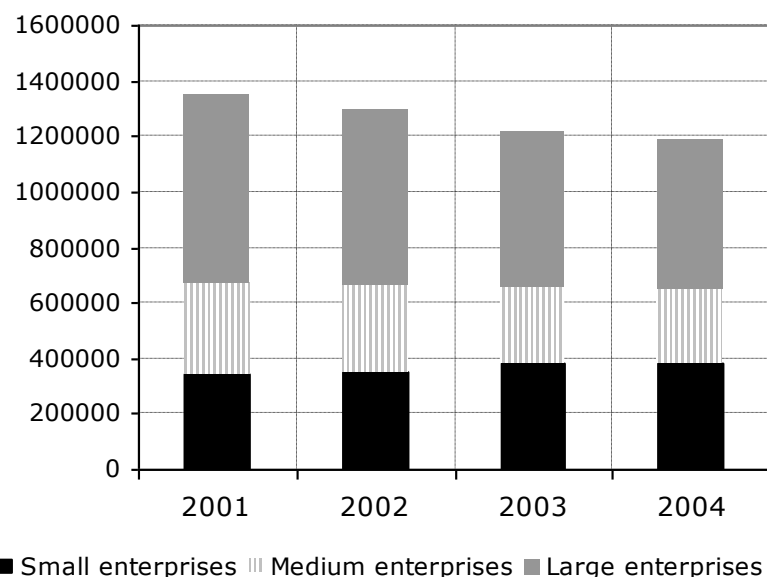
Graph A1-3. Number of Enterprises by Size



Graph A1-4. Number of Employees by Type of Ownership



Graph A1-5. Number of Employees by Size of Enterprise



Comparison of the growth rates of value added including subsidies (VA), and value added excluding subsidies (VA-s) at the level of all encompassed enterprises brings out that the index VA-s (previous year=100) was in 2002 below the VA index, while the reverse was true in 2003 and 2004: VA-s grew faster than VA thanks to the slower growth of subsidies to state enterprises. In the private sector, the VA and VA-s indices were equal in all years. There were no major differences in the indices in the social and mixed sectors, but in 2001 and 2002 subsidies accounted for approximately half the VA, and about one quarter on the average in 2003 and 2004. Where small enterprises are concerned, the indices in 2003 were almost equal (the difference was only 0.15%), and in 2004, the VA-s index was higher - VA excluding subsidies grew faster. The large state enterprises accounted for the entire difference.

Table A1-6. VAs and VA by Type of Ownership

	GVA at factor cost (VA)			GVA minus subsidies (VAs)		
	02/'01	03/'02	04/'03	02/'01	03/'02	04/'03
Total	127.7	112.9	135.4	125.8	114.5	138.2
Social ownership	117.2	65.2	95.5	114.8	67.1	98.2
Private ownership	152.4	147.1	171.8	152.4	147.2	171.8
Mixed ownership	118.3	107.7	122.5	117.8	107.6	123.1
State ownership	162.6	198.9	139.6	169.4	266.6	152.4

It is characteristic that VA grew faster in 2002 in enterprises of all sizes than VA-s, while the situation was reversed in the following years two years. This means that the import of subsidies for the growth of value added in all enterprises, regardless of size, was reduced. At overall level, subsidies were cut by 1.4 billion dinars in absolute terms in 2003, or 6%, and increased nominally by only 6% in 2004, i.e. they were reduced in real terms (the GDP deflator for that year is estimated at 9.4%, VA-s grew by 31.6%).

Table A1-7. VAs and VA by Size of Enterprise

	GVA at factor cost (VA)			GVA minus subsidies (VAs)		
	02/'01	03/'02	04/'03	02/'01	03/'02	04/'03
Total	127.7	112.9	135.4	125.8	114.5	138.2
Small enterprises	150.5	141.1	148.1	149.3	140.9	152.8
Medium enterprises	118.8	105.9	140.8	116.3	108.1	142.3
Large enterprises	125.1	107.2	129.3	123.1	108.7	131.6

In the social sector, both VA-s and VA grew only in 2003. This was followed by a relatively steep fall (by one-third) in 2003, and a milder fall (2%) in 2004. The reduction was caused primarily by the situation in large enterprises, where VA-s fell by more than a third in 2003 and by 8% in 2004. Medium and small enterprises recorded a fall only in 2003 (the drop, 18%, was the same in medium and in large and small enterprises). This was probably due to the decrease in the number of enterprises and their work forces. The number of socially owned companies fell 17% in 2003, and the number of workers 36%. The drop was steep also in 2004 - 15% and 26%, respectively.

The social sector is the only one in which both VA and VA-s were reduced both in 2003 (by one-third) and in 2004 (by approximately 5% and 2% respectively). This was the case mainly in large enterprises. In small and medium socially owned enterprises, VA and VA-s in 2003 were in keeping with the average for all enterprises, but increased in 2004 in spite of the considerably smaller number of enterprises and employees.

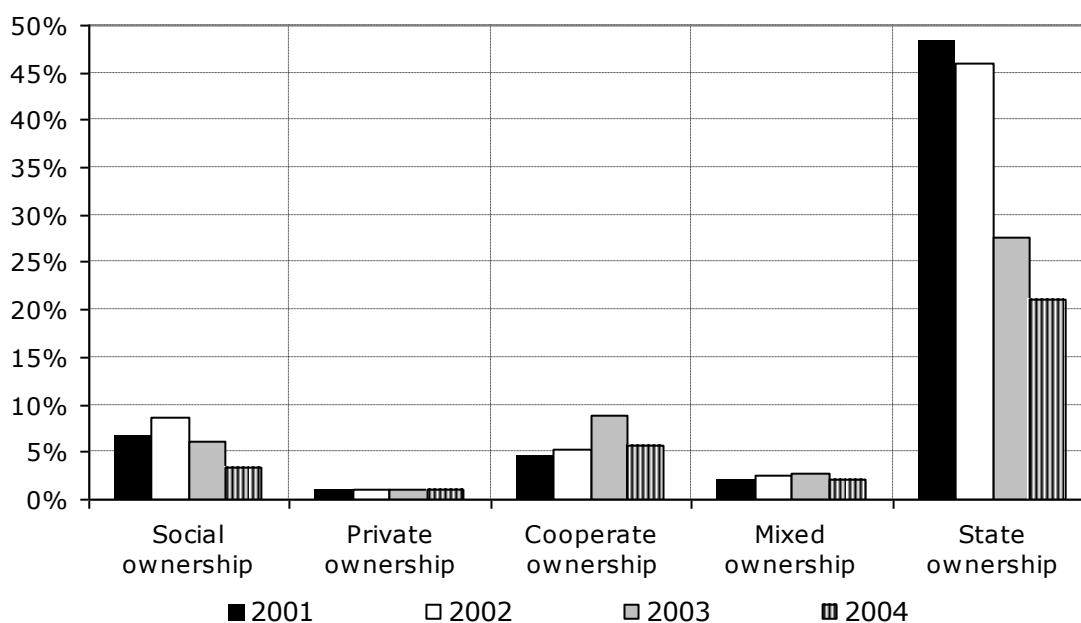
Table A1-8. Enterprises by Type of Ownership, Selected Indicators of Size and Performance, 2001-2004

	Number of enterprises	Number of employees	GVA at factor cost	GVA minus subsidies	Number of enterprises	Number of employees	GVA at factor cost	GVA minus subsidies	Number of enterprises	Number of employees	GVA at factor cost	GVA minus subsidies
	Values											
2002												
Total	66,878	1,293,279	374,160,680	341,163,339	73,829	1,216,773	422,477,931	390,546,571	75,477	1,182,944	571,950,059	539,819,117
Social ownership	3,885	473,284	115,010,771	104,998,203	3,209	300,735	74,966,086	70,452,501	2,737	222,700	71,573,283	69,208,084
Private ownership	57,182	263,340	80,325,286	79,471,982	64,198	333,700	118,146,683	117,015,217	66,411	407,700	202,963,581	200,988,765
Cooperate ownership	2,384	18,633	3,100,057	2,937,419	2,686	16,853	3,528,932	3,217,215	2,755	18,070	7,079,440	6,669,746
Mixed ownership	2,977	429,359	135,661,760	132,138,516	3,177	404,488	146,135,917	142,230,234	3,119	371,566	179,036,897	175,104,510
State ownership	450	108,663	40,062,806	21,617,219	559	160,997	79,700,313	57,631,404	455	162,908	111,296,858	87,848,012
Indices												
2002/2001												
Total	100	96.0	127.7	125.8	110.4	94.1	112.9	114.5	102.2	97.2	135.4	138.2
Social ownership	100	92.3	117.2	114.8	82.6	63.5	65.2	67.1	85.3	74.1	95.5	98.2
Private ownership	100	112.2	152.4	152.4	112.3	126.7	147.1	147.2	103.4	122.2	171.8	171.8
Cooperate ownership	100	94.7	109.6	108.9	112.7	90.4	113.8	109.5	102.6	107.2	200.6	207.3
Mixed ownership	100	91.6	118.3	117.8	106.7	94.2	107.7	107.6	98.2	91.9	122.5	123.1
State ownership	100	97.9	162.6	169.4	124.2	148.2	198.9	266.6	81.4	101.2	139.6	152.4
2003/2002												
Total	100	100	100	100	100	100	100	100	100	100	100	100
Social ownership	100	100	100	100	100	100	100	100	100	100	100	100
Private ownership	100	100	100	100	100	100	100	100	100	100	100	100
Cooperate ownership	100	100	100	100	100	100	100	100	100	100	100	100
Mixed ownership	100	100	100	100	100	100	100	100	100	100	100	100
State ownership	100	100	100	100	100	100	100	100	100	100	100	100
2004/2003												
Total	100	100	100	100	100	100	100	100	100	100	100	100
Social ownership	100	100	100	100	100	100	100	100	100	100	100	100
Private ownership	100	100	100	100	100	100	100	100	100	100	100	100
Cooperate ownership	100	100	100	100	100	100	100	100	100	100	100	100
Mixed ownership	100	100	100	100	100	100	100	100	100	100	100	100
State ownership	100	100	100	100	100	100	100	100	100	100	100	100

With respect to all enterprises, the increase in VA-s in 2002 and 2003 in terms of size could be explained by the rise in prices and real increase in activities. This, however, was not the

case in 2004 when VA-s grew much faster than suggested by the price rises and real increase in activities: VA-s increased 38% while retail prices rose 10.1%, and GDP grew 9.3%⁴ in real terms. This can explain only somewhat more than half the increase in the nominal value of VA-s. It should also be noted here that the growth of wages and salaries in 2004 was in line with the growth of VA. Average net wages and salaries increased exactly as much as productivity, in contrast to previous years when they grew at a faster rate. In 2004, however, net wages and salaries increased faster than gross wages and salaries, though this information is inferred indirectly. In comparison with gross wages and salaries, a more reliable datum, the 39.3% increase in productivity (measured by the value of VA per worker), was considerably higher than the growth of gross wages and salaries per worker (31.7%). After falling from 6.6% in 2002 to 2% in 2003, the productivity index was higher than the index of average wages and salaries by 5.7%. The fastest growth of productivity was recorded in the private sector, and the slowest in the social sector.

Graph A1-9. Share of Subsidies in VA



After 2002, the presence of subsidies in VA began to decrease. In 2001 and 2002, their share was between 8% and 9%, and dropped to about 7.5% in 2003 and to approximately 6% in 2004.

The share of subsidies in VA was least in the private sector, about 1% (they were concentrated in the manufacturing industry, with the food industry accounting for half), followed by the mixed sector (about 2.5%). In the social sector, it decreased from about 8% in the first two years to 6% in 2003 and 3.5% in 2004. In the state sector, subsidies accounted for almost half the VA in 2001 and 2002, somewhat less than one-third in 2003, and in 2004 dropped to 21%.⁵

2. Productivity by type of ownership

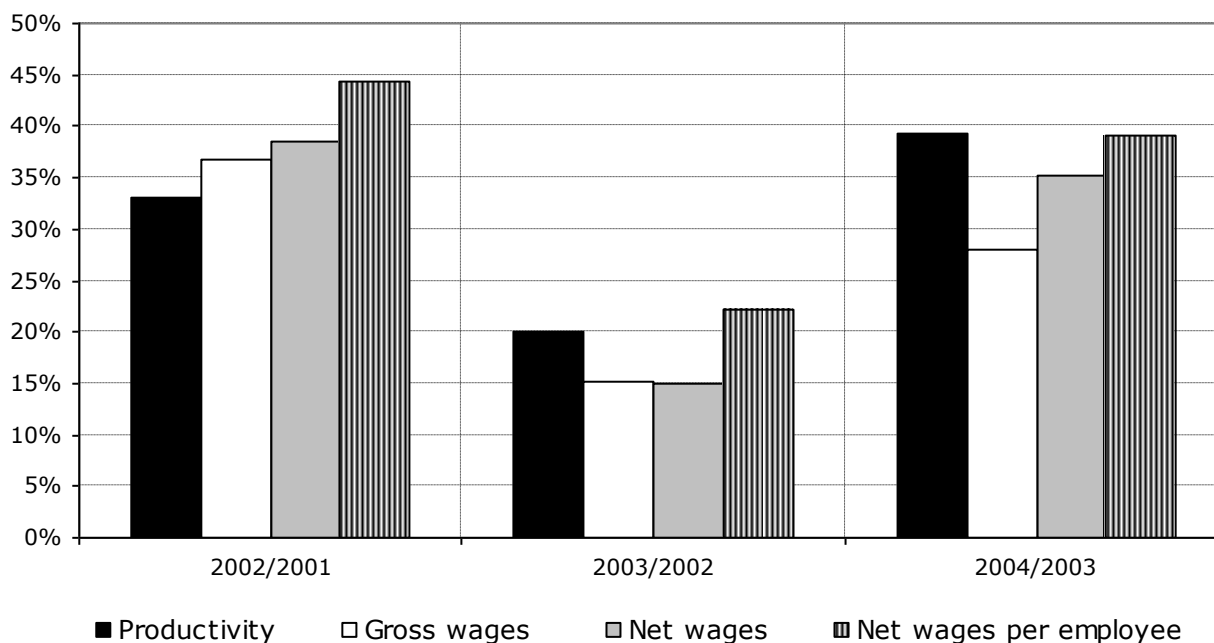
If gross value added in core prices per worker (VA/NI) is taken as a measure of productivity, it is evident that in all enterprises it grew more slowly in 2002 than did both gross and net wages per employee (7% to 8%), but also more slowly than gross and net wages and salaries, despite the 4% drop in employment. The coefficient of labor costs - defined as the ratio of gross wages and salaries to gross value added ($LC=WS/VA$) - thus increased from 0.54% in 2001 to 0.58% in 2002. In 2003, the growth ratio of wages and salaries and

⁴ Source: RZS

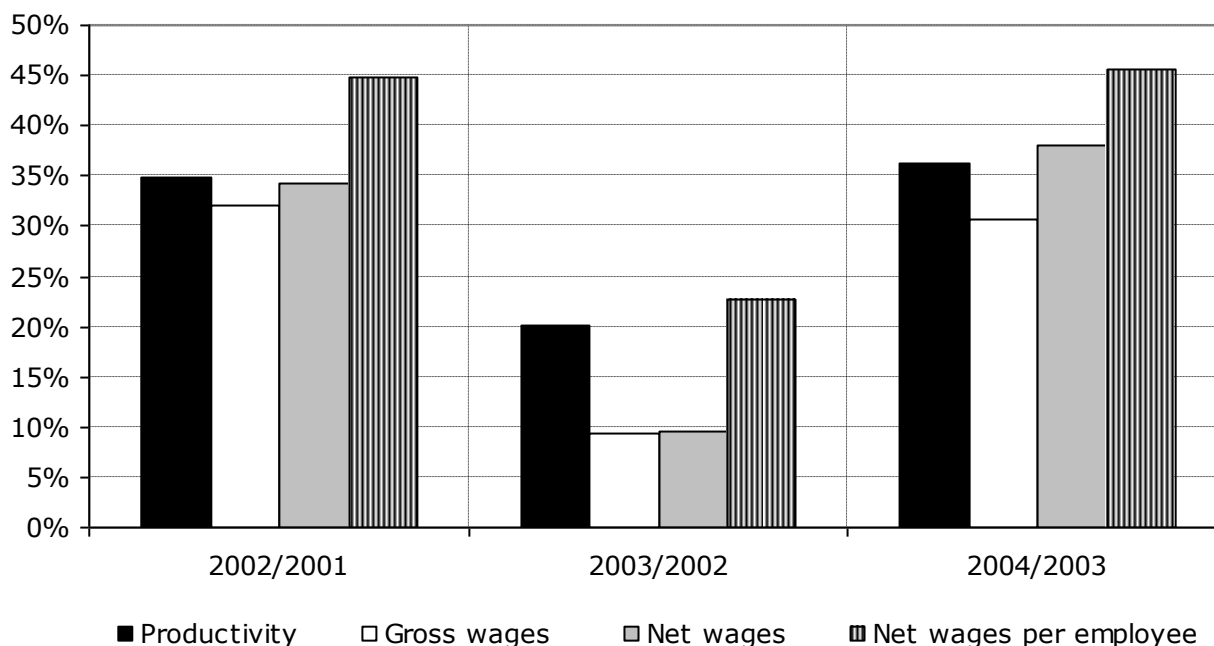
⁵ The cooperative sector is not considered in this analysis since it is imprecisely defined and its share in the VA is a marginal 1%.

productivity was reversed, but net salaries and wages per worker still increased somewhat more rapidly than productivity (22% against 20%). The labor costs coefficient increased slightly (to 59%). The growth of net wages and salaries per employee and the growth of productivity in 2004 were equal (39%), gross wages and salaries increased at a slower pace than productivity (by 5.3%), and the labor costs coefficient was reduced to 0.56%.

Graph A1-10. Behavior of Productivity and Wages at the Level of All Enterprises, 2002-2004



Productivity in large enterprises grew faster than gross wages and salaries in 2002, 2003 and 2004, but this was not the case with gross wages per worker. In all three years, the growth of productivity was slower than that of average gross wages, although the difference did decrease (5%, 2% and 1% respectively). With the exception of 2004, the same was true of net wages and salaries. While the growth of gross and net wages and salaries was earlier in harmony, in 2004 net wages and salaries grew considerably faster compared to the preceding year than gross wages and salaries (38.1% and 30.8% respectively).

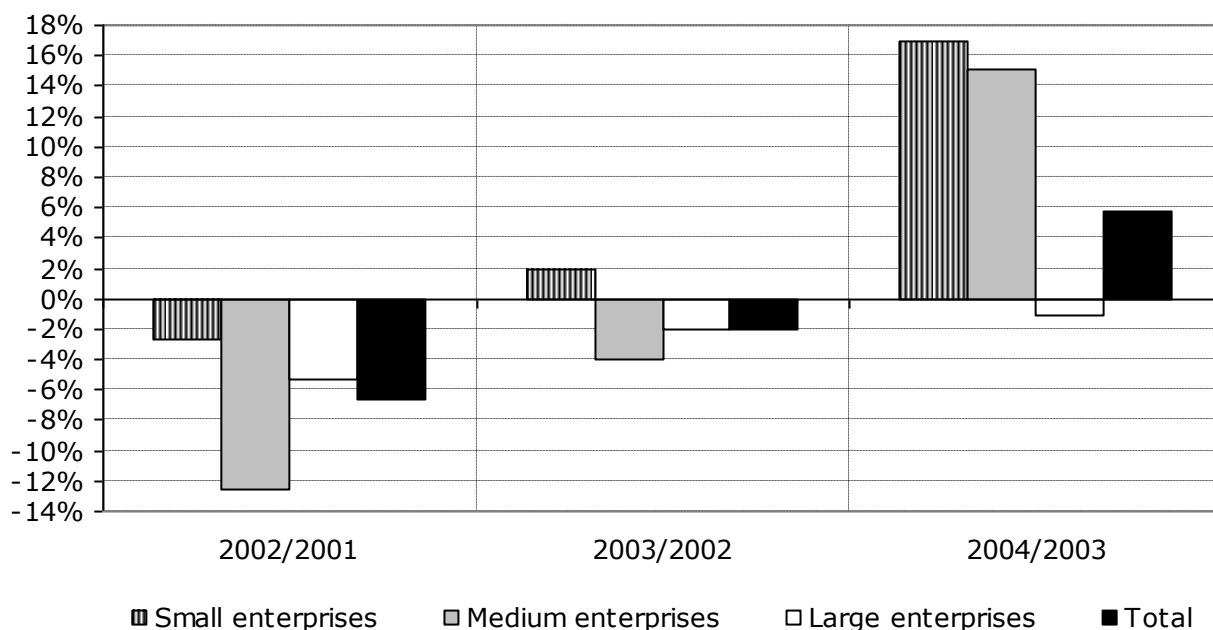
Table A1-11. Changes in Productivity/Gross Wages per workers Ratio in Dependence of Enterprise

With the available data according to IAS, it is not possible to discern exactly where the difference arises, but the item Wages & Salaries includes severance pay on which taxes and contributions are not payable, in contrast to regular wages and salaries and other earnings. Measured in this way,⁶ productivity grew at a slower pace than average wages, meaning that salaries and wages rose faster than VA-s and VA, i.e. the labor costs coefficient (the ratio between wages and salaries and VA) grew in all the years reviewed, albeit at a slower pace (5.6%, 2.1% and 1.1.% in 2002, 2003 and 2004 respectively). The sole exception was the state sector and, only in 2004, the social sector too, as the result of the over 30% drop in employment.

In medium and small enterprises, in contrast to the large, the productivity index in 2004 by far exceeded the index of gross wages and salaries - by 15% and 17%. In fact, small enterprises had a 2% higher growth of productivity than of average wages and salaries as early as 2003.

⁶ When estimating the y-o-y growth of productivity with respect to forms of ownership and size of enterprises, it should be borne in mind that the data is not completely comparable, either mutually or with the usual (real) indicators of the behavior of productivity because of the different deflators and price increases, on which there is no available data. But, in our opinion, this does not affect the validity of the estimate of labor costs since they are expressed in current, not constant prices.

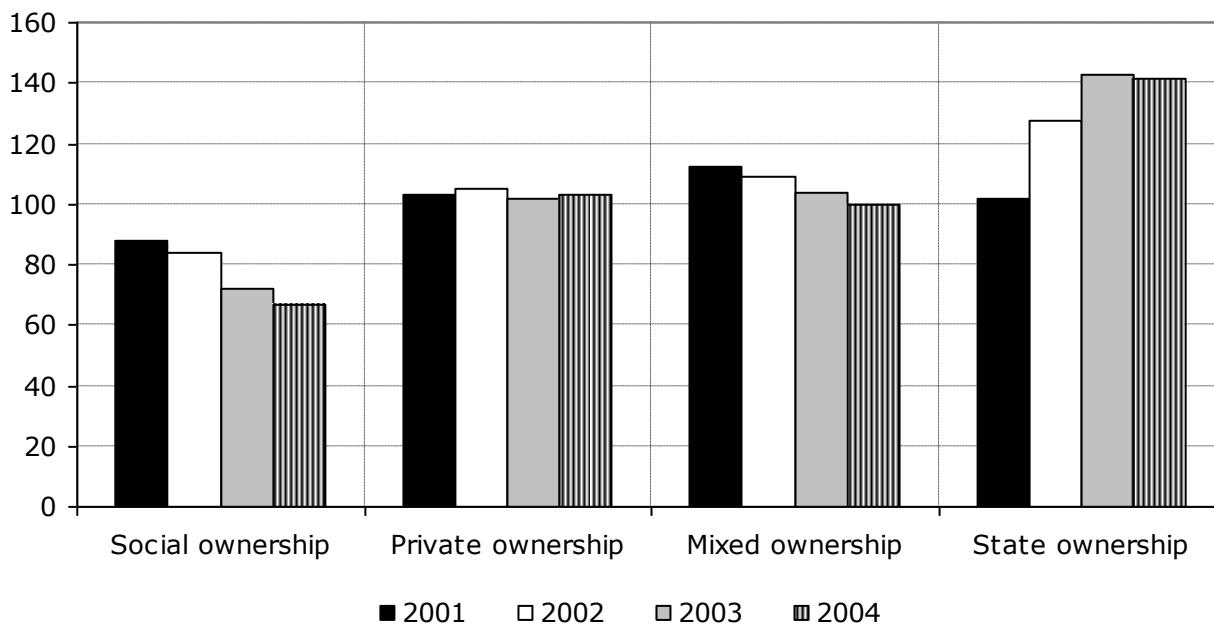
Graph A1-12. Changes in Coefficient: Productivity/Gross Wages per Employee



If productivity in all enterprises in each year is designated as 100, it becomes obvious that it was far below the average in socially owned enterprises and declined from year to year - from 12% in 2001 to one-third in 2004. In the private sector, productivity was at a steady 3% above the average. In the mixed sector, it started out at 12% above the average, but gradually decreased and was eliminated by 2004. State-owned enterprises recorded a positive rate of productivity compared with the average, increasing it from 2% in 2001 to over 40% in 2003 and 2004.

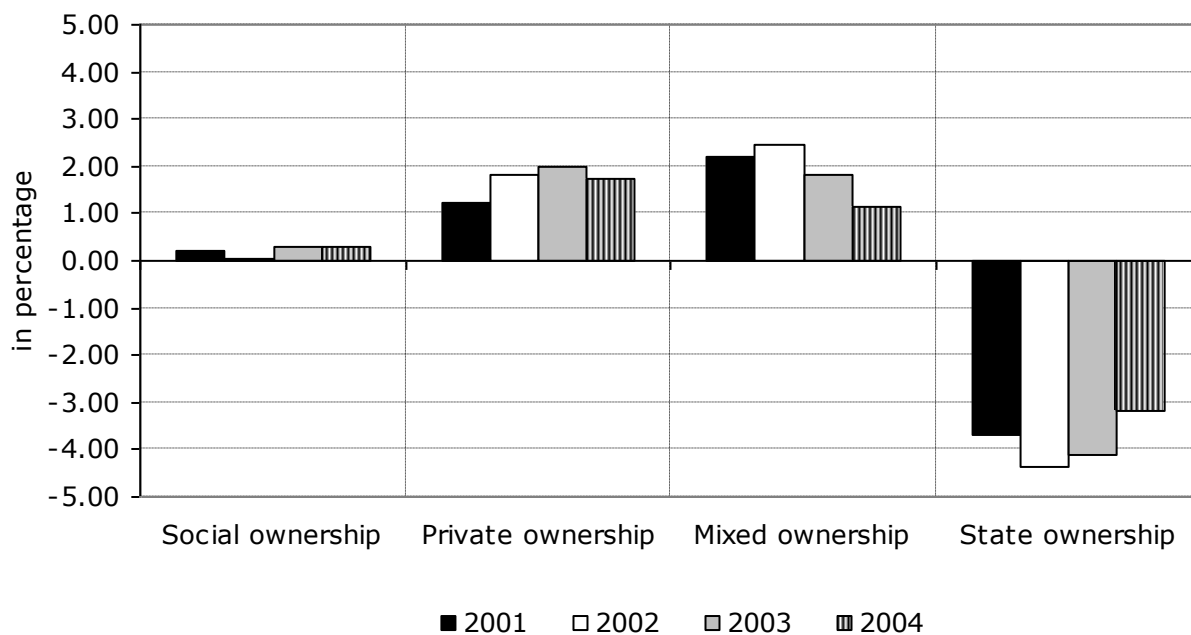
The share of the private sector in creating total VA recorded the fastest growth, from 18% in 2001 to 35.5% in 2004, making it the sector with the biggest share in total VA. The share of the mixed sector was at its highest in 2001 and decreased with time. The constant increase of the public sector's share is notable; it rose from 8% in 2001 to 19.5% in 2004.

Graph A1-13. Movement of Productivity at the Level of All Enterprises

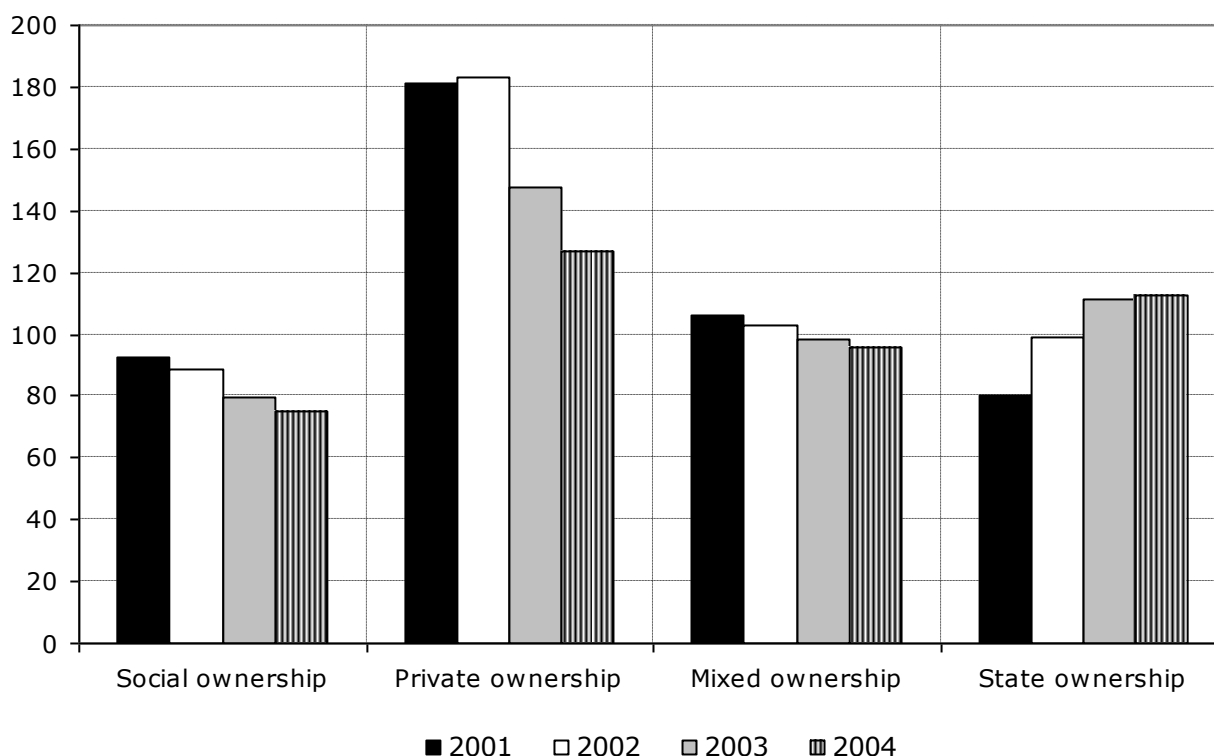


Interestingly, when subsidies are excluded, the share of the private sector in VA-s compared with its share in VA increased in all sectors in 2002 and 2003 by more than 2 percentage points, and stood at somewhat over 37% in 2004. The share of the state sector, however, decreased by over 4 percentage points in the 2001-2003 period, and by slightly over 4 percentage points in 2004. This means that about 4% of total VA was redistributed to the state sector, primarily at the expense of the private sector.

Graph A1-14. Changes in Share of Sectors in VA Creation after Exclusion of Subsidies (in percentage points)



Comparison of productivity when enterprises are grouped by ownership or size yields very interesting information.

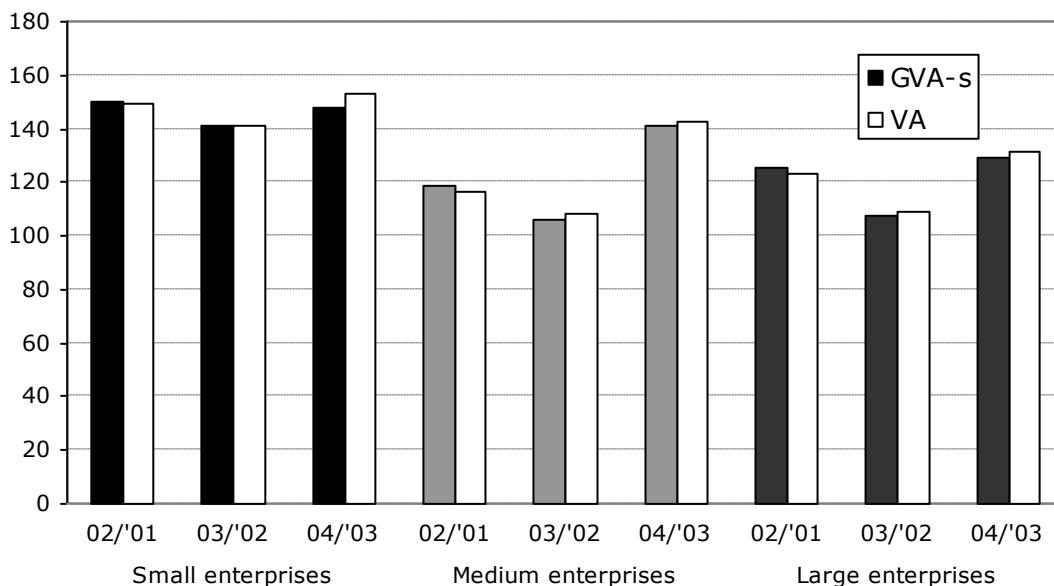
Graph A1-15. Large Enterprises in Serbia: Changes in Productivity by Ownership Type, 2001-2004

If total VA per worker for the group of large enterprises is designated 100, the private sector was far above the average productivity, though this has been falling: from over 80% in 2001 and 2002, to 47% in 2003, and to the still high 27% in 2004. Cumulatively, compared to the average initial productivity in 2001, the private sector had 108% higher productivity, although the number of employed increased by 43,5 thousand, or 169%. The social sector made the least progress, only 66%, even though its employment fell 62%. Where large enterprises are concerned, the dominant, though declining, form of ownership is mixed and in 2004 amounted to 41%. The state sector was next with a growing share (28% in 2003), while the private sector was third with 16%. Apart from the state sector, the shares of all the sectors increased when subsidies are excluded. Thus the state sector appropriated via subsidies some 5% of the VA of all large enterprises.

In the sector of medium and small enterprises, VA again recorded the highest growth in the private sector. Productivity in medium enterprises achieved the highest increase in the private sector. Small enterprises were the exception, but state-owned small enterprises recorded a faster growth of productivity in 2003 and 2004. This, however, is relative in view of the small share, only 5%, of this type of ownership in creating VA-s. In both medium and small enterprises, the share of the private sector in VA-s grew and is now dominant: in 2004 it was 44% and 70% respectively. It is noteworthy that VA was higher than VA-s in small and medium enterprises, which shows a spilling over to them of subsidies (in contrast to large enterprises or the total set of enterprises). In other words, it is an indicator of the inefficiency of these groups.⁷

⁷ This occurred in small enterprises in 2002 and 2003, and in medium enterprises only in 2002; hence the conclusion may be too severe.

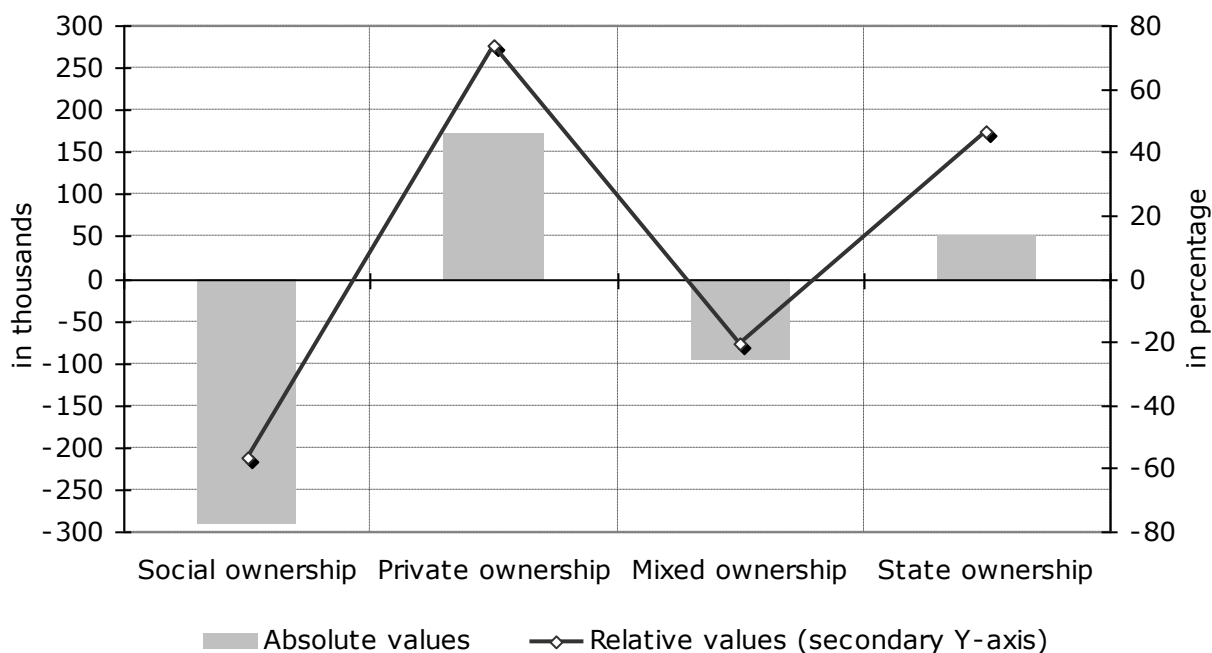
Graph A1-16. Growth of VA and VA-s in Enterprises Classified by Size



3. Employment and Labor Costs

The behavior of the costs of labor is the reverse side of productivity. It must be noted first that that total employment fell in all the years after 2001. In 2004 it was down 12% on 2001, or 161 thousand people.⁸ The only ownership sector in which employment rose over the years from 2002 to 2004 was the private sector, which in 2004 employed 173 thousand people, or 74%, more than in 2001. Following a drop in 2002, employment rose also in the state sector, especially in 2003, and in 2004 it had 52 thousand, or 47%, more workers than in 2001. At the same time, the social and mixed sectors cut the number of jobs by almost 390 thousand.

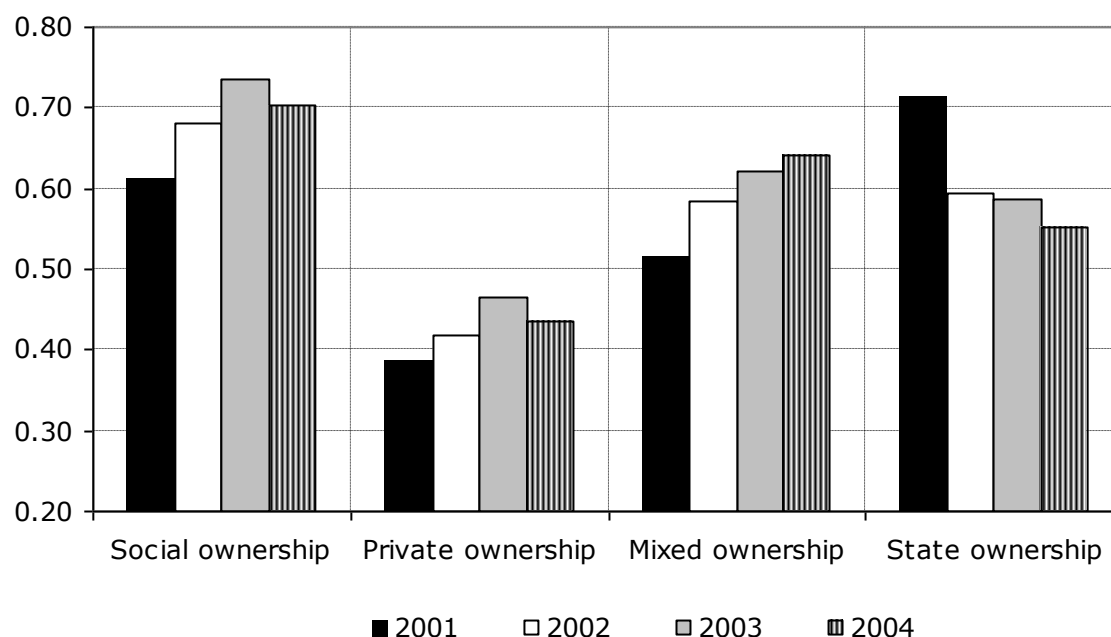
Graph A1-17. Employment Changes in Enterprises by Type of Ownership, 2001-2004



⁸ Discounting differences which might have arisen as the result of unequal coverage of enterprises in certain years.

Labor costs also changed in this framework. As noted above, the labor costs coefficient⁹ at the level of all enterprises grew in 2002 and 2003, and fell in 2004 following the harmonization of average wages and productivity.¹⁰ Where forms of ownership are concerned, the labor costs coefficient - though from year to year it behaved comparably to the total coefficient - was the lowest in the private sector, 0.44, meaning that gross wages burdened VA by 44%. On the other hand, the coefficient is the highest in the social sector, 0.7.

Graph A1-18. Labor Costs Coefficient, 2001-2004



The eight republican public enterprises¹¹ that are being monitored by the IMF merit special attention. State-owned enterprises account for half their VA; the remainder are mostly socially owned and, to a lesser extent, in mixed ownership.

Table A1-19. GVA and GDP: Public Enterprises Monitored by IMF

	Number of enterprises	Number of employees	GVA at factor cost, in 000' Dinars	GVA minus subsidies	Gross Wages	Productivity, in 000' Dinars	Labor Costs Coefficient
	Value						
2001	8	122,841	59,577,933	48,311,759	22,915,576	485	0.38
2002	8	116,862	81,073,266	63,474,345	29,321,062	694	0.36
2003	8	113,238	94,278,663	80,390,495	34,279,435	833	0.36
2004	8	108,831	109,129,052	94,470,617	44,056,488	1,003	0.40
	Indices						
2002/2001	100	95.1	136.1	131.4	128.0	143.0	94.0
2003/2002	100	96.9	116.3	126.7	116.9	120.0	100.5
2004/2003	100	96.1	115.8	117.5	128.5	120.4	111.0

⁹ Ratio of gross wages to VA.

¹⁰ Gross wages and salaries grew at a slower pace than net wages and salaries as the latter formally includes severance pay on which taxes and contributions are not paid, and other less burdened payments.

¹¹ These are: Serbian Electric Power Company; Serbian Oil Company; Yugoslav Airlines; Post, Telegraph and Telephone Company, Belgrade Airport, Serbian Broadcasting Corporation; and Serbian Telecom. Under the nomenclature, the list contains 25 enterprises as the Electric Power Company considers of 18 enterprises with different identification numbers.

In three years, VA cumulatively increased 83% and VA-s 95%, which testifies to the lessening importance and share of subsidies in VA and its growth. Productivity was doubled and the labor costs coefficient increased mildly, from 0.38 to 0.40, remaining lower than in the private sector. This was the result mainly of the reduction of employment and moderate growth of wages and salaries, which were under IMF control.

4. Behavior of VA in Privatized Enterprises

Privatized enterprises, the indicators for which are based on data obtained from the financial statements, are identified by pairing with the Privatization Agency data. The total number of privatized enterprises from 2002 to 2004, and the number of privatized enterprises by years varies in dependence on the coverage provided by the financial statements in the particular year.

Table A1-20. Number of Privatized Enterprises

Year of annual report	Year of privatization			
	2002-2004	2002	2003	2004
2002	1,119	205	655	259
2003	1,129	200	666	263
2004	1,112	200	649	262

Since the effects of privatization are measured mainly with indicators (VA, P, NI, LC, WS) in all three years (though the most pertinent is the VA changes for 2004), the 2004 financial statements are referential, meaning that a total of 1,112 enterprises is reviewed.

4.1. Behavior of value added

4.1.1. All enterprises

Taken together, the enterprises privatized in all three years did not increase VA compared to the preceding year, but increased it 20% in 2004. Since all the 2004 deflators were grouped close together (retail prices 10.1%, GDP deflator 9.4%), it may be calculated that the VA of all privatized enterprises increased 9% to 9.5% in real terms. (This, coincidentally, tallies with the latest RZS estimate that GDP rose 9.3% in real terms in 2004.)

The highest VA growth was in enterprises that were privatized in 2002, by 1% in 2003 and 28% in 2004. The growth was more modest in enterprises privatized in 2003, while those privatized in 2004 recorded a 10% drop in the preceding year. The growth in 2004 brought their VA up to the 2002 level in real terms. The following table shows this data together with the number of enterprises. Where the VA grew most (enterprises privatized in 2002), three more enterprises were encompassed than in 2002 and one less than in 2003. Thus, it can be safely assumed that the coverage had no major impact on VA changes.

Table A1-21. All Privatized Enterprises, 2002-2004

TOTAL	GVA at factor cost, in 000' Dinars			Number of enterprises			VA annual growth chain index	
	2002	2003	2004	2002	2003	2004	2003	2004
Enterprises privatized in 2002	8,949,578	9,047,326	11,620,255	259	263	262	101.1	128.4
Enterprises privatized in 2003	15,997,148	16,580,390	18,915,592	655	666	649	103.6	114.1
Enterprises privatized in 2004	6,179,969	5,557,289	6,829,277	205	200	200	89.9	122.9
Total	31,126,695	31,185,005	37,364,467	1,119	1,129	1,112	100.2	119.8

4.1.2. The manufacturing industry is of particular significance as it accounted for 69% of the VA of all enterprises in 2004. The importance of the note above that the VA of the privatized tobacco industry accounted for 22% of the privatized manufacturing industry in 2003 will become evident below.

Taking together all the privatized enterprises in the manufacturing industry regardless of the year of their privatization, the tendencies are very similar to those in all enterprises, although the 2004 growth was more than half as slow, primarily because VA was reduced in 2004 in enterprises that were privatized in 2003.

Table A1-22. Privatized Enterprises - Manufacturing, 2002-2004

Manufacturing	GVA at factor cost, in 000' Dinars			Number of enterprises			VA annual growth chain index	
	2002	2003	2004	2002	2003	2004	2003	2004
Enterprises privatized in 2002	7,927,961	7,823,395	9,945,344	89	85	84	98.7	127.1
Enterprises privatized in 2003	11,487,056	12,267,505	11,745,672	251	255	246	106.8	95.7
Enterprises privatized in 2004	3,880,013	3,642,511	4,068,903	108	109	109	93.9	111.7
Total	23,295,030	23,733,411	25,759,919	448	449	439	101.9	108.5

The fall can be ascribed in entirety to the tobacco industry's production only for stocks in 2003 and suspension of production in 2004. (From the end of 2003 to April 2004, stocks rose by about 60%, production in March 2004 was about 30% higher than a year earlier, and down 52% in June. VA growth: 2003/02 +36%; 2004/03 - 46%.

When the tobacco industry is excluded, VA in manufacturing enterprises privatized in 2003 increased 22% in 2004.

VA in the production of food and beverages in 2004 accounted for 24% of VA in the privatized manufacturing industry. At the level of all privatized enterprises in this section, VA fell 4% in 2003 compared with the preceding year, but increased 36% in 2004. Enterprises privatized in 2002 and 2003, after a significant drop in 2003, recorded a very high VA growth - 88% and 45% respectively. The impact of the fall in agricultural production in 2003 and its surge in 2004 on these tendencies cannot be estimated here. The data for enterprises privatized in 2004, whose VA grew (albeit not in real terms) in the year before and fell in the year of privatization, is indicative.

Table A1-23. Privatized Enterprises - Manufacture of Food and Beverages, 2002-2004

Manufacture of food and beverages	GVA at factor cost, in 000' Dinars			Number of enterprises			VA annual growth chain index	
	2002	2003	2004	2002	2003	2004	2003	2004
Enterprises privatized in 2002	879,768	700,610	1,317,554	17	17	17	79.6	188.1
Enterprises privatized in 2003	2,596,236	2,417,671	3,509,700	42	43	43	93.1	145.2
Enterprises privatized in 2004	1,288,949	1,468,012	1,390,128	23	22	23	113.9	94.7
Total	4,764,953	4,586,293	6,217,382	82	82	83	96.3	135.6

All privatized enterprises in the textile industry (including production of fibers, fabrics and clothes) have been recording falling VA from year to year; in some cases VA was negative. Whether this was the effect of the influx of Chinese-made goods or the fact that the privatization was carried out with the view to the expected preferentials remains to be seen. Now that the preferentials have finally been granted, the data for this year should be examined.

The share of VA of privatized enterprises in the chemical industry in the VA of the total privatized manufacturing industry was 15% in 2004. A total of 15 enterprises was privatized in the three years under review (7+3+5). The VA of enterprises privatized in 2003 is negligible. From the point of view of the size of VA, the greatest proportion of privatization

was carried out in 2002. Seven enterprises privatized that year accounted for over 87% of VA realized in 2004 by all 15 privatized enterprises in this section, and the five privatized in 2004 for 12%. Therefore, the behavior VA in all enterprises (3% drop in 2003 and 21.%% growth in 2004) is impacted by the behavior of VA in enterprises privatized in 2002.

Table A1-24. Privatized Enterprises - Manufacture of Chemicals and Chemical Products

Manufacture of chemicals and chemical products	GVA at factor cost, in 000' Dinars			Number of enterprises			VA annual growth chain index	
	2002	2003	2004	2002	2003	2004	2003	2004
Enterprises privatized in 2002	3,075,439	3,039,684	3,527,003	7	6	7	98.8	116.0
Enterprises privatized in 2004	314,986	258,914	474,669	4	5	5	82.2	183.3
Total	3,413,554	3,325,114	4,038,537	13	14	15	97.4	121.5

Production of rubber products and plastics accounts for only 2% of VA of the total manufacturing industry, with six enterprises privatized in 2003 accounting for two-thirds. In spite of its small share, this section has been very successful in terms of increasing production and exports, in particular the Tigar factory of Pirot. When all 12 privatized enterprises are taken together, their VA increased 16% in 2003, and 40% in 2004. The VA of six enterprises privatized in 2003 rose 4.5% that year (a drop in real terms), but increased 73% in 2004. It would appear that the time-lag between privatization and the appearance of its effects on VA growth, which is two years on the average, is shorter in this country, with the effects being manifested in one year.

Table A1-25. Privatized Enterprises - Manufacture of Plastics and Rubber

Manufacture of plastics and rubber	GVA at factor cost, in 000' Dinars			Number of enterprises			VA annual growth chain index	
	2002	2003	2004	2002	2003	2004	2003	2004
Enterprises privatized in 2003	178,599	186,410	321,217	5	6	6	87.0	172.3
Total	301,227	348,857	488,840	11	12	12	106.2	140.1

The VA of numerous privatized enterprises in the **Other minerals** section (which includes **cement plants**) accounts for almost one-quarter (24.8%) of the total VA of the manufacturing industry. With regard to all the privatized enterprises in this section, VA dropped 5.5% in 2003 compared to the previous year, and grew 17% in 2004. Enterprises privatized in 2002 played a crucial role (they accounted for about two-thirds of VA of all privatized companies in 2004). Their VA was nominally unchanged in 2003 compared to the previous year, but increased 23.5% in 2004. Judged by data on the physical volume of industrial production in 2005, VA growth should this year intensify. This section seems to prove that one year is too short a period for comprehensive reorganization and restructuring.

Though productivity will be treated further on, it should be underscored here that this section more than doubled its productivity in two years (116% increase) while halving its employment figure. Productivity was increased 3.7 times in enterprises that were privatized in 2002, along with a one-third reduction of employment.

Table A1-26. Privatized Enterprises - Manufacture of Other Mineral Products

Manufacture of other mineral products	GVA at factor cost, in 000' Dinars			Number of enterprises			VA annual growth chain index	
	2002	2003	2004	2002	2003	2004	2003	2004
Enterprises privatized in 2002	3,386,275	3,374,900	4,166,803	9	9	8	99.7	123.5
Enterprises privatized in 2004	2,264,561	2,054,423	2,126,838	11	11	11	90.7	103.5
Total	5,794,723	5,476,284	6,398,469	52	54	53	94.5	116.8

Note: The single largest exporter (**basic metals section**), SARTID (US Steel Serbia) is not on the list of privatized enterprises as it was sold after bankruptcy proceedings.

Other sections, which accounted for 15.4% of the manufacturing industry's VA, are grouped in **Other Manufacturing Industry**. Where all enterprises are concerned, irrespective of the year of privatization, their VA dropped 9% in 2003 and rose 22% in 2004. This was due mainly to 68 enterprises that were privatized in 2003. These accounted for 48% of the total VA of the group in 2004 (with an 8% drop in 2003 and 27% rise in 2004). The average VA growth in 2004 was reduced by enterprises privatized that year, which recorded a VA increase of 14%.

Table A1-27. Privatized Enterprises - Other Manufacturing

Other manufacturing	GVA at factor cost, in 000' Dinars			Number of enterprises			VA annual growth chain index	
	2002	2003	2004	2002	2003	2004	2003	2004
Enterprises privatized in 2002	394,005	416,274	527,848	21	20	20	105.7	126.8
Enterprises privatized in 2003	1,591,831	1,465,599	1,887,523	69	70	68	92.1	128.8
Enterprises privatized in 2004	1,572,628	1,356,882	1,541,285	31	32	32	86.3	113.6
Total	3,558,464	3,238,755	3,956,656	121	122	120	91.0	122.2

4.1.3. The construction industry accounted for 10.5% of the VA of all privatized enterprises in 2004. All 164 privatized enterprises increased their VA 10% in 2003 (a fall in real terms) but this surged to 143% in 2004, which was a huge real growth. The VA of 32 enterprises privatized in 2002 is insignificant, and the average was set by enterprises privatized in 2003, which increased their VA 61.5% in 2004. This was probably the result of the speeding up of construction works in the second half of 2004 in anticipation of the introduction of VAT.

Table A1-28. Privatized Enterprises - Construction

Construction	GVA at factor cost, in 000' Dinars			Number of enterprises			VA annual growth chain index	
	2002	2003	2004	2002	2003	2004	2003	2004
Enterprises privatized in 2002	313,607	355,514	441,264	33	32	32	113.4	124.1
Enterprises privatized in 2003	1,264,799	1,382,229	2,231,942	95	97	96	109.3	161.5
Enterprises privatized in 2004	882,424	976,931	1,212,923	37	37	36	110.7	124.2
Total	2,460,830	2,714,674	3,886,129	165	166	164	110.3	143.2

4.1.4. Trade (wholesale, retail and repairs) accounted for 5% of the VA of all privatized enterprises in 2004. The group comprises 174 enterprises whose VA fell 24% in 2003 compared to the preceding year, and increased 54% in 2004. VA grew 13.5% in the enterprises that were privatized in 2002 (if retail prices are taken as the deflator, this was a minimal real growth), and 50% in 2004. The decisive factor were the enterprises privatized in 2003 (103 of them, which accounted for 71.5% of the sector's total VA in 2004). In 2003, the year in which they were privatized, their VA dropped 38%, only to increase 62% in 2004. Enterprises privatized in 2004 had no significant effect in this regard. Thus, where trade is concerned, stagnation is typical in the year of privatization, with a large increase in VA the next year.

Table A1-29. Privatized Enterprises - Wholesale and Retail Trade, Repair

Wholesale trade, retail trade, and repair	GVA at factor cost, in 000' Dinars			Number of enterprises			VA annual growth chain index	
	2002	2003	2004	2002	2003	2004	2003	2004
Enterprises privatized in 2002	254,583	289,034	433,444	39	39	39	113.5	150.0
Enterprises privatized in 2003	1,211,590	820,640	1,327,734	107	106	103	67.7	161.8
Enterprises privatized in 2004	110,299	93,099	96,263	32	32	32	84.4	103.4
Total	1,576,472	1,202,773	1,857,441	178	177	174	76.3	154.4

Other activities accounted for 14.1% of VA in 2004. For them too, the characteristic was a drop in 2003 and a large growth of VA in 2004 (64%).

5. Productivity and Labor Costs

Productivity is measured as the value of VA per worker ($P=VA/NI$), and labor costs as the ratio of wages and salaries to VA, and is represented by the coefficient $LC=WS/VA$.

The growth of productivity is, in principal, achieved through the growth of VA, or a fall in employment, or a combination of both.

To recall:

- If measured by the growth of VA at core prices, the private sector is the most propulsive at present;
- Compared to 2003, VA increased 35% in 2004 on the average:
 - above average in the private (72%) and state (40%) sectors;
 - under the average (22.5%) in the mixed sector;
 - fall (4.5%) in the social sector.

This is a reversal of the pattern exhibited in the first year that extended over the whole 2001-2004 period, in which VA in the state sector increased faster than in the private one, (about 4.5 times,(index 452) versus somewhat less than 4 times in the private sector,(index 385).

It should be stressed again that subsidies were almost half the VA in the state sector in 2001. This was considerably reduced in 2004, but still stands at a high 27%.

5.1. Similar is the pattern across enterprises of **productivity**, defined as VA per worker ($P=VA/NI$).

Table A1-30. Behavior of Productivity (VA per worker)

	Number of employees	GVA at factor cost	Productivity (P=VA/NI)	Number of employees	GVA at factor cost	Productivity (P=VA/NI)	Number of employees	GVA at factor cost	Productivity (P=VA/NI)
	2002			2003			2004		
Total	1,293,279	374,160,680	289.3	1,216,773	422,477,931	347.2	1,182,944	571,950,059	483.5
Social ownership	473,284	115,010,771	243.0	300,735	74,966,086	249.3	222,700	71,573,283	321.4
Private ownership	263,340	80,325,286	305.0	333,700	118,146,683	354.1	407,700	202,963,581	497.8
Cooperate ownership	18,633	3,100,057	166.4	16,853	3,528,932	209.4	18,070	7,079,440	391.8
Mixed ownership	429,359	135,661,760	316.0	404,488	146,135,917	361.3	371,566	179,036,897	481.8
State ownership	108,663	40,062,806	368.7	160,997	79,700,313	495.0	162,908	111,296,858	683.2
	2002/2001			2003/2002			2004/2003		
Total	96.0	127.7	133.0	94.1	112.9	120.0	97.2	135.4	139.3
Social ownership	92.3	117.2	127.0	63.5	65.2	102.6	74.1	95.5	128.9
Private ownership	112.2	152.4	135.9	126.7	147.1	116.1	122.2	171.8	140.6
Cooperate ownership	94.7	109.6	115.8	90.4	113.8	125.9	107.2	200.6	187.1
Mixed ownership	91.6	118.3	129.1	94.2	107.7	114.3	91.9	122.5	133.4
State ownership	97.9	162.6	166.0	148.2	198.9	134.3	101.2	139.6	138.0

Productivity increased rapidly in all ownership sectors. The rise was generally the swiftest in the state sector, somewhat faster than in the private sector, which took the leading position in 2004 by increasing productivity 41%, which was more than the average (39%). In all three years, productivity in the private sector grew along with higher employment. This was the case also with the state sector, with the exception of 2002. It should be underlined also that productivity increased over these years also in the social sector, but, with the exception of 2002, only through sharp cuts in the number of employees (cumulatively for three years by around 250 thousand, or 57%).

5.2. Labor costs are represented by the coefficient LC ($LC=WS/VA$)

Table A1-31. Labor Costs

	Gross wages (WS)	Labor costs coefficient (LC)	Gross wages (WS)	Labor costs coefficient (LC)	Gross wages (WS)	Labor costs coefficient (LC)	Gross wages (WS)	Labor costs coefficient (LC)
	Values							
	2001		2002		2003		2004	
Total	158,877,382	0.54	217,261,757	0.58	250,308,450	0.59	320,596,185	0.56
Social ownership	60,131,855	0.61	78,223,906	0.68	55,088,708	0.73	50,365,982	0.70
Private ownership	20,382,589	0.39	33,561,012	0.42	55,043,969	0.47	88,337,983	0.44
Mixed ownership	59,048,019	0.52	79,158,623	0.58	90,678,708	0.62	114,901,040	0.64
State ownership	17,558,269	0.71	23,849,105	0.60	46,796,184	0.59	61,458,267	0.55
	Indices							
	2001/2000		2002/2001		2003/2002		2004/2003	
Total	-	-	136.7	107.1	115.2	102.0	128.1	94.6
Social ownership	-	-	130.1	111.0	70.4	108.0	91.4	95.8
Private ownership	-	-	164.7	108.0	164.0	111.5	160.5	93.4
Mixed ownership	-	-	134.1	113.3	114.6	106.3	126.7	103.4
State ownership	-	-	135.8	83.6	196.2	98.6	131.3	94.0

Apart from the state sector, the labor costs coefficient increased in all the other ownership sectors during 2002 and 2003. In the state sector, it dropped in all the years under review, and in all other sectors with the exception of the mixed only in 2004.

The increasing labor costs coefficient is the result of average wages and salaries growing faster than productivity. When the situation was reversed in 2004, the coefficient was reduced. Labor costs ranged from 0.54% to 0.59% in all enterprises and went down to 0.56% in 2004. Throughout the period reviewed, it was always the lowest in the private sector (0.44% in 2004), and the highest in the social sector (0.70% in 2004), as the following table shows:

Table A1-32. Labor Costs Coefficient by Type of Ownership

	2001	2002	2003	2004
Private ownership	0.39	0.42	0.47	0.44
State ownership	0.71	0.60	0.59	0.55
Social ownership	0.61	0.68	0.73	0.70
Mixed ownership	0.52	0.58	0.62	0.64

Why labor costs continued to rise in the mixed ownership sector in 2004 merits investigation.

Since employment is growing in the state sector and there is a ceiling on wages, labor costs were reduced to the average in 2004.

5.3. Total **employment** fell by almost 165 thousand from 2001 to 2004.

Table A1-33. Employment by Type of Ownership, 2001-2004

	Number of enterprises				Number of employees			
	2001	2002	2003	2004	2001	2002	2003	2004
Social ownership	3,885	3,885	3,209	2,737	512,826	473,284	300,735	222,700
Private ownership	57,182	57,182	64,198	66,411	234,797	263,340	333,700	407,700
Small enterprises	56,471	56,471	63,448	65,441	176,522	201,193	237,374	270,499
Medium enterprises	614	614	646	804	32,573	34,737	54,261	67,940
Large enterprises	97	97	104	166	25,702	27,410	42,066	69,261
Mixed ownership	2,977	2,977	3,177	3,119	468,528	429,359	404,488	371,566
State ownership	450	450	559	455	110,982	108,663	160,997	162,908
Total	66,878	66,878	73,829	75,477	1,346,818	1,293,279	1,216,773	1,182,944
Public enterprises monitored by IMF	8	8	8	8	122,841	116,862	113,238	108,831
Other public enterprises	600	600	607	478	94,468	94,965	94,132	91,005

As the table shows, employment from 2001 to 2004 increased in the state sector by 52 thousand, and by 173 thousand in the private sector. If the total number of employed fell by 165 thousand, it ensues that some 390 thousand jobs were lost. Included in the table are the eight large public enterprises under IMF monitoring. They are mainly, but not exclusively, state-owned (some are socially owned). These enterprises reduced their work forces by 14 thousand.

The data above leads to the conclusion that an intensive process of labor restructuring is under way. This is even more evident when the private sector is classified by size:

- Small - increase 94,000
- Medium - 35,000
- Large - 42,000

The conclusion is that the precondition for cutting the jobless rate is to increase the number of small enterprises in the private sector with investments relying mainly on domestic savings. And privatization is the necessary condition for the sector to achieve the required critical mass with regard to creating VA and total GDP. The privatization of large companies through foreign investments was accompanied by a reduction of jobs, but also the introduction of new technology, know-how, programs, markets (buyers' brands). In short, it generally enhanced productivity and competitiveness.

6. Productivity in Privatized Enterprises

6.1. The coverage of the 1,119 privatized enterprises was reduced by 7 enterprises between 2002 and 2004. The loss of medium and large enterprises was around 11%, while the number of small enterprises increased 5%. The reduction of the number of employed by close to 5,000 in small enterprises at a time when coverage was increased therefore appears indubitable. The number of workers in large and medium enterprises was cut by approximately 30 thousand, of which probably 3,000 at most can be ascribed to reduced coverage. Disregarding the effect of reduced coverage, we shall take it that the number of employees in all enterprises privatized from 2002 to 2004 was reduced by 35,000.

Table A1-34. Privatized Enterprises - Recapitulation

TOTAL	Number of employees			Productivity, in 000' Dinars			Productivity annual growth chain index	
	2002	2003	2004	2002	2003	2004	2003	2004
Enterprises privatized in 2002	28,081	20,081	16,683	318.8	450.5	696.5	141.3	154.6
Enterprises privatized in 2003	70,889	62,094	55,757	225.7	267.0	339.3	118.3	127.1
Enterprises privatized in 2004	41,835	36,850	33,342	147.7	150.8	204.8	102.1	135.8
Total	140,796	119,025	105,791	221.1	262.0	353.2	118.5	134.8

When productivity is defined in the usual way (gross VA per worker), it is evident that it increased rapidly in all the privatized enterprises - by 18.5% in 2003 and almost 35% in 2004, a total of 60% in two years. But its value in 2004 remained relatively small, about 353 thousand dinars, which is considerably below the average productivity for all enterprises (483 thousand dinars). The labor costs coefficient has stayed relatively high (0.86), but the average gross wage was barely above 25 thousand dinars.

The average was brought down by enterprises privatized in 2004, while those privatized in 2003 were about average in terms of value. Results highly above the average were recorded by enterprises privatized in 2002. In two years, the productivity of these 200 enterprises cumulatively more than doubled (increase of 218%), and reached the value of just under 700 thousand dinars. It is also 44% higher than the average for all the enterprises reviewed.

Two years appears most frequently to be the period necessary for restructuring and the effects of privatization to become apparent.

VA, as well as VA-s, had surges on low values, with the effect of falling employment and general growth of VA.

6.2. Manufacturing industry

The same phenomenon is present also in the manufacturing industry, only at a higher level of measured productivity: $P=VA/NI$. In 2004, for all privatized manufacturing enterprises, the level was 416 thousand dinars, which was 18% up on the level of all enterprises (353,000 dinars), and was achieved through a 60% cumulative growth in two years.

Table A1-35. Employment and Productivity - Manufacturing

Manufacturing	Number of employees			Productivity, in 000' Dinars			Productivity annual growth chain index	
	2002	2003	2004	2002	2003	2004	2003	2004
Enterprises privatized in 2002	20,632	13,821	11,555	384.3	566.1	860.7	141.3	154.6
Enterprises privatized in 2003	38,931	32,763	28,876	295.1	374.4	406.8	118.3	127.1
Enterprises privatized in 2004	27,884	23,896	21,434	139.1	152.4	189.8	102.1	135.8
Total	87,447	70,585	61,865	266.4	336.2	416.4	118.5	134.8

In the case of the manufacturing industry, too, enterprises privatized in 2002 are in the forefront. They more than doubled their productivity, which exceeded 860 thousand dinars in 2004, to which the cuts in employment by 9,000, or 44%, contributed in no small measure.

The indicators for enterprises privatized in 2003 were around the average for all privatized enterprises in the sector. Enterprises privatized in 2004 are at low values, their restructuring is under way, and the reduction of their employment is the lowest in absolute and real terms.

Manufacturing industry excluding tobacco

The tobacco industry's share in the VA of the manufacturing industry in 2003 was 22%. Privatized in 2003, the industry had a VA/NI of 1,212,000 dinars. VA in the industry rose 40% in 2003, and fell 32% due to the reconstruction of the Philip Morris plant.

Table A1-36. Employment and Productivity - Manufacturing (except tobacco)

Manufacturing (except tobacco)	Number of employees			Productivity, in 000' Dinars			Productivity annual growth chain index	
	2002	2003	2004	2002	2003	2004	2003	2004
Enterprises privatized in 2002	20,632	13,821	11,555	384.3	566.1	860.7	141.3	154.6
Enterprises privatized in 2003	35,935	29,856	26,298	213.2	236.8	327.8	111.1	138.4
Enterprises privatized in 2004	27,884	23,896	21,434	139.1	152.4	189.8	102.1	135.8
Total	84,451	67,678	59,287	230.5	273.9	281.8	118.8	139.4

The manufacturing industry excluding tobacco continues to record the highest growth of productivity ($P=VA/NI$) among enterprises privatized in 2002. The cumulative increase of their productivity was similar to the total manufacturing industry, but the distribution of the increase for enterprises privatized in 2003 is more similar to the general behavior. In 2003, it rose 11%, i.e. dropped in real terms, but the growth rate in 2004 increased by 38%.

The growth of productivity in manufacturing enterprises excluding tobacco that were privatized in 2002 is based on the cuts in employment from 20,6 thousand to 11,6 thousand.

The average $P=VA/NI$ in the **chemical industry** in 2004 was 716 thousand but was much higher, almost 1119 thousand, in enterprises that were privatized in 2002, confirming the rule that it takes two years for the full effects to be manifested. VA in enterprises privatized in 2003 and 2004 is relatively small. In 2003, the rise for all privatized enterprises was only 6.5%, which constituted a drop in real terms, but it then went up to over 41% in 2004.

Table A1-37. Employment and Productivity - Manufacture of Chemicals and Chemical Products

Manufacture of chemicals and chemical products	Number of employees			Productivity, in 000' Dinars			Productivity annual growth chain index	
	2002	2003	2004	2002	2003	2004	2003	2004
Enterprises privatized in 2002	4,452	3,932	3,153	690.8	773.1	1118.6	111.9	144.7
Enterprises privatized in 2003	251	246	227	92.1	107.8	162.4	117.0	150.7
Enterprises privatized in 2004	2,470	2,380	2,257	127.5	108.8	210.3	85.3	193.3
Total	7,173	6,563	5,637	475.9	506.6	716.4	106.5	141.4

The **section other minerals** includes cement and glass. Average productivity in 2004 was 743,000 dinars, but reached an exceptionally high 1595 thousand in enterprises privatized in 2002. The major part of the rise may be attributed to the cement plants privatized in 2002. The crucial factor for the cumulative increase of the productivity of this section was the reduction of the work force: over two years it was cut by 5,3 thousand and is now one-third of what it used to be. VA in 2003 remained the same and increased by 23.5% in 2004.

Table A1-38. Employment and Productivity - Manufacture of Other Mineral Products

Manufacture of other mineral products	Number of employees			Productivity, in 000' Dinars			Productivity annual growth chain index	
	2002	2003	2004	2002	2003	2004	2003	2004
Enterprises privatized in 2002	7,952	3,138	2,613	425.5	1075.5	1594.6	252.6	148.3
Enterprises privatized in 2003	8,122	6,041	5,329	278.8	340.1	399.1	122.0	117.4
Enterprises privatized in 2004	764	728	665	188.3	64.5	157.6	34.3	244.4
Total	16,838	9,918	8,687	344.1	552.2	743.4	160.4	134.6

The time-lag between privatization and its effects is considerably shorter in the **food and beverages industry**. Although the highest growth of productivity was recorded by enterprises privatized in 2002 (almost doubled in two years), both productivity and VA were high also in enterprises privatized in 2003 - over 50%.

Table A1-39. Employment and Productivity - Manufacture of Food and Beverages

Manufacture of food and beverages	Number of employees			Productivity, in 000' Dinars			Productivity annual growth chain index	
	2002	2003	2004	2002	2003	2004	2003	2004
Enterprises privatized in 2002	3,002	2,672	2,321	293.1	262.2	567.7	89.5	216.5
Enterprises privatized in 2003	6,890	6,283	5,950	376.8	384.8	589.9	102.1	153.3
Enterprises privatized in 2004	7,059	6,462	5,089	182.6	227.2	273.2	124.4	120.2
Total	16,951	15,436	13,360	281.1	297.1	465.4	105.7	156.6

7. Productivity by Types of Ownership – Recapitulated

Table A1-40. Employment and Productivity by Type of Ownership, 2002-2004

	Number of employees			Productivity, in 000' Dinars			Productivity annual growth chain index	
	2002	2003	2004	2002	2003	2004	2003	2004
Social ownership	473,284	300,735	222,700	243.0	249.3	321.4	102.6	128.9
Private ownership	263,340	333,700	407,700	305.0	354.1	497.8	116.1	140.6
Cooperate ownership	429,359	404,488	371,566	316.0	361.3	481.8	114.3	133.4
Mixed ownership	108,663	160,997	162,908	368.7	495.0	683.2	134.3	138.0
State ownership	1,293,279	1,216,773	1,182,944	289.3	347.2	483.5	120.0	139.3
Total	140,796	119,025	105,791	221.1	262.0	353.2	118.5	134.8
Enterprises privatized in 2002	28,081	20,081	16,683	318.8	450.5	696.5	141.3	154.6
Enterprises privatized in 2003	70,889	62,094	55,757	225.7	267.0	339.3	118.3	127.1
Enterprises privatized in 2004	41,835	36,850	33,342	147.7	150.8	204.8	102.1	135.8

Total $P=VA/NI$ for all enterprises was 483,5 thousand dinars in 2004 (small enterprises - 356 thousand; medium - 377 thousand; large - 628 thousand). This was 2.22 times more than in 2001. The 122% increase has the following components: 95% VA growth (including price rises), while NI (number of workers) fell 12% ($1.95/0.88=2.22$).

1. The state sector had the highest $P=VA/NI$ in absolute terms in 2004: 683 thousand dinars. It was followed by the private sector with 498 thousand dinars. Productivity was lowest in the social sector, even though employment was cut by more than half (by 57%) and totaled 321 thousand dinars.

2. $P=VA/NI$ was below the average in privatized enterprises - 353 thousand dinars. This is why productivity in all enterprises excluding the privatized is higher than the average at 496 thousand dinars. In the purely private sector (excluding privatized enterprises) it was 525 thousand dinars. Absolutely the highest productivity, to the amount of 697 thousand dinars, was recorded by the 200 enterprises that were privatized in 2002.

Productivity in mining and quarrying was particularly high in 2004 (2.4 million dinars). In the manufacturing industry it was 861 thousand dinars, in the chemical industry 1.12 million dinars, and in "other minerals" (cement plants) 1.6 million dinars.

The average period needed until the effects are manifested on VA and productivity is about two years (apart from the food industry). It is based on the growth of VA (20% in 2004) and the remainder (up to 35%) on the reduction of employment. (Prices are included in the VA growth.)

Therefore, restructuring (lower NI) has the biggest impact on $P=VA/NI$ (productivity), with over 140 thousand to 119 thousand in 2003, and under 106 thousand employed in 2004.

3. The following is the decomposition of the growth of productivity ($P=VA/NI$) compared to the previous year: prices, real growth and employment, expressed in percentages:

- ◆ in 2003 16.1-13.7 +18.3 (the calculation is $1,16.1*86.3*1,183=1,185$)
- ◆ in 2004 9.4¹²+9.5+12.5 ($1,094*1,095*1,125=1,348$)
- ◆ and cumulative:

¹² Deflator GDP.

◆ 2004/2002: 27.0-5.5+33.1 (1.27*0.945*1,331=1,597)

5. Overall employment was reduced by 164 thousand from 2001 to 2004 (enterprises sector). The number of enterprises covered rose from 67 thousand to 75 thousand. Employment in the private sector, however, rose to 173 thousand. The number of private enterprises increased from 57 thousand to 66 thousand.

The average number of workers per enterprise was 20.1 in 2001, and 4.1 in the private sector. The average number in 2004 was on the whole lower (15.7) but rose to 6.1 in the private sector.

If the rise in the number of private sector enterprises were seen as the result only of increased coverage (9,000 enterprises with four workers each), around 36 thousand jobs would have been created. But it is certain that the number includes newly established enterprises and increased employment in the sector. In round figures, the minimum effect is some 140 thousand new jobs, and the real effect between 140 thousand and 170 thousand.

As the number of jobs increased by 52 thousand in the state sector too, with the number of enterprises remaining the same, this means that around 390 thousand jobs were lost in the other sectors (164+173+52), mainly in the social sector (290 thousand) and the remaining 97 thousand in the mixed sector.

8. Productivity by Size of Enterprise

Table A1-41. Employment and Productivity by Size of Enterprises

	Number of enterprises				Productivity, in 000' Dinars			
	2001	2002	2003	2004	2001	2002	2003	2004
	Values							
Large	678,924	629,791	561,830	533,253	284.3	383.6	461.0	628.1
Medium	327,412	309,189	275,457	264,111	171.8	216.1	256.8	377.2
Small	340,482	354,299	379,487	385,580	128.3	185.6	244.4	356.3
Total	1,346,818	1,293,279	1,216,773	1,182,944	217.5	289.3	347.2	483.5
	Chain indices							
Large	-	92.8	89.2	94.9	-	134.9	120.2	136.3
Medium	-	94.4	89.1	95.9	-	125.8	118.8	146.9
Small	-	104.1	107.1	101.6	-	144.6	131.7	145.8
Total	-	96.0	94.1	97.2	-	144.3	120.0	139.3

The number of jobs in large enterprises was reduced by a total of 145 thousand. Indeed, the overwhelming majority of jobs lost (around 90%) were in large enterprises. Jobs in large private enterprises increased by 44 thousand, and in large state enterprises by 47,5 thousand. But jobs in large enterprises in the social and private sector were cut by 236 thousand.

The net reduction in medium-sized enterprises was 63 thousand. Employment in enterprises of this size in the private sector increased by 35 thousand and in the state sector by some 2 thousand.

Where small enterprises are concerned, the private sector recorded the largest increase in the number of jobs - 94 thousand. From the 3.1 workers per small enterprise in the private sector in 2001, the number rose to 4.1 in 2004. In small state enterprises, the number of jobs increased by just under 3 thousand, and decreased by a like number in the mixed sector, while employment in these enterprises in the social sector was more than halved (reduction of 47 thousand). This means that a total of around 50 thousand jobs were lost in small enterprises in the mixed and social sectors, but employment in all small enterprises increased by about 45 thousand.

The number of employees in all the 1,112 privatized enterprises was reduced by some 40 thousand. Of these, just under 20 thousand jobs were cut in large enterprises, about 14 thousand in medium, and about 6 thousand in small enterprises.

III IN CONCLUSION

1. Comments on methodology and its limitations

This research was hampered by the recent transition of enterprises to financial statements according to international accounting standards. First, because of new definitions and alterations in the contents of some balance-sheet items, comparability for certain indicators used in the analysis of value added had to be secured not only by regrouping the data but also using keys to classify the enterprises in appropriate groups and to compare their performance. Second, major errors appeared in the integrated reports of the Solvency Center, probably due to the modification of the forms submitted by enterprises. As far as possible, these were filtered out by numerical and logical methods.

The indicators obtained on the basis of Privatization Agency data (on privatized enterprises, the years in which they were privatized, on enterprises currently being restructured, etc.) were derived by separating out and aggregating data in the financial statements at the level of individual enterprises, independently of the category of ownership.

Indicators for aggregated data and all segregations (by ownership, size, different levels of aggregation based on sector and section affiliation, privatized and the group of enterprises excluding the privatized, majority state, social or share capital, etc.) are collected in some 400 tables of which a sample is attached to this analysis. The goal of the analysis itself was to arrive at general conclusions; structure was entered into only when necessary to provide detailed explanations for some phenomena at a higher level of aggregation. Certain segregations were disregarded due to doubts raised by some odd developments over time. A typical example are the 95 enterprises on the list of those undergoing restructuring. The group as a whole recorded disastrous results up to 2004 (VA fell from between 20% to 30% in 2003 and 2002, productivity by over 10%, the labor costs coefficient was constantly some 50% above one). Only the tendency to reduce employment continued in 2004, without any pronounced fluctuations, but the results improved dramatically: VA and productivity increased that year by some 50%, labor costs were down, etc. Examination of the structure within this group provides no clarification, indicating rather that the errors should be sought in the primary data.

A larger team and more time would be required for an in-depth analysis of the structure of all segregations. That stage could be initiated if the need is indicated by the results of this analysis and the questions it leaves unanswered.

Clarification should be sought also on the issue of some 100 apparently phantom enterprises in the state sector in 2003. In 2002, there were 450 such enterprises. This rose to 559 in 2003, and fell to 455 in 2004 (the difference of five could perhaps be explained by increased coverage). The 2003 jump was primarily in small enterprises (their number increased by 75 in 2003 and fell by 103 in 2004) and, in part, medium enterprises (increase of 14 and fall of 4). The number of large enterprises rose in both years - from 28 to 48 and then 51. Whether this was due to the debts of some enterprises being transformed into state capital, or the reduction in number was the result of privatization or some kind of error merits examination.

Results evidently improved in 2004. VA and related data recorded a high increase, and business results were also better. Several contributing factors, some measurable, some not, can be pointed out:

- The change in accounting standards;
- The price control motive has been replaced by the credit rating motive (elimination of fiscal and quasi-fiscal support has made the price of credit important);
- The trough in 2003. In 2003 VA increased only 12.9% (after 27.7% in 2002 and before the 35.4% growth in 2004 - an almost 15-point index drop and then a jump of 22.5 points). The reduction of the growth of outputs was even greater (to only 11% nominally) and in inter-phase consumption (to 10.1% that year). Had the VA growth in 2003 been as shown by the Serbian Statistics Office's GDP figures (+17.7%), its growth in 2004 would have been

reduced from the 35.4% officially recorded to just under 30%. There were no essential changes in the rate in the private and state sectors;

- What was the reason? The steep drop in the number of enterprises in the social sector matches the number privatized that year. According to the financial statements for 2003, 666 enterprises were privatized, and the number of those in the social sector fell the same year by 676. The respective figures in the manufacturing industry were 255 and 221; in the food industry 43 and 32; in the textile industry 26 and 31; in the chemical industry 3 and 3; rubber products 6 and 3; non-metallic minerals 34 and 18; metal products 27 and 26; production of other machines 17 and 16; in construction 97 and 95; in trade 106 and 106. The calculation is simple. If socially owned enterprises are excluded, VA grew: by 33% in 2002, 34% in 2003, and 44% in 2004. Hence, the growth rate in 2004 is almost unchanged compared to 2002, and the increase in 2004 was reduced from 22.5 percentage points when all types of ownership are encompassed, to 10 percentage points when socially owned enterprises are excluded. The conclusion is that the data can be deemed credible, and that the reduction in 2003 was mainly the result of the privatization of socially owned companies, which peaked that year (when VA fell), and before the full effects of the privatization were manifested. Besides the motives cited above, 2004 includes these effects. (When private enterprises are excluded, the rate weakens: VA grew 22% in 2002, only 4% in 2003 and 21% in 2004.)

2. Summarized conclusions that appear indubitable

VA grew dynamically and, on the whole, in real terms, with the exception of 2003 in which there was a real fall (by 2.8% if it is taken that the GDP deflator is relevant for the total VA of the enterprises reviewed).

The trends at the level of all enterprises were divergent in socially owned and private enterprises. Compared to 2001, the VA of all enterprises almost doubled in 2004 (it increased 95%, 13% more enterprises were encompassed, and employment was reduced by 11%). The VA of enterprises in the private sector increased 3.85 times (the number of enterprises rose by 11 thousand, and the number of workers by three-quarters, or 173 thousand; employment in socially owned enterprises was cut 57%), the private sector's share in total VA increased from 18% in 2001 to 34% in 2004. In contrast, the social sector's fell from 33.5% to 16% in 2004 (the number of companies was reduced from 3,9 thousand to 2,7 thousand).

VA in state-owned companies recorded the fastest growth in the whole 2001-2004 period, increasing 4.5 times. But in 2004, the year in which the full effects of privatization on VA in the private sector started showing, it grew far more rapidly than in the state sector (72% compared to 40%). Subsidies, which in 2001 constituted half of the VA of the state sector, halved their share in 2004 (although it remains very high). For all enterprises over the whole period, the share of subsidies in VA was 7.2%, and, at 30%, was the highest in the state sector. It may be estimated that about 4.5% of total VA was redistributed in the period to state enterprises via subsidies (and a far lesser amount to socially owned enterprises). The figure went down with time, but remained at 4% in 2004. Of this redistribution, 85% in the state and 71% in the social sector went to large enterprises. Evidently, the greater part of this redistribution by fiscal means was channeled to monopolistic public enterprises. Indeed, 99.9% of total subsidies in 2004 went to the public enterprises (almost two-thirds to the eight republican enterprises), and their VA with about two-thirds belongs to the state sector, while for local enterprises this share amounts to around 95%.

There is evidently an **urgent need to speed up the privatization of public companies as a precondition for cutting public spending**, regardless of whether this spending is above or below the line of formal budget expenditures.

When productivity (P) is defined as VA per worker, it averaged 483.5 thousand dinars for all enterprises in 2004. It was above the average in the state sector, where it reached 683 thousand dinars (or over 41% above the average), and in the private sector (498 thousand dinars, or 3% over the average). When subsidies are excluded from VA, productivity calculated against VA in the state sector is still the highest, but now amounts to 539 thousand dinars (18% over the average). Excluding subsidies in the private sector improves

the ratio against the average, increasing it by 8%. Even more interesting is the movement of productivity. Compared with 2001, average productivity nominally increased 2.2 times - exactly as it was in the private sector. (The increase includes price rises.) If the total average is represented by the GDP deflator, which was 58.5% in all three years, it ensues that productivity increased 40% in real terms, of which 14% was due to the reduction of employment and some 23% was a real increase in VA.) Productivity in the state sector was nominally tripled, while growing more slowly than the average in other sectors. The process of eliminating price disparities in the state sector influenced the above-average growth of productivity when it is defined in this way (and should not be confused with productivity as the result of increasing the physical volume of production). This is why prices in this sector rose faster than the average.

An above-average growth of productivity was recorded in the private sector when 2004 is considered separately. Overall productivity rose 39% nominally (27% in real terms if the VA is approximately deflated with the GDP deflator, plus 3% due to cuts in the number of workers). Productivity growth in the private sector was 41% (38% in the state sector, which was below the average, mainly because of the relative reduction of subsidies).

When enterprises are categorized by size, VA was in the entire period in inverse proportion to size. It grew faster than the average only in small enterprises (more than tripled), followed by medium (77%), and large enterprises (73.5%). Interestingly, productivity in large enterprises grew faster in the social sector (80%) than in the private (55%), owing solely to the exceptionally high cuts in employment (by over 170 thousand, or 62%).

At the level of all enterprises, gross wages grew faster than VA over the whole period, i.e. gross wages per employee grew faster than productivity - 3% overall. This means that average labor costs (defined as the ratio of wages to VA) also increased during the period. The exception was the state sector where productivity grew faster than wages. This unexpected result was caused by the growth of wages in large enterprises, which exceeded the growth of productivity by 9% and in which the wage/productivity ratio was not reversed even in 2004. Medium enterprises achieved an average ratio, and in small enterprises wages increased more slowly than productivity over the whole period. In the latter, the balance was tipped in favor of the growth of productivity back in 2003.

Labor costs are in a way the reverse side of the coin. When all enterprises are taken into account, the labor costs coefficient ($LC=WS/VA$) increased in 2002 and 2003, and was reduced in 2004. Cumulatively, it rose 3% and was somewhat higher in 2004 than in 2001 (0.56:0.54). If all enterprises are categorized by type of ownership, LC in the state sector was average, the social sector increased its LC in spite of a sharp reduction of employment by more than half, and it was considerably higher than the average (0.7%). Only in the private sector was LC below 0.5% over the period and, in 2004, decreased to 0.44%.

When enterprises are grouped by size, the lowest LC was in small enterprises (0.53), and the highest in medium enterprises (0.63%). But cross-referencing of these two groups (ownership and size) brings out that LC was the lowest in medium enterprises in the private sector (0.40), and the highest in socially owned small and medium enterprises in which it was over 1. Wages and salaries in these enterprises exceeded VA by approximately 10%, meaning not only that they were making losses, but also that VA was insufficient to meet their payrolls. Since no banks finance this kind of debt any more, the enterprises probably failed to pay their utility bills and taxes.

There have been dynamic structural changes in employment from 2001 to 2004. The total number of employed in all enterprises decreased 164 thousand, or 12% in the period (22% in large, and 19% in medium enterprises). In small enterprises, it rose by 45 thousand, or 13%. Here, too, it is necessary to cross-reference the two groups. When enterprises are categorized by ownership, the number of workers was reduced most in socially owned enterprises (by 47%), but was increased 74%, or 173 thousand employees, in the private sector. Of this, small private enterprises had 94 thousand more workers, while the remainder was evenly distributed in medium and large enterprises (35 thousand and 42 thousand, respectively.)

When the 52-thousand increase in the number of workers in the state sector, mainly in large local enterprises, is factored in, the following ensues: the number of jobs in the social and

mixed sectors was reduced by 389 thousand, but the overall reduction of employment was almost half that. The greatest number of new jobs was created in small private enterprises.

Special attention must be devoted in this analysis to privatized enterprises. According to the 2004 financial statements, a total of 1,112 were privatized in the 2002-2004 period - more than half (650) in 2003, 200 in 2002, and 262 in 2004.

The results, however, vary. If productivity is defined as gross value added per worker ($P=VA/NI$), it was lower in all privatized enterprises in 2004 (353 thousand dinars) than productivity in all enterprises (483,5 thousand dinars). The reason is that the effects of privatization were not manifested in those privatized in 2003 and 2004 and whose productivity was low. But enterprises privatized in 2002 recorded productivity double the average for all privatized enterprises (697 thousand dinars) and 44% higher than the productivity recorded in any type of ownership. In these enterprises, it was up 118% in 2004, which, deflated by the GDP deflator, gives a real increase of 72%, with real VA growth accounting for somewhat over 2 and the drop in employment about 70 percentage points.

Two things are obvious: that it takes from one to two years for the effects of privatization to be felt on productivity, and that the effects of restructuring and higher productivity on VA growth follow. This is not an across-the-board rule, as shown by the analyses of different activities.

Mining and quarrying, "other minerals" (cement) and the chemical industry recorded an exceptionally high growth of productivity and its value, exceeding the average of all enterprises privatized in 2002 by 60%, or even over three times. To these should be added the tobacco industry, which achieved its highest productivity in 2003 before embarking on a restructuring of production that led to a fall in VA in 2004. Enterprises in the food industry privatized in 2002 achieved their highest productivity (and its growth) in 2003. Labor costs were below 0.50 in the production of non-metallic minerals. Where size is concerned, it has no decisive effect on LC in privatized enterprises. The coefficient is the lowest - 0.40 - in the eight public sector enterprises under monitoring thanks to the IMF criteria.

With reservations as to the comparability of the data, as mentioned above, these are the indisputable findings of this analysis:

1. The private sector is proving its superiority with regard to the growth of gross value added and productivity, and low labor costs. At the end of the period under review, this began to be manifested also in VA growth and productivity when the private and state sectors are compared.
2. Problems such as the level of public spending (redistribution via subsidies), relatively high labor costs, and monopolization of the market (the latter is not treated in this analysis but does concern improving efficiency and getting closer to the EU), strongly indicate the need to privatize state-owned enterprises.
3. The fastest growth of productivity (and the highest productivity expressed as gross VA per worker), is achieved in privatized enterprises within approximately two years. In this period it is based primarily on the reduction of employment, which ensures the chief precondition for VA growth and thereby overall economic growth in the period ahead.
4. Although the indicators by sections indicate that productivity records the fastest growth in enterprises privatized through direct foreign investments, this cannot be corroborated without analysis at the level of groups of enterprises within sections.
5. The development model should be based on two components: a) direct foreign investments in large companies that are being privatized since these bring with them know-how, technology, markets and brands, but reduce employment (except for greenfield investments of which there have been few thus far); b) investments in medium and, above all, small enterprises primarily from domestic savings. Small enterprises complement large ones on the market and help to alleviate the unemployment problem.
6. The available documentation makes possible a broader structural analysis by various groups. It should be examined whether doing so would result in proposals for the improvement of financial statements and their annexes.

IV DATA ANNEX

Table 1. Serbia: Enterprise Sector Structure, 2001-2004
Number of enterprises, employed and VA - by size and ownership

	Number of enterprise Share in total (%)				Employed Share in total (%)				Value added Share in total (%)			
	2001	2002	2003	2004	2001	2002	2003	2004	2001	2002	2003	2004
	TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Small	95.58	95.58	96.22	96.32	25.28	27.40	31.19	32.59	5.26	6.06	7.37	9.34
Medium	3.32	3.32	2.88	2.80	24.31	23.91	22.64	22.33	19.20	17.86	16.74	17.42
Large	1.10	1.10	0.90	0.88	50.41	48.70	46.17	45.08	75.54	76.08	75.89	73.24
Social ownership	5.81	5.81	4.35	3.63	38.08	36.60	24.72	18.83	33.50	30.74	17.74	12.51
Small	4.32	4.32	3.33	2.86	6.87	6.51	4.66	3.84	0.27	0.20	0.23	0.15
Medium	1.14	1.14	0.78	0.59	10.82	10.42	7.85	6.26	6.21	5.19	3.14	2.58
Large	0.35	0.35	0.23	0.17	20.38	19.66	12.21	8.72	27.02	25.35	14.38	9.78
Private ownership	85.50	85.50	86.95	87.99	17.43	20.36	27.43	34.46	17.99	21.47	27.97	35.49
Small	84.44	84.44	85.94	86.70	13.11	15.56	19.51	22.87	4.46	5.39	6.42	8.32
Medium	0.92	0.92	0.87	1.07	2.42	2.69	4.46	5.74	3.98	3.98	5.65	7.43
Large	0.15	0.15	0.14	0.22	1.91	2.12	3.46	5.85	9.55	12.09	15.90	19.73
Cooperate ownership	3.56	3.56	3.64	3.65	1.46	1.44	1.39	1.53	0.97	0.83	0.84	1.24
Small	3.51	3.51	3.55	3.58	1.14	1.13	0.96	1.16	0.19	0.13	0.08	0.09
Medium	0.05	0.05	0.08	0.07	0.26	0.26	0.40	0.34	0.21	0.14	0.24	0.27
Large	0.00	0.00	0.00	0.00	0.05	0.05	0.02	0.02	0.57	0.56	0.51	0.88
Mixed ownership	4.45	4.45	4.30	4.13	34.79	33.20	33.24	31.41	39.13	36.26	34.59	31.30
Small	2.84	2.84	2.87	2.80	3.53	3.47	4.36	3.77	0.29	0.27	0.31	0.35
Medium	1.05	1.05	0.98	0.92	9.56	9.27	8.52	8.43	7.51	6.80	5.77	5.46
Large	0.57	0.57	0.46	0.42	21.69	20.46	20.36	19.21	31.33	29.19	28.50	25.49
State ownership	0.67	0.67	0.76	0.60	8.24	8.40	13.23	13.77	8.41	10.71	18.86	19.46
Small	0.47	0.47	0.52	0.38	0.63	0.73	1.70	0.96	0.06	0.08	0.33	0.42
Medium	0.16	0.16	0.17	0.16	1.24	1.27	1.41	1.55	1.28	1.75	1.94	1.67
Large	0.04	0.04	0.07	0.07	6.37	6.40	10.12	11.26	7.07	8.88	16.60	17.37

Table 2. Serbia: Enterprises Privatized in 2001-2004
Number of enterprises, employed, VA at factor cost in 2004

	Number of enterprises	Employed	VA in 2004 (factor cost)	Number of enterprises	Employed	VA in 2004 (factor cost)
			in 000`s dinars	Share in industry total (%)		
TOTAL	1,112	105,791	37,364,467	1.47	8.94	6.53
1. Mining and briquetting of coal	12	1,052	588,710	4.76	2.68	2.95
2. Manufacturing	439	61,865	25,759,919	2.72	12.78	13.09
2.1. Manufacture of foods product and beverages	83	13,360	6,217,382	3.18	13.38	10.70
2.2. Manufacture of tobacco products	2	2,578	3,124,558	10.53	74.25	71.73
2.3. Manufacture of textile yarns and textiles + Manufacture of wearing apparel and fur	49	3,687	146,877	3.08	6.69	2.11
2.4. Publishing, printing and reproduction	38	1,315	180,367	2.09	6.53	1.52
2.5. Manufacture of chemicals and chemical products	15	5,637	4,038,537	1.86	18.71	17.59
2.6. Manufacture of rubber and plastic	12	1,759	488,840	1.34	7.45	4.49
2.7. Non-metal mineral products	53	8,607	6,398,469	9.35	27.09	52.20
2.8. Manufacture of metal products except machinery	46	2,849	606,338	3.65	13.03	8.97
2.9. Manufacture of machinery and equipment	21	2,810	601,895	2.79	9.74	7.62
2.10. Other manufacturing	120	19,263	3,956,656	2.06	11.72	8.24
3. Construction	164	9,929	3,886,129	3.96	11.54	8.29
4. Wholesale and retail trade, repairs	174	10,874	1,857,441	0.49	5.52	2.15
4.1. Vehicales sale and repair	35	3,096	734,665	1.32	12.62	4.71
4.2. Wholesales and intermediation	59	2,177	466,669	0.22	1.93	0.83
4.3. Retail (except vehicles), Repair	80	5,601	656,107	1.38	9.40	4.43
5. Other sectors	323	22,071	5,272,268	1.70	6.74	3.10

Table 3. Serbia: Enterprise Performance, Summary 2001-2004
All Enterprises - by ownership

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
2001										
in 000 `s Dinars										
TOTAL	66,878	1,346,818	292,975,736	271,219,604	158,877,382	109,889,505	(74,009,060)	217.5	81.6	
Social ownership	3,885	512,826	98,154,313	91,456,421	60,131,855	41,541,351	(46,454,082)	191.4	81.0	
Private ownership	57,182	234,797	52,699,430	52,153,649	20,382,589	13,914,567	6,909,585	224.4	59.3	
Cooperate ownership	2,384	19,685	2,828,899	2,698,151	1,756,650	1,201,299	(1,290,364)	143.7	61.0	
Mixed ownership	2,977	468,528	114,648,032	112,149,881	59,048,019	40,842,102	(20,984,291)	244.7	87.2	
State ownership	450	110,982	24,645,062	12,761,502	17,558,269	12,390,186	(12,189,908)	222.1	111.6	
2002										
TOTAL	66,878	1,293,279	374,160,680	341,163,339	217,261,757	152,241,276	(40,464,132)	289.3	117.7	
Social ownership	3,885	473,284	115,010,771	104,998,203	78,223,906	54,633,694	(23,715,576)	243.0	115.4	
Private ownership	57,182	263,340	80,325,286	79,471,982	33,561,012	23,207,099	12,408,888	305.0	88.1	
Cooperate ownership	2,384	18,633	3,100,057	2,937,419	2,469,111	1,691,719	(904,588)	166.4	90.8	
Mixed ownership	2,977	429,359	135,661,760	132,138,516	79,158,623	55,661,894	(17,616,554)	316.0	129.6	
State ownership	450	108,663	40,062,806	21,617,219	23,849,105	17,046,870	(10,636,302)	368.7	156.9	
2003										
TOTAL	73,829	1,216,773	422,477,931	390,546,571	250,308,450	175,051,665	(58,139,066)	347.2	143.9	
Social ownership	3,209	300,735	74,966,086	70,452,501	55,088,708	38,095,647	(29,330,094)	249.3	126.7	
Private ownership	64,198	333,700	118,146,683	117,015,217	55,043,969	38,196,707	15,594,308	354.1	114.5	
Cooperate ownership	2,686	16,853	3,528,932	3,217,215	2,700,881	1,838,793	(1,563,667)	209.4	109.1	
Mixed ownership	3,177	404,488	146,135,917	142,230,234	90,678,708	63,879,133	(27,073,974)	361.3	157.9	
State ownership	559	160,997	79,700,313	57,631,404	46,796,184	33,041,385	(15,765,639)	495.0	205.2	
2004										
TOTAL	75,477	1,182,944	571,950,059	539,819,117	320,596,185	236,683,720	(47,914,123)	483.5	200.1	
Social ownership	2,737	222,700	71,573,283	69,208,084	50,365,982	35,252,936	(35,815,343)	321.4	158.3	
Private ownership	66,411	407,700	202,963,581	200,988,765	88,337,983	65,164,670	32,890,981	497.8	159.8	
Cooperate ownership	2,755	18,070	7,079,440	6,669,746	5,532,913	4,511,051	(627,890)	391.8	249.6	
Mixed ownership	3,119	371,566	179,036,897	175,104,510	114,901,040	86,402,717	(27,036,638)	481.8	232.5	
State ownership	455	162,908	111,296,858	87,848,012	61,458,267	45,352,346	(17,325,233)	683.2	278.4	
GROWTH INDICES										
02/'01										
TOTAL		96.0	127.7	125.8	136.7	138.5		133.0	144.3	92.2
Social ownership		92.3	117.2	114.8	130.1	131.5		127.0	142.5	89.1
Private ownership		112.2	152.4	152.4	164.7	166.8		135.9	148.7	91.4
Cooperate ownership		94.7	109.6	108.9	140.6	140.8		115.8	148.8	77.8
Mixed ownership		91.6	118.3	117.8	134.1	136.3		129.1	148.7	86.8
State ownership		97.9	162.6	169.4	135.8	137.6		166.0	140.5	118.2
03/'02										
TOTAL		94.1	112.9	114.5	115.2	115.0		120.0	122.2	98.2
Social ownership		63.5	65.2	67.1	70.4	69.7		102.6	109.7	93.5
Private ownership		126.7	147.1	147.2	164.0	164.6		116.1	129.9	89.4
Cooperate ownership		90.4	113.8	109.5	109.4	108.7		125.9	120.2	104.7
Mixed ownership		94.2	107.7	107.6	114.6	114.8		114.3	121.8	93.9
State ownership		148.2	198.9	266.6	196.2	193.8		134.3	130.8	102.6
04/'03										
TOTAL		97.2	135.4	138.2	128.1	135.2		139.3	139.1	100.1
Social ownership		74.1	95.5	98.2	91.4	92.5		128.9	125.0	103.2
Private ownership		122.2	171.8	171.8	160.5	170.6		140.6	139.6	100.7
Cooperate ownership		107.2	200.6	207.3	204.9	245.3		187.1	228.8	81.8
Mixed ownership		91.9	122.5	123.1	126.7	135.3		133.4	147.2	90.6
State ownership		101.2	139.6	152.4	131.3	137.3		138.0	135.6	101.7

Table 3.1. Serbia: Enterprise Performance, Summary 2001-2004
Small Enterprises - by ownership

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
2001										
TOTAL	63,921	340,482	43,700,408	41,784,205	27,085,632	18,429,140	(6,643,087)	128.3	54.1	
Social ownership	2,892	92,504	7,871,910	7,354,913	7,739,473	5,272,215	(4,445,270)	85.1	57.0	
Private ownership	56,471	176,522	27,816,435	27,415,096	12,748,862	8,625,480	1,942,406	157.6	48.9	
Cooperate ownership	2,347	15,393	2,101,976	2,010,678	1,297,236	881,447	(1,209,465)	136.6	57.3	
Mixed ownership	1,899	47,577	4,654,662	4,534,582	4,290,647	2,951,907	(2,867,735)	97.8	62.0	
State ownership	312	8,486	1,255,425	468,936	1,009,414	698,091	(63,023)	147.9	82.3	
2002										
TOTAL	63,921	354,299	65,751,189	62,402,710	41,867,679	28,763,122	(9,262,500)	185.6	81.2	
Social ownership	2,892	84,187	8,994,723	8,132,514	10,363,175	7,071,436	(5,591,411)	106.8	84.0	
Private ownership	56,471	201,193	46,126,616	45,501,564	21,645,619	14,854,770	7,088,378	229.3	73.8	
Cooperate ownership	2,347	14,627	2,409,981	2,292,230	1,884,466	1,289,892	(674,251)	164.8	88.2	
Mixed ownership	1,899	44,845	6,052,561	5,836,581	6,234,747	4,327,683	(10,003,667)	135.0	96.5	
State ownership	312	9,447	2,167,308	639,821	1,739,672	1,219,341	(81,549)	229.4	129.1	
2003										
TOTAL	71,038	379,487	92,757,376	87,898,083	57,977,958	39,711,709	(3,229,621)	244.4	104.6	
Social ownership	2,460	56,670	7,349,409	6,676,962	8,942,494	6,061,667	(6,053,722)	129.7	107.0	
Private ownership	63,448	237,374	65,708,919	64,894,583	32,536,032	22,227,199	8,849,184	276.8	93.6	
Cooperate ownership	2,623	11,723	2,339,968	2,165,431	1,799,413	1,213,438	(800,917)	199.6	103.5	
Mixed ownership	2,120	53,026	9,103,948	8,856,581	9,424,808	6,519,660	(5,346,285)	171.7	123.0	
State ownership	387	20,694	8,255,132	5,304,526	5,275,211	3,689,745	122,119	398.9	178.3	
2004										
TOTAL	72,697	385,580	137,376,793	134,294,563	73,443,749	53,083,412	3,488,830	356.3	137.7	
Social ownership	2,162	45,448	8,045,661	7,333,364	8,738,095	6,076,130	(7,444,949)	177.0	133.7	
Private ownership	65,441	270,499	105,372,345	104,301,410	46,583,672	33,260,909	20,446,947	389.5	123.0	
Cooperate ownership	2,699	13,765	5,372,754	5,163,742	4,619,133	3,831,429	(773,172)	390.3	278.3	
Mixed ownership	2,111	44,558	10,964,586	10,715,102	9,709,940	7,036,551	(10,536,208)	246.1	157.9	
State ownership	284	11,310	7,621,447	6,780,945	3,792,909	2,878,393	1,796,212	673.9	254.5	
GROWTH INDICES										
02/'01										
TOTAL	100	104.1	150.5	149.3	154.6	156.1		144.6	150.0	96.4
Social Ownership	100	91.0	114.3	110.6	133.9	134.1		125.6	147.4	85.2
Private Ownership	100	114.0	165.8	166.0	169.8	172.2		145.5	151.1	96.3
Cooperate Ownership	100	95.0	114.7	114.0	145.3	146.3		120.7	154.0	78.3
Mixed Ownership	100	94.3	130.0	128.7	145.3	146.6		138.0	155.5	88.7
State Ownership	100	111.3	172.6	136.4	172.3	174.7		155.1	156.9	98.8
03/'02										
TOTAL	111.1	107.1	141.1	140.9	138.5	138.1		131.7	128.9	102.2
Social Ownership	85.1	67.3	81.7	82.1	86.3	85.7		121.4	127.3	95.3
Private Ownership	112.4	118.0	142.5	142.6	150.3	149.6		120.7	126.8	95.2
Cooperate Ownership	111.8	80.1	97.1	94.5	95.5	94.1		121.1	117.4	103.2
Mixed Ownership	111.6	118.2	150.4	151.7	151.2	150.7		127.2	127.4	99.8
State Ownership	124.0	219.1	380.9	829.1	303.2	302.6		173.9	138.1	125.9
04/'03										
TOTAL	102.3	101.6	148.1	152.8	126.7	133.7		145.8	131.6	110.8
Social Ownership	87.9	80.2	109.5	109.8	97.7	100.2		136.5	125.0	109.2
Private Ownership	103.1	114.0	160.4	160.7	143.2	149.6		140.7	131.3	107.2
Cooperate Ownership	102.9	117.4	229.6	238.5	256.7	315.7		195.5	268.9	72.7
Mixed Ownership	99.6	84.0	120.4	121.0	103.0	107.9		143.3	128.4	111.6
State Ownership	73.4	54.7	92.3	127.8	71.9	78.0		168.9	142.7	118.3

Table 3.2. Serbia: Enterprise Performance, Summary 2001-2004
Medium Enterprises - by ownership

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/ Average net wage
2001										
TOTAL	2,219	327,412	56,237,397	53,675,172	34,384,071	23,727,782	(5,334,497)	171.8	72.5	
Social ownership	761	145,775	18,207,278	17,180,332	13,973,936	9,653,390	(4,562,186)	124.9	66.2	
Private ownership	614	32,573	11,651,489	11,570,241	3,408,525	2,344,417	2,668,246	357.7	72.0	
Cooperate ownership	35	3,552	604,869	571,337	367,022	256,267	(89,405)	170.3	72.1	
Mixed ownership	699	128,767	22,016,229	21,357,935	14,423,628	9,937,542	(3,155,597)	171.0	77.2	
State ownership	110	16,745	3,757,532	2,995,327	2,210,960	1,536,166	(195,555)	224.4	91.7	
2002										
TOTAL	2,219	309,189	66,827,249	62,406,990	46,691,833	32,514,259	(10,924,118)	216.1	105.2	
Social ownership	761	134,787	19,403,219	18,161,408	18,341,634	12,763,124	(8,307,958)	144.0	94.7	
Private ownership	614	34,737	14,906,012	14,793,272	5,339,910	3,702,979	3,384,711	429.1	106.6	
Cooperate ownership	35	3,351	539,268	500,150	478,527	331,219	(235,668)	160.9	98.8	
Mixed ownership	699	119,912	25,442,860	24,082,707	19,008,177	13,238,619	(5,693,924)	212.2	110.4	
State ownership	110	16,402	6,535,890	4,869,453	3,523,585	2,478,318	(71,279)	398.5	151.1	
2003										
TOTAL	2,129	275,457	70,742,706	67,491,010	51,459,422	35,741,931	(20,585,969)	256.8	129.8	
Social ownership	578	95,465	13,261,119	11,952,519	14,711,439	10,127,849	(9,051,849)	138.9	106.1	
Private ownership	646	54,261	23,885,141	23,710,878	10,517,984	7,293,144	4,171,571	440.2	134.4	
Cooperate ownership	61	4,827	1,016,753	880,284	804,615	560,232	(455,298)	210.6	116.1	
Mixed ownership	720	103,727	24,392,525	23,880,165	20,591,420	14,390,419	(14,676,297)	235.2	138.7	
State ownership	124	17,177	8,187,168	7,067,164	4,833,964	3,370,287	(574,096)	476.6	196.2	
2004										
TOTAL	2,117	264,111	99,622,509	96,039,261	62,939,439	46,030,586	(14,228,589)	377.2	174.3	
Social ownership	446	74,051	14,780,477	14,195,029	13,893,945	9,071,744	(11,138,166)	199.6	122.5	
Private ownership	804	67,940	42,515,521	41,972,080	17,189,685	12,991,500	7,515,774	625.8	191.2	
Cooperate ownership	55	4,054	1,528,657	1,331,409	835,758	603,999	132,056	377.1	149.0	
Mixed ownership	692	99,725	31,231,239	30,512,293	24,919,728	18,648,346	(9,979,819)	313.2	187.0	
State ownership	120	18,341	9,566,615	8,028,450	6,100,323	4,714,997	(758,434)	521.6	257.1	
GROWTH INDICES										
02/'01										
TOTAL	100	94.4	118.8	116.3	135.8	137.0		125.8	145.1	86.7
Social ownership	100	92.5	106.6	105.7	131.3	132.2		115.3	143.0	80.6
Private ownership	100	106.6	127.9	127.9	156.7	157.9		120.0	148.1	81.0
Cooperate ownership	100	94.3	89.2	87.5	130.4	129.2		94.5	137.0	69.0
Mixed ownership	100	93.1	115.6	112.8	131.8	133.2		124.1	143.1	86.7
State ownership	100	98.0	173.9	162.6	159.4	161.3		177.6	164.7	107.8
03/'02										
TOTAL	95.9	89.1	105.9	108.1	110.2	109.9		118.8	123.4	96.3
Social ownership	76.0	70.8	68.3	65.8	80.2	79.4		96.5	112.0	86.1
Private ownership	105.2	156.2	160.2	160.3	197.0	197.0		102.6	126.1	81.4
Cooperate ownership	174.3	144.0	188.5	176.0	168.1	169.1		130.9	117.4	111.5
Mixed ownership	103.0	86.5	95.9	99.2	108.3	108.7		110.8	125.7	88.2
State ownership	112.7	104.7	125.3	145.1	137.2	136.0		119.6	129.9	92.1
04/'03										
TOTAL	99.4	95.9	140.8	142.3	122.3	128.8		146.9	134.3	109.3
Social ownership	77.2	77.6	111.5	118.8	94.4	89.6		143.7	115.5	124.4
Private ownership	124.5	125.2	178.0	177.0	163.4	178.1		142.2	142.3	99.9
Cooperate ownership	90.2	84.0	150.3	151.2	103.9	107.8		179.0	128.4	139.5
Mixed ownership	96.1	96.1	128.0	127.8	121.0	129.6		133.2	134.8	98.8
State ownership	96.8	106.8	116.8	113.6	126.2	139.9		109.4	131.0	83.5

Table 3.3. Serbia: Enterprise Performance, Summary 2001-2004
Large Enterprises - by ownership

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
2001										
TOTAL	738	678,924	193,037,931	175,760,227	97,407,679	67,732,583	(62,031,476)	284.3	99.8	
Social ownership	232	274,547	72,075,125	66,921,176	38,418,446	26,615,746	(37,446,626)	262.5	96.9	
Private ownership	97	25,702	13,231,506	13,168,312	4,225,202	2,944,670	2,298,933	514.8	114.6	
Cooperate ownership	2	740	122,054	116,136	92,392	63,585	8,506	164.9	85.9	
Mixed ownership	379	292,184	87,977,141	86,257,364	40,333,744	27,952,653	(14,960,959)	301.1	95.7	
State ownership	28	85,751	19,632,105	9,297,239	14,337,895	10,155,929	(11,931,330)	228.9	118.4	
2002										
TOTAL	738	629,791	241,582,242	216,353,639	128,702,245	90,963,895	(20,277,514)	383.6	144.4	
Social ownership	232	254,310	86,612,829	78,704,281	49,519,097	34,799,134	(9,816,207)	340.6	136.8	
Private ownership	97	27,410	19,292,658	19,177,146	6,575,483	4,649,350	1,935,799	703.9	169.6	
Cooperate ownership	2	655	150,808	145,039	106,118	70,608	5,331	230.2	107.8	
Mixed ownership	379	264,602	104,166,339	102,219,228	53,915,699	38,095,592	(1,918,963)	393.7	144.0	
State ownership	28	82,814	31,359,608	16,107,945	18,585,848	13,349,211	(10,483,474)	378.7	161.2	
2003										
TOTAL	663	561,830	258,977,849	235,157,478	140,871,070	99,598,025	(34,323,476)	461.0	177.3	
Social ownership	172	148,599	54,355,558	51,823,020	31,436,949	21,907,621	(14,224,523)	365.8	147.4	
Private ownership	104	42,066	28,552,623	28,409,756	11,987,779	8,674,874	2,573,553	678.8	206.2	
Cooperate ownership	2	303	172,211	171,500	96,853	65,123	(307,452)	568.4	214.9	
Mixed ownership	337	247,735	112,639,444	109,493,488	60,662,480	42,969,054	(7,051,392)	454.7	173.4	
State ownership	48	123,126	63,258,013	45,259,714	36,687,009	25,981,353	(15,313,662)	513.8	211.0	
2004										
TOTAL	663	533,253	334,950,757	309,485,293	184,212,997	137,569,722	(37,174,364)	628.1	258.0	
Social ownership	129	103,201	48,747,145	47,679,691	27,733,942	20,105,062	(17,232,228)	472.4	194.8	
Private ownership	166	69,261	55,075,715	54,715,275	24,564,626	18,912,261	4,928,260	795.2	273.1	
Cooperate ownership	1	251	178,029	174,595	78,022	75,623	13,226	709.3	301.3	
Mixed ownership	316	227,283	136,841,072	133,877,115	80,271,372	60,717,820	(6,520,611)	602.1	267.1	
State ownership	51	133,257	94,108,796	73,038,617	51,565,035	37,758,956	(18,363,011)	706.2	283.4	
GROWTH INDICES										
02/'01										
TOTAL	100	92.8	125.1	123.1	132.1	134.3		134.9	144.8	93.2
Social ownership	100	92.6	120.2	117.6	128.9	130.7		129.7	141.2	91.9
Private ownership	100	106.6	145.8	145.6	155.6	157.9		136.7	148.1	92.3
Cooperate ownership	100	88.5	123.6	124.9	114.9	111.0		139.6	125.5	111.3
Mixed ownership	100	90.6	118.4	118.5	133.7	136.3		130.7	150.5	86.9
State ownership	100	96.6	159.7	173.3	129.6	131.4		165.4	136.1	121.5
03/'02										
TOTAL	89.8	89.2	107.2	108.7	109.5	109.5		120.2	122.7	97.9
Social ownership	74.1	58.4	62.8	65.8	63.5	63.0		107.4	107.7	99.7
Private ownership	107.2	153.5	148.0	148.1	182.3	186.6		96.4	121.6	79.3
Cooperate ownership	100.0	46.3	114.2	118.2	91.3	92.2		246.9	199.4	123.8
Mixed ownership	88.9	93.6	108.1	107.1	112.5	112.8		115.5	120.5	95.9
State ownership	171.4	148.7	201.7	281.0	197.4	194.6		135.7	130.9	103.6
04/'03										
TOTAL	100.0	94.9	129.3	131.6	130.8	138.1		136.3	145.5	93.6
Social ownership	75.0	69.4	89.7	92.0	88.2	91.8		129.1	132.1	97.7
Private ownership	159.6	164.6	192.9	192.6	204.9	218.0		117.2	132.4	88.5
Cooperate ownership	50.0	82.8	103.4	101.8	80.6	116.1		124.8	140.2	89.0
Mixed ownership	93.8	91.7	121.5	122.3	132.3	141.3		132.4	154.0	86.0
State ownership	106.3	108.2	148.8	161.4	140.6	145.3		137.5	134.3	102.4

Table 4. Serbia: Enterprise Performance by Sector of Activity, 2001-2004
Mining and briquetting of coal - All enterprises

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
	2001				in 000 `s Dinars					
TOTAL	193.0	43,949	8,456,136	7,578,023	7,197,257	4,955,680	-1,247,183	192.4	112.8	
Social Ownership	44.0	38,150	8,012,833	7,135,105	6,189,718	4,263,691	-801,678	210.0	111.8	
Private Ownership	135.0	523	101,097	100,888	41,419	28,564	8,035	193.3	54.6	
Cooperate Ownership	1.0	2	761	761	111	76	558	380.5	38.0	
Mixed Ownership	11.0	979	285,544	285,368	169,681	119,634	4,697	291.7	122.2	
State Ownership	2.0	4,295	55,901	55,901	796,328	543,715	-458,795	13.0	126.6	
TOTAL	193.0	41,114	14,147,913	14,063,133	9,350,162	6,561,647	-590,058	344.1	159.6	
Social Ownership	44.0	35,399	11,901,204	11,817,182	7,943,616	5,573,910	-511,133	336.2	157.5	
Private Ownership	135.0	607	134,632	134,512	70,370	48,397	-76,587	221.8	79.7	
Cooperate Ownership	12.0	907	362,809	362,171	237,379	168,559	-1,762	400.0	185.8	
Mixed Ownership	1.0	53	-39	-39	422	293	-576	-0.7	5.5	
State Ownership	1.0	4,148	1,749,307	1,749,307	1,098,375	770,488	0	421.7	185.7	
TOTAL	233.0	39,308	16,200,300	15,463,261	10,665,486	7,458,451	-277,282	412.1	189.7	
Social Ownership	35.0	12,421	2,423,240	2,387,449	1,701,340	1,186,058	-656,589	195.1	95.5	
Private Ownership	180.0	830	288,691	288,045	132,828	92,545	-5,638	347.8	111.5	
Cooperate Ownership	1.0	2	-71	-71	169	117	3	-35.5	58.5	
Mixed Ownership	13.0	1,316	662,341	662,305	374,919	261,202	42,563	503.3	198.5	
State Ownership	4.0	24,739	12,826,099	12,125,533	8,456,230	5,918,529	342,379	518.5	239.2	
TOTAL	252.0	39,321	19,958,689	18,569,522	12,789,283	8,913,471	-4,665,595	507.6	226.7	
Social Ownership	30.0	11,226	2,280,465	2,267,342	2,026,859	1,399,867	-3,663,265	203.1	124.7	
Private Ownership	202.0	1,918	842,155	842,058	357,157	257,204	16,270	439.1	134.1	
Cooperate Ownership	2.0	2	547	547	51	-212	-270	273.5	-106.0	
Mixed Ownership	14.0	1,349	1,049,373	1,049,373	392,580	275,464	315,191	777.9	204.2	
State Ownership	4.0	24,826	15,786,146	14,410,199	10,012,636	6,981,148	-1,333,580	635.9	281.2	
					GROWTH INDICES					
TOTAL	100.0	93.5	167.3	185.6	129.9	132.4		178.8	141.5	126.4
Social Ownership	100.0	92.8	148.5	165.6	128.3	130.7		160.1	140.9	113.6
Private Ownership	100.0	116.1	133.2	133.3	169.9	169.4		114.7	146.0	78.6
Cooperate Ownership	1,200.0	45,350.0	47,675.3	47,591.5	213,855.0	221,788.2		105.1	489.1	21.5
Mixed Ownership	9.1	5.4	0.0	0.0	0.2	0.2		-0.3	4.5	-5.6
State Ownership	50.0	96.6	3,129.3	3,129.3	137.9	141.7		3,240.2	146.7	2,208.3
TOTAL	120.7	95.6	114.5	110.0	114.1	113.7		119.8	118.9	100.7
Social Ownership	79.5	35.1	20.4	20.2	21.4	21.3		58.0	60.6	95.7
Private Ownership	133.3	136.7	214.4	214.1	188.8	191.2		156.8	139.8	112.1
Cooperate Ownership	8.3	0.2	0.0	0.0	0.1	0.1		-8.9	31.5	-28.2
Mixed Ownership	1,300.0	2,483.0	-1,698,310.3	-1,698,217.9	88,843.4	89,147.4		-68,397.0	3,590.3	-1,905.1
State Ownership	400.0	596.4	733.2	693.2	769.9	768.2		122.9	128.8	95.5
TOTAL	108.2	100.0	123.2	120.1	119.9	119.5		123.2	119.5	103.1
Social Ownership	85.7	90.4	94.1	95.0	119.1	118.0		104.1	130.6	79.7
Private Ownership	112.2	231.1	291.7	292.3	268.9	277.9		126.2	120.3	105.0
Cooperate Ownership	200.0	100.0	-770.4	-770.4	30.2	-181.2		-770.4	-181.2	425.2
Mixed Ownership	107.7	102.5	158.4	158.4	104.7	105.5		154.6	102.9	150.2
State Ownership	100.0	100.4	123.1	118.8	118.4	118.0		122.6	117.5	104.3

Table 4.1. Serbia: Enterprise Performance by Sector of Activity, 2001-2004
Briquetting of coal - All enterprises

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
2001										
in 000 `s Dinars										
TOTAL	7	25,507	4,078,797	4,075,811	5,382,481	3,686,842	-948,396	159.9	144.5	
Social ownership	2	21,206	4,018,935	4,015,949	4,585,782	3,142,879	-492,650	189.5	148.2	
Private ownership	3	4	3,200	3,200	260	172	2,491	800.0	43.0	
Cooperate ownership	1	2	761	761	111	76	558	380.5	38.0	
State ownership	1	4,295	55,901	55,901	796,328	543,715	-458,795	13.0	126.6	
2002										
TOTAL	7	24,987	10,536,779	10,535,253	7,211,460	5,071,638	-792,213	421.7	203.0	
Social ownership	2	20,832	8,782,576	8,781,050	6,112,591	4,300,812	-795,946	421.6	206.5	
Private ownership	3	5	4,539	4,539	355	241	3,711	907.8	48.2	
Cooperate ownership	1	2	357	357	139	97	22	178.5	48.5	
State ownership	1	4,148	1,749,307	1,749,307	1,098,375	770,488	0	421.7	185.7	
2003										
TOTAL	9	24,700	12,824,709	12,124,683	8,452,166	5,915,836	346,895	519.2	239.5	
Social ownership							0	-	-	
Private ownership	5	11	231	231	784	538	-930	21.0	48.9	
Cooperate ownership	1	2	-71	-71	169	117	3	-35.5	58.5	
State ownership	3	24,687	12,824,549	12,124,523	8,451,213	5,915,181	347,822	519.5	239.6	
2004										
TOTAL	11	24,876	15,784,888	14,408,941	10,016,774	6,983,527	-1,338,972	634.5	280.7	
Social ownership							0	-	-	
Private ownership	7	48	-1,805	-1,805	4,087	2,591	-5,122	-37.6	54.0	
Cooperate ownership	1	2	547	547	51	-212	-270	273.5	-106.0	
State ownership	3	24,826	15,786,146	14,410,199	10,012,636	6,981,148	-1,333,580	635.9	281.2	
GROWTH INDICES										
02/'01										
TOTAL	100	98.0	258.3	258.5	134.0	137.6		263.7	140.4	187.8
Social ownership	100	98.2	218.5	218.7	133.3	136.8		222.5	139.3	159.7
Private ownership	100	125.0	141.8	141.8	136.5	140.1		113.5	112.1	101.2
Cooperate ownership	100	100.0	46.9	46.9	125.2	127.6		46.9	127.6	36.8
State ownership	100	96.6	3129.3	3129.3	137.9	141.7		3240.2	146.7	2208.3
03/'02										
TOTAL	128.6	98.9	121.7	115.1	117.2	116.6		123.1	118.0	104.3
Social ownership	166.7	220.0	5.1	5.1	220.8	223.2				
Private ownership	100.0	100.0	-19.9	-19.9	121.6	120.6		2.3	101.5	2.3
Cooperate ownership								-19.9	120.6	-16.5
State ownership	300.0	595.2	733.1	693.1	769.4	767.7		123.2	129.0	95.5
04/'03										
TOTAL	122.2	100.7	123.1	118.8	118.5	118.0		122.2	117.2	104.3
Social ownership	140.0	436.4	-781.4	-781.4	521.3	481.6				
Private ownership	100.0	100.0	-770.4	-770.4	30.2	-181.2		-179.1	110.4	-162.2
Cooperate ownership								-770.4	-181.2	425.2
State ownership	100.0	100.6	123.1	118.9	118.5	118.0		122.4	117.4	104.3

Table 4.2. Serbia: Enterprise Performance by Sector of Activity, 2001-2004
Other mining and briquetting of stone - All enterprises

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
2001										
in 000` s Dinars										
TOTAL	186	18,442	4,377,339	3,502,212	1,814,776	1,268,838	-298,787	237.4	68.8	
Social ownership	42	16,944	3,993,898	3,119,156	1,603,936	1,120,812	-309,028	235.7	66.1	
Private ownership	132	519	97,897	97,688	41,159	28,392	5,544	188.6	54.7	
Mixed ownership	11	979	285,544	285,368	169,681	119,634	4,697	291.7	122.2	
State ownership	1	0			0	0	0	-	-	
2002										
TOTAL	186	16,127	3,611,134	3,527,880	2,138,702	1,490,009	202,155	223.9	92.4	
Social ownership	42	14,567	3,118,628	3,036,132	1,831,025	1,273,098	284,813	214.1	87.4	
Private ownership	132	602	130,093	129,973	70,015	48,156	-80,298	216.1	80.0	
Mixed ownership	11	905	362,452	361,814	237,240	168,462	-1,784	400.5	186.1	
State ownership	1	53	-39	-39	422	293	-576	-0.7	5.5	
2003										
TOTAL	224	14,608	3,375,591	3,338,578	2,213,320	1,542,615	-624,177	231.1	105.6	
Social ownership	35	12,421	2,423,240	2,387,449	1,701,340	1,186,058	-656,589	195.1	95.5	
Private ownership	175	819	288,460	287,814	132,044	92,007	-4,708	352.2	112.3	
Mixed ownership	13	1,316	662,341	662,305	374,919	261,202	42,563	503.3	198.5	
State ownership	1	52	1,550	1,010	5,017	3,348	-5,443	29.8	64.4	
2004										
TOTAL	240	14,445	4,173,801	4,160,581	2,772,509	1,929,944	-3,326,623	288.9	133.6	
Social ownership	30	11,226	2,280,465	2,267,342	2,026,859	1,399,867	-3,663,265	203.1	124.7	
Private ownership	194	1,870	843,963	843,866	353,070	254,613	21,451	451.3	136.2	
Mixed ownership	14	1,349	1,049,373	1,049,373	392,580	275,464	315,191	777.9	204.2	
State ownership	1	0	0	0	0	0	-	-	-	
GROWTH INDICES										
02/'01										
TOTAL	100	87.4	82.5	100.7	117.8	117.4		94.3	134.3	70.3
Social ownership	100	86.0	78.1	97.3	114.2	113.6		90.8	132.1	68.7
Private ownership	100	116.0	132.9	133.0	170.1	169.6		114.6	146.2	78.3
Mixed ownership	100	92.4	126.9	126.8	139.8	140.8		137.3	152.3	90.1
State ownership	100						-	-	-	-
03/'02										
TOTAL	120.4	90.6	93.5	94.6	103.5	103.5		103.2	114.3	90.3
Social ownership	83.3	85.3	77.7	78.6	92.9	93.2		91.1	109.3	83.4
Private ownership	132.6	136.0	221.7	221.4	188.6	191.1		163.0	140.4	116.1
Mixed ownership	118.2	145.4	182.7	183.1	158.0	155.1		125.7	106.6	117.9
State ownership	100.0	98.1	-3974.4	-2589.7	1188.9	1142.7		-4050.8	1164.6	-347.8
04/'03										
TOTAL	107.1	98.9	123.6	124.6	125.3	125.1		125.0	126.5	98.8
Social ownership	85.7	90.4	94.1	95.0	119.1	118.0		104.1	130.6	79.7
Private ownership	110.9	228.3	292.6	293.2	267.4	276.7		128.1	121.2	105.7
Mixed ownership	107.7	102.5	158.4	158.4	104.7	105.5		154.6	102.9	150.2
State ownership	100.0	0.0	0.0	0.0	0.0	0.0		-	-	-

Table 5. Serbia: Enterprise Performance by Sector of Activity, 2001-2004
Manufacturing – All enterprises

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
2001										
TOTAL	14,588	636,534	137,517,483	135,227,155	72,175,851	49,832,720	-27,855,557	216.0	78.3	
Social ownership	1,131	258,494	44,512,352	43,529,438	26,842,951	18,546,680	-22,883,851	172.2	71.7	
Private ownership	12,282	86,804	23,961,558	23,710,537	8,394,559	5,782,636	3,853,189	276.0	66.6	
Cooperate ownership	76	868	83,440	81,600	68,754	48,475	-34,612	96.1	55.8	
Mixed ownership	1,069	286,688	67,907,003	66,951,448	36,388,266	25,116,637	-8,894,968	236.9	87.6	
State ownership	30	3,680	1,053,130	954,132	481,321	338,292	104,685	286.2	91.9	
2002										
TOTAL	14,588	587,373	146,333,295	144,139,543	93,878,565	65,588,330	-18,050,065	249.1	111.7	
Social ownership	1,131	234,045	40,716,284	40,155,790	32,973,197	22,891,026	-15,039,527	174.0	97.8	
Private ownership	12,282	95,629	33,671,811	33,295,590	13,048,873	9,062,722	4,366,829	352.1	94.8	
Cooperate ownership	76	807	84,583	82,066	88,140	61,032	-48,253	104.8	75.6	
Mixed ownership	1,069	253,411	70,528,707	69,458,210	47,049,988	33,060,000	-7,562,228	278.3	130.5	
State ownership	30	3,481	1,331,910	1,147,887	718,367	513,550	233,114	382.6	147.5	
2003										
TOTAL	15,843	520,826	149,318,014	147,123,720	99,986,884	69,876,421	-32,341,460	286.7	134.2	
Social ownership	910	154,059	24,899,817	24,370,135	24,687,636	16,957,979	-19,517,750	161.6	110.1	
Private ownership	13,642	128,108	48,350,436	47,897,147	22,377,093	15,688,523	4,813,453	377.4	122.5	
Cooperate ownership	99	713	72,133	61,666	82,054	55,481	-44,512	101.2	77.8	
Mixed ownership	1,158	232,629	74,423,492	73,459,500	51,841,847	36,475,024	-17,861,661	319.9	156.8	
State ownership	34	5,316	1,572,136	1,335,272	998,254	699,414	269,010	295.7	131.6	
2004										
TOTAL	16,167	483,926	196,799,801	194,079,451	123,733,353	91,010,605	-28,811,517	406.7	188.1	
Social ownership	747	105,538	22,344,091	21,691,645	20,169,630	13,772,293	-20,316,787	211.7	130.5	
Private ownership	14,133	161,000	81,703,070	80,793,596	36,612,201	27,196,872	9,588,482	507.5	168.9	
Cooperate ownership	104	599	122,634	106,999	97,824	69,733	-53,981	204.7	116.4	
Mixed ownership	1,153	213,155	90,927,765	90,023,357	65,590,407	49,080,663	-17,997,447	426.6	230.3	
State ownership	30	3,634	1,702,241	1,463,854	1,263,291	891,044	-31,784	468.4	245.2	
GROWTH INDICES										
02/'01										
TOTAL	100	92.3	106.4	106.6	130.1	131.6	115.3	142.6	80.8	
Social ownership	100	90.5	91.5	92.2	122.8	123.4	101.0	136.3	74.1	
Private ownership	100	110.2	140.5	140.4	155.4	156.7	127.6	142.3	89.7	
Cooperate ownership	100	93.0	101.4	100.6	128.2	125.9	109.0	135.4	80.5	
Mixed ownership	100	88.4	103.9	103.7	129.3	131.6	117.5	148.9	78.9	
State ownership	100	94.6	126.5	120.3	149.2	151.8	133.7	160.5	83.3	
03/'02										
TOTAL	108.6	88.7	102.0	102.1	106.5	106.5	115.1	120.2	95.8	
Social ownership	80.5	65.8	61.2	60.7	74.9	74.1	92.9	112.5	82.6	
Private ownership	111.1	134.0	143.6	143.9	171.5	173.1	107.2	129.2	82.9	
Cooperate ownership	130.3	88.4	85.3	75.1	93.1	90.9	96.5	102.9	93.8	
Mixed ownership	108.3	91.8	105.5	105.8	110.2	110.3	114.9	120.2	95.6	
State ownership	113.3	152.7	118.0	116.3	139.0	136.2	77.3	89.2	86.7	
04/'03										
TOTAL	102.0	92.9	131.8	131.9	123.7	130.2	141.8	140.2	101.2	
Social ownership	82.1	68.5	89.7	89.0	81.7	81.2	131.0	118.6	110.5	
Private ownership	103.6	125.7	169.0	168.7	163.6	173.4	134.5	137.9	97.5	
Cooperate ownership	105.1	84.0	170.0	173.5	119.2	125.7	202.4	149.6	135.3	
Mixed ownership	99.6	91.6	122.2	122.5	126.5	134.6	133.3	146.9	90.8	
State ownership	88.2	68.4	108.3	109.6	126.6	127.4	158.4	186.4	85.0	

Table 5.1. Serbia: Enterprise Performance by Sector of Activity, 2001-2004
Manufacture of food products and beverages - All enterprises

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
2001										
in 000` s Dinars										
TOTAL	2,165	108,540	36,100,152	35,481,187	15,515,539	10,746,106	-890,403	332.6	99.0	
Social ownership	173	31,581	5,403,438	5,271,763	3,614,782	2,517,860	-1,707,352	171.1	79.7	
Private ownership	1,745	17,818	7,523,128	7,394,682	2,074,405	1,439,688	1,574,375	422.2	80.8	
Cooperate ownership	26	634	63,504	63,504	52,029	37,463	-29,355	100.2	59.1	
Mixed ownership	221	58,507	23,110,082	22,751,238	9,774,323	6,751,095	-728,071	395.0	115.4	
2002										
TOTAL	2,165	105,224	43,661,183	43,006,016	21,842,122	15,247,132	-791,733	414.9	144.9	
Social ownership	173	28,475	5,711,290	5,592,936	4,729,401	3,287,054	-2,624,239	200.6	115.4	
Private ownership	1,745	19,998	11,185,675	10,954,926	3,317,579	2,320,595	2,316,255	559.3	116.0	
Cooperate ownership	26	578	59,077	58,757	62,033	43,004	-42,548	102.2	74.4	
Mixed ownership	221	56,173	26,705,141	26,399,397	13,733,109	9,596,479	-441,201	475.4	170.8	
2003										
TOTAL	2,476	102,348	47,166,438	46,526,017	25,385,183	17,723,414	-3,492,817	460.8	173.2	
Social ownership	141	22,155	4,711,368	4,597,262	4,125,529	2,859,475	-3,904,050	212.7	129.1	
Private ownership	2,060	27,840	15,166,286	14,920,862	5,961,178	4,177,031	971,833	544.8	150.0	
Cooperate ownership	44	484	40,289	39,024	50,815	34,699	-44,075	83.2	71.7	
Mixed ownership	231	51,870	27,248,495	26,968,869	15,247,661	10,652,209	-516,525	525.3	205.4	
2003										
TOTAL	2,607	99,816	58,125,850	57,142,816	29,071,605	21,325,553	-3,538,244	582.3	213.6	
Social ownership	117	14,907	3,367,817	3,218,689	3,218,786	2,308,342	-3,747,612	225.9	154.8	
Private ownership	2,222	36,954	23,858,314	23,392,107	9,538,605	7,162,522	-264,507	645.6	193.8	
Cooperate ownership	48	367	75,224	71,240	60,385	44,425	-33,227	205.0	121.0	
Mixed ownership	220	47,588	30,824,495	30,460,780	16,253,829	11,810,264	507,102	647.7	248.2	
GROWTH INDICES										
02/'01										
TOTAL	100	96.9	120.9	121.2	140.8	141.9		124.8	146.4	85.2
Social ownership	100	90.2	105.7	106.1	130.8	130.5		117.2	144.8	81.0
Private ownership	100	112.2	148.7	148.1	159.9	161.2		132.5	143.6	92.2
Cooperate ownership	100	91.2	93.0	92.5	119.2	114.8		102.0	125.9	81.0
Mixed ownership	100	96.0	115.6	116.0	140.5	142.1		120.4	148.1	81.3
03/'02										
TOTAL	114.4	97.3	108.0	108.2	116.2	116.2		111.1	119.5	92.9
Social ownership	81.5	77.8	82.5	82.2	87.2	87.0		106.0	111.8	94.8
Private ownership	118.1	139.2	135.6	136.2	179.7	180.0		97.4	129.3	75.3
Cooperate ownership	169.2	83.7	68.2	66.4	81.9	80.7		81.4	96.4	84.5
Mixed ownership	104.5	92.3	102.0	102.2	111.0	111.0		110.5	120.2	91.9
04/'03										
TOTAL	105.3	97.5	123.2	122.8	114.5	120.3		126.4	123.4	102.4
Social ownership	83.0	67.3	71.5	70.0	78.0	80.7		106.2	120.0	88.5
Private ownership	107.9	132.7	157.3	156.8	160.0	171.5		118.5	129.2	91.7
Cooperate ownership	109.1	75.8	186.7	182.6	118.8	128.0		246.2	168.8	145.8
Mixed ownership	95.2	91.7	113.1	112.9	106.6	110.9		123.3	120.8	102.0

Table 5.2. Serbia: Enterprise Performance by Sector of Activity, 2001-2004
Manufacture of tobacco products - All enterprises

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
2001										
in 000 `s Dinars										
TOTAL	17	3,872	4,100,190	4,093,889	1,011,786	687,795	308,891	1058.9	177.6	
Social ownership	7	2,932	3,305,540	3,301,517	836,304	565,986	269,855	1127.4	193.0	
Private ownership	4	48	107,313	107,234	8,171	5,963	-45,912	2235.7	124.2	
Cooperate ownership	1	1	-	-	0	0	0	-	-	
Mixed ownership	5	891	687,337	685,138	167,311	115,846	84,948	771.4	130.0	
2002										
TOTAL	17	3,853	4,355,925	4,315,460	1,691,469	1,165,420	255,218	1130.5	302.5	
Social ownership	7	2,875	3,391,944	3,389,687	1,332,595	905,414	426,795	1179.8	314.9	
Private ownership	4	107	284,014	282,090	99,123	77,970	29,055	2654.3	728.7	
Cooperate ownership	1	1	-18	-18	37	26	-61	-18.0	26.0	
Mixed ownership	5	870	679,985	643,701	259,714	182,010	-200,571	781.6	209.2	
2003										
TOTAL	20	3,827	5,806,951	5,791,386	2,281,065	1,622,245	88,300	1517.4	423.9	
Social ownership	5	264	32,560	19,712	32,480	22,160	-26,571	123.3	83.9	
Private ownership	7	182	247,579	247,443	164,118	131,012	224,513	1360.3	719.8	
Cooperate ownership	1	2	50	50	55	38	-17	25.0	19.0	
Mixed ownership	7	3,379	5,526,762	5,524,181	2,084,412	1,469,035	-109,625	1635.6	434.8	
2004										
TOTAL	19	3,472	4,355,917	4,333,542	8,515,456	8,095,008	-5,947,487	1254.6	2331.5	
Social ownership	5	236	-33,256	-36,282	30,306	20,235	-104,404	-140.9	85.7	
Private ownership	6	232	869,210	869,058	309,693	253,229	222,903	3746.6	1091.5	
Cooperate ownership	1	0	-37	-37	-	-	-37	-	-	
Mixed ownership	7	3,004	3,520,000	3,500,803	8,175,457	7,821,544	-6,065,949	1171.8	2603.7	
GROWTH INDICES										
02/'01										
TOTAL	100	99.5	106.2	105.4	167.2	169.4		106.8	170.3	62.7
Social ownership	100	98.1	102.6	102.7	159.3	160.0		104.6	163.1	64.1
Private ownership	100	222.9	264.7	263.1	1213.1	1307.6		118.7	586.6	20.2
Cooperate ownership	100	100.0								
Mixed ownership	100	97.6	98.9	94.0	155.2	157.1		101.3	160.9	63.0
03/'02										
TOTAL	117.6	99.3	133.3	134.2	134.9	139.2		134.2	140.1	95.8
Social ownership	71.4	9.2	1.0	0.6	2.4	2.4		10.5	26.7	39.2
Private ownership	175.0	170.1	87.2	87.7	165.6	168.0		51.2	98.8	51.9
Cooperate ownership	100.0	200.0	-277.8	-277.8	148.6	146.2		-138.9	73.1	-190.1
Mixed ownership	140.0	388.4	812.8	858.2	802.6	807.1		209.3	207.8	100.7
04/'03										
TOTAL	95.0	90.7	75.0	74.8	373.3	499.0		82.7	550.0	15.0
Social ownership	100.0	89.4	-102.1	-184.1	93.3	91.3		-114.3	102.1	-111.9
Private ownership	85.7	127.5	351.1	351.2	188.7	193.3		275.4	151.6	181.6
Cooperate ownership	100.0	0.0	-74.0	-74.0	0.0	0.0		0.0	0.0	
Mixed ownership	100.0	88.9	63.7	63.4	392.2	532.4		71.6	598.9	12.0

Table 5.3. Serbia: Enterprise Performance by Sector of Activity, 2001-2004
Manufacture of textile yarns and textiles + manufacture of wearing apparel and fur - All enterprises

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
2001										
in 000 `s Dinars										
TOTAL	1,500	88,151	9,098,864	9,011,918	6,186,313	4,253,785	-2,708,876	103.2	48.3	
Social ownership	186	52,239	4,143,424	4,092,109	3,330,448	2,271,902	-1,903,886	79.3	43.5	
Private ownership	1,215	10,548	1,660,518	1,649,196	691,021	475,368	211,076	157.4	45.1	
Cooperate ownership	5	40	1,213	1,213	769	594	-230	30.3	14.9	
Mixed ownership	94	25,324	3,293,709	3,269,400	2,164,075	1,505,921	-1,015,836	130.1	59.5	
2002										
TOTAL	1,500	80,472	6,940,321	6,862,748	7,176,978	4,970,529	-5,207,144	86.2	61.8	
Social ownership	186	47,422	3,049,526	3,009,230	3,668,571	2,485,923	-4,076,321	64.3	52.4	
Private ownership	1,215	12,294	1,858,542	1,840,499	1,065,920	733,866	155,771	151.2	59.7	
Cooperate ownership	5	40	1,891	1,891	917	660	9	47.3	16.5	
Mixed ownership	94	20,716	2,030,362	2,011,128	2,441,570	1,750,080	-1,286,603	98.0	84.5	
2003										
TOTAL	1,610	66,029	5,401,381	5,253,778	6,844,175	4,654,446	-6,515,526	81.8	70.5	
Social ownership	160	33,671	1,093,917	1,084,521	3,001,577	2,009,821	-4,103,616	32.5	59.7	
Private ownership	1,337	15,753	3,098,906	3,082,563	1,847,327	1,256,237	-323,453	196.7	79.7	
Cooperate ownership	8	34	2,272	2,272	2,061	1,223	-692	66.8	36.0	
Mixed ownership	105	16,571	1,206,286	1,084,422	1,993,210	1,387,165	-2,087,765	72.8	83.7	
2004										
TOTAL	1,590	55,100	6,960,660	6,920,015	6,738,266	4,262,901	-7,056,402	126.3	77.4	
Social ownership	134	19,555	1,032,152	1,027,243	2,132,543	1,113,098	-5,086,715	52.8	56.9	
Private ownership	1,336	16,957	4,399,859	4,385,930	2,496,790	1,712,137	18,229	259.5	101.0	
Cooperate ownership	9	40	3,573	3,573	1,486	1,348	-291	89.3	33.7	
Mixed ownership	111	18,548	1,525,076	1,503,269	2,107,447	1,436,318	-1,987,625	82.2	77.4	
GROWTH INDICES										
02/'01										
TOTAL	100	91.3	76.3	76.2	116.0	116.8		83.6	128.0	65.3
Social ownership	100	90.8	73.6	73.5	110.2	109.4		81.1	120.5	67.3
Private ownership	100	116.6	111.9	111.6	154.3	154.4		96.0	132.5	72.5
Cooperate ownership	100	100.0	155.9	155.9	119.2	111.1		155.9	111.1	140.3
Mixed ownership	100	81.8	61.6	61.5	112.8	116.2		75.4	142.1	53.0
03/'02										
TOTAL	107.3	82.1	77.8	76.6	95.4	93.6		94.8	114.1	83.1
Social ownership	86.0	71.0	35.9	36.0	81.8	80.8		50.5	113.9	44.4
Private ownership	110.0	128.1	166.7	167.5	173.3	171.2		130.1	133.6	97.4
Cooperate ownership	160.0	85.0	120.1	120.1	224.8	185.3		141.4	218.0	64.8
Mixed ownership	111.7	80.0	59.4	53.9	81.6	79.3		74.3	99.1	75.0
04/'03										
TOTAL	98.8	83.4	128.9	131.7	98.5	91.6		154.4	109.8	140.7
Social ownership	83.8	58.1	94.4	94.7	71.0	55.4		162.5	95.4	170.4
Private ownership	99.9	107.6	142.0	142.3	135.2	136.3		131.9	126.6	104.2
Cooperate ownership	112.5	117.6	157.3	157.3	72.1	110.2		133.7	93.7	142.7
Mixed ownership	105.7	111.9	126.4	138.6	105.7	103.5		113.0	92.5	122.1

Table 5.4. Serbia: Enterprise Performance by Sector of Activity, 2001-2004
Publishing, printing and paper products - All enterprises

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
2001										
in 000` s Dinars										
TOTAL	1,684	20,495	3,779,293	3,570,502	2,160,122	1,502,390	40,516	184.4	73.3	
Social ownership	127	6,384	586,916	529,591	568,105	391,634	-281,379	91.9	61.3	
Private ownership	1,436	6,232	1,477,937	1,434,896	526,983	361,236	247,989	237.2	58.0	
Cooperate ownership	12	56	8,551	6,891	5,112	3,405	719	152.7	60.8	
Mixed ownership	83	5,981	831,416	822,634	769,907	539,829	-102,315	139.0	90.3	
State ownership	26	1,842	874,473	776,490	290,015	206,286	175,502	474.7	112.0	
TOTAL	1,684	20,715	5,789,370	5,443,627	3,378,255	2,382,921	-569,901	279.5	115.0	
Social ownership	127	5,517	737,607	648,346	767,414	535,700	-352,487	133.7	97.1	
Private ownership	1,436	6,855	2,358,086	2,297,864	841,968	582,923	576,842	344.0	85.0	
Cooperate ownership	12	52	11,569	9,412	6,922	4,793	1,031	222.5	92.2	
Mixed ownership	83	6,561	1,668,357	1,657,633	1,287,382	916,887	-1,049,042	254.3	139.7	
State ownership	26	1,730	1,013,751	830,372	474,569	342,618	253,755	586.0	198.0	
TOTAL	1,792	22,146	7,401,186	6,958,378	4,601,541	3,230,233	-333,653	334.2	145.9	
Social ownership	93	3,806	536,587	439,438	640,541	447,269	-343,785	141.0	117.5	
Private ownership	1,558	8,263	3,006,635	2,913,103	1,363,918	946,068	496,157	363.9	114.5	
Cooperate ownership	14	51	11,339	2,137	8,085	5,331	934	222.3	104.5	
Mixed ownership	97	6,408	2,531,823	2,524,753	1,833,925	1,301,038	-765,350	395.1	203.0	
State ownership	30	3,618	1,314,802	1,078,947	755,072	530,527	278,391	363.4	146.6	
TOTAL	1,821	20,138	11,832,511	11,279,575	7,155,634	5,544,582	380,102	587.6	275.3	
Social ownership	68	2,268	573,500	529,172	565,361	427,800	-244,328	252.9	188.6	
Private ownership	1,614	9,336	5,745,801	5,532,336	2,557,025	1,970,710	754,657	615.4	211.1	
Cooperate ownership	13	47	15,567	4,132	14,348	11,580	-4,883	331.2	246.4	
Mixed ownership	102	6,569	3,977,868	3,931,167	3,021,142	2,421,341	-302,332	605.6	368.6	
State ownership	24	1,918	1,519,775	1,282,768	997,758	713,151	176,988	792.4	371.8	
GROWTH INDICES										
02/'01										
TOTAL	100	101.1	153.2	152.5	156.4	158.6		151.6	156.9	96.6
Social ownership	100	86.4	125.7	122.4	135.1	136.8		145.4	158.3	91.9
Private ownership	100	110.0	159.6	160.1	159.8	161.4		145.1	146.7	98.9
Cooperate ownership	100	92.9	135.3	136.6	135.4	140.8		145.7	151.6	96.1
Mixed ownership	100	109.7	200.7	201.5	167.2	169.8		182.9	154.8	118.1
State ownership	100	93.9	115.9	106.9	163.6	166.1		123.4	176.8	69.8
03/'02										
TOTAL	106.4	106.9	127.8	127.8	136.2	135.6		119.6	126.8	94.3
Social ownership	73.2	69.0	72.7	67.8	83.5	83.5		105.5	121.0	87.1
Private ownership	108.5	120.5	127.5	126.8	162.0	162.3		105.8	134.6	78.6
Cooperate ownership	116.7	98.1	98.0	22.7	116.8	111.2		99.9	113.4	88.1
Mixed ownership	116.9	97.7	151.8	152.3	142.5	141.9		155.4	145.3	106.9
State ownership	115.4	209.1	129.7	129.9	159.1	154.8		62.0	74.0	83.8
04/'03										
TOTAL	101.6	90.9	159.9	162.1	155.5	171.6		175.8	188.8	93.1
Social ownership	73.1	59.6	106.9	120.4	88.3	95.6		179.4	160.5	111.7
Private ownership	103.6	113.0	191.1	189.9	187.5	208.3		169.1	184.4	91.7
Cooperate ownership	92.9	92.2	137.3	193.4	177.5	217.2		149.0	235.7	63.2
Mixed ownership	105.2	102.5	157.1	155.7	164.7	186.1		153.3	181.5	84.4
State ownership	80.0	53.0	115.6	118.9	132.1	134.4		218.0	253.6	86.0

Table 5.5. Serbia: Enterprise Performance by Sector of Activity, 2001-2004
Manufacture of coke and refined petroleum products - All enterprises

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage	
in 000 `s Dinars											
TOTAL	2001	30	6,942	8,995,821	8,995,559	1,628,617	1,137,917	9,805	1295.8	163.9	
Social ownership		2	4,980	8,669,530	8,669,530	1,443,348	1,007,080	-21,497	1740.8	202.2	
Private ownership		25	105	119,961	119,891	12,574	8,248	25,500	1142.5	78.6	
Mixed ownership		3	1,857	206,330	206,138	172,695	122,589	5,802	111.1	66.0	
TOTAL	2002	30	6,267	7,600,240	7,599,931	1,983,577	1,401,933	2,001,401	1212.7	223.7	
Social ownership		2	4,752	7,294,441	7,294,441	1,805,006	1,279,293	2,022,240	1535.0	269.2	
Private ownership		25	136	129,773	129,464	23,964	16,435	15,122	954.2	120.8	
Mixed ownership		3	1,379	176,026	176,026	154,607	106,205	-35,961	127.6	77.0	
TOTAL	2003	32	5,454	7,644,899	7,644,899	2,289,979	1,619,088	1,771,766	1401.7	296.9	
Social ownership		2	4,576	7,424,933	7,424,933	2,069,450	1,465,018	2,110,318	1622.6	320.2	
Private ownership		27	275	136,106	136,106	57,598	39,786	101,906	494.9	144.7	
Mixed ownership		3	603	83,860	83,860	162,931	114,284	-440,458	139.1	189.5	
TOTAL	2004	33	4,746	6,733,910	6,733,728	2,830,750	2,074,974	563,496	1418.8	437.2	
Social ownership		2	4,250	6,480,091	6,480,091	2,682,135	1,940,367	582,164			
Private ownership		29	332	205,297	205,115	71,773	58,419	53,101	618.4	176.0	
Mixed ownership		2	164	48,522	48,522	76,842	76,188	-71,769	295.9	464.6	
GROWTH INDICES											
TOTAL	02/'01	100	90.3	84.5	84.5	121.8	123.2		93.6	136.5	68.6
Social ownership		100	95.4	84.1	84.1	125.1	127.0		88.2	133.1	66.2
Private ownership		100	129.5	108.2	108.0	190.6	199.3		83.5	153.8	54.3
Mixed ownership		100	74.3	85.3	85.4	89.5	86.6		114.9	116.7	98.5
TOTAL	03/'02	106.7	87.0	100.6	100.6	115.4	115.5		115.6	132.7	87.1
Social ownership		100.0	96.3	101.8	101.8	114.7	114.5		105.7	118.9	88.9
Private ownership		108.0	202.2	104.9	105.1	240.4	242.1		51.9	119.7	43.3
Mixed ownership		100.0	43.7	47.6	47.6	105.4	107.6		108.9	246.1	44.3
TOTAL	04/'03	103.1	87.0	88.1	88.1	123.6	128.2		101.2	147.3	68.7
Social ownership		100.0	92.9	87.3	87.3	129.6	132.4		0.0	0.0	
Private ownership		107.4	120.7	150.8	150.7	124.6	146.8		124.9	121.6	102.7
Mixed ownership		66.7	27.2	57.9	57.9	47.2	66.7		212.7	245.1	86.8

Table 5.6. Serbia: Enterprise Performance by Sector of Activity, 2001-2004
Manufacture of chemicals and chemical products - All enterprises

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
in 000` s Dinars										
2001										
TOTAL	751	39,233	14,246,249	13,987,016	6,495,962	4,523,843	-3,067,870	363.1	115.3	
Social ownership	31	11,726	2,034,884	1,842,421	2,415,190	1,687,284	-4,072,883	173.5	143.9	
Private ownership	636	4,591	1,694,410	1,690,662	603,049	413,472	317,357	369.1	90.1	
Mixed ownership	84	22,916	10,516,955	10,453,933	3,477,723	2,423,087	687,656	458.9	105.7	
2002										
TOTAL	751	37,369	15,429,278	15,275,929	8,356,557	5,913,410	751,883	412.9	158.2	
Social ownership	31	11,351	2,165,000	2,059,844	2,697,146	1,915,310	-2,898,530	190.7	168.7	
Private ownership	636	4,941	1,827,217	1,820,957	867,781	596,963	414,676	369.8	120.8	
Mixed ownership	84	21,077	11,437,061	11,395,128	4,791,630	3,401,137	3,235,737	542.6	161.4	
2003										
TOTAL	808	32,730	14,369,552	14,168,721	9,827,006	7,178,060	-6,160,262	439.0	219.3	
Social ownership	28	9,846	1,281,452	1,218,120	2,635,220	1,843,221	-3,850,961	130.1	187.2	
Private ownership	692	5,591	2,525,473	2,518,981	1,501,783	1,165,375	373,826	451.7	208.4	
Mixed ownership	88	17,293	10,562,627	10,431,620	5,690,003	4,169,464	-2,683,127	610.8	241.1	
2004										
TOTAL	808	30,122	22,965,145	22,587,074	10,957,077	8,047,982	-3,532,962	762.4	267.2	
Social ownership	27	4,376	1,580,916	1,380,882	1,266,993	895,634	-3,272,911			
Private ownership	700	7,303	4,434,204	4,414,889	1,732,573	1,390,463	683,168	607.2	190.4	
Mixed ownership	81	18,443	16,950,025	16,791,303	7,957,511	5,761,885	-943,219	919.0	312.4	
GROWTH INDICES										
02/'01										
TOTAL	100	95.2	108.3	109.2	128.6	130.7		113.7	137.2	82.9
Social ownership	100	96.8	106.4	111.8	111.7	113.5		109.9	117.3	93.7
Private ownership	100	107.6	107.8	107.7	143.9	144.4		100.2	134.2	74.7
Mixed ownership	100	92.0	108.7	109.0	137.8	140.4		118.2	152.6	77.5
03/'02										
TOTAL	107.6	87.6	93.1	92.8	117.6	121.4		106.3	138.6	76.7
Social ownership	90.3	86.7	59.2	59.1	97.7	96.2		68.2	110.9	61.5
Private ownership	108.8	113.2	138.2	138.3	173.1	195.2		122.1	172.5	70.8
Mixed ownership	104.8	82.0	92.4	91.5	118.7	122.6		112.6	149.4	75.3
04/'03										
TOTAL	100.0	92.0	159.8	159.4	111.5	112.1		173.7	121.8	142.5
Social ownership	96.4	44.4	123.4	113.4	48.1	48.6		0.0	0.0	
Private ownership	101.2	130.6	175.6	175.3	115.4	119.3		134.4	91.3	147.2
Mixed ownership	92.0	106.7	160.5	161.0	139.9	138.2		150.5	129.6	116.1

Table 5.7. Serbia: Enterprise Performance by Sector of Activity, 2001-2004
Manufacture of rubber and plastic products - All enterprises

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
2001										
in 000` s Dinars										
TOTAL	796	28,780	5,675,224	5,575,374	3,019,355	2,085,662	-681,938	197.2	72.5	
Social ownership	31	12,278	1,690,050	1,677,934	952,856	668,205	-703,822	137.6	54.4	
Private ownership	725	4,384	1,134,575	1,128,398	353,107	241,514	191,719	258.8	55.1	
Cooperate ownership	3	5	-713	-713	585	496	-646	-142.6	99.2	
Mixed ownership	37	12,113	2,851,312	2,769,755	1,712,807	1,175,447	-169,189	235.4	97.0	
2002										
TOTAL	796	26,767	6,563,439	6,441,894	4,067,101	2,850,954	-932,411	245.2	106.5	
Social ownership	31	9,626	1,307,350	1,290,662	1,142,449	783,469	-1,176,880	135.8	81.4	
Private ownership	725	5,575	2,208,286	2,202,700	669,214	462,702	487,787	396.1	83.0	
Cooperate ownership	3	7	-841	-841	990	686	-2,273	-120.1	98.0	
Mixed ownership	37	11,559	3,048,644	2,949,373	2,254,448	1,604,097	-241,045	263.7	138.8	
2003										
TOTAL	872	24,365	8,373,276	8,139,169	4,358,924	3,039,405	157,645	343.7	124.7	
Social ownership	29	7,785	1,003,909	909,528	925,076	620,262	-963,319	129.0	79.7	
Private ownership	801	6,996	4,152,913	4,130,451	1,170,018	814,193	1,075,347	593.6	116.4	
Cooperate ownership	2	4	-148	-148	745	517	-1,121	-37.0	129.3	
Mixed ownership	40	9,581	3,216,602	3,099,338	2,263,085	1,604,433	46,738	335.7	167.5	
2004										
TOTAL	893	23,624	10,885,204	10,690,907	5,553,354	4,250,992	990,045	460.8	179.9	
Social ownership	28	6,415	1,349,137	1,274,588	1,133,110	858,676	-272,985	210.3	133.9	
Private ownership	819	7,856	5,432,412	5,373,405	1,617,431	1,296,549	1,837,805	691.5	165.0	
Cooperate ownership	2	4	-52	-52	957	701	-1,161	-13.0	175.3	
Mixed ownership	44	9,349	4,103,707	4,042,966	2,801,856	2,095,066	-573,614	438.9	224.1	
GROWTH INDICES										
02/'01										
TOTAL	100	93.0	115.7	115.5	134.7	136.7		124.3	147.0	84.6
Social ownership	100	78.4	77.4	76.9	119.9	117.2		98.7	149.6	66.0
Private ownership	100	127.2	194.6	195.2	189.5	191.6		153.1	150.7	101.6
Cooperate ownership	100	140.0	118.0	118.0	169.2	138.3		84.3	98.8	85.3
Mixed ownership	100	95.4	106.9	106.5	131.6	136.5		112.0	143.0	78.3
03/'02										
TOTAL	109.5	91.0	127.6	126.3	107.2	106.6		140.2	117.1	119.7
Social ownership	93.5	80.9	76.8	70.5	81.0	79.2		94.9	97.9	97.0
Private ownership	110.5	125.5	188.1	187.5	174.8	176.0		149.9	140.2	106.9
Cooperate ownership	66.7	57.1	17.6	17.6	75.3	75.4		30.8	131.9	23.4
Mixed ownership	108.1	82.9	105.5	105.1	100.4	100.0		127.3	120.7	105.5
04/'03										
TOTAL	102.4	97.0	130.0	131.4	127.4	139.9		134.1	144.2	92.9
Social ownership	96.6	82.4	134.4	140.1	122.5	138.4		163.1	168.0	97.1
Private ownership	102.2	112.3	130.8	130.1	138.2	159.2		116.5	141.8	82.1
Cooperate ownership	100.0	100.0	35.1	35.1	128.5	135.6		35.1	135.6	25.9
Mixed ownership	110.0	97.6	127.6	130.4	123.8	130.6		130.7	133.8	97.7

Table 5.8. Serbia: Enterprise Performance by Sector of Activity, 2001-2004
Manufacture of metal products, except machinery - All enterprises

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
2001										
in 000 `s Dinars										
TOTAL	1,199	27,800	3,735,838	3,689,727	2,457,202	1,695,017	-585,348	134.4	61.0	
Social ownership	84	8,765	824,830	813,091	740,358	504,779	-179,058	94.1	57.6	
Private ownership	1,027	4,969	1,064,016	1,048,803	409,666	280,861	94,192	214.1	56.5	
Cooperate ownership	12	65	2,637	2,457	4,989	2,922	-5,044	40.6	45.0	
Mixed ownership	76	14,001	1,844,355	1,825,376	1,302,189	906,455	-495,438	131.7	64.7	
2002										
TOTAL	1,199	25,145	4,390,432	4,370,522	3,002,572	2,056,039	-613,811	174.6	81.8	
Social ownership	84	8,206	879,394	878,111	960,973	649,135	-330,828	107.2	79.1	
Private ownership	1,027	5,368	1,582,175	1,571,348	593,964	407,764	162,497	294.7	76.0	
Cooperate ownership	12	58	4,229	4,229	9,390	6,352	-4,504	72.9	109.5	
Mixed ownership	76	11,513	1,924,634	1,916,834	1,438,245	992,788	-440,976	167.2	86.2	
2003										
TOTAL	1,247	22,354	4,868,620	4,823,208	4,549,035	3,221,653	-753,967	217.8	144.1	
Social ownership	58	4,652	525,227	512,945	1,605,834	1,141,593	-314,174	112.9	245.4	
Private ownership	1,084	6,521	2,234,144	2,213,378	992,286	691,204	438,552	342.6	106.0	
Cooperate ownership	12	57	8,173	8,173	2,160	1,496	-1,088	143.4	26.2	
Mixed ownership	93	11,124	2,101,076	2,088,712	1,948,755	1,387,360	-877,257	188.9	124.7	
2004										
TOTAL	1,262	21,866	6,756,798	6,739,232	3,682,326	2,610,068	183,453	309.0	119.4	
Social ownership	47	3,221	396,397	396,242	434,445	316,698	-336,561	123.1	98.3	
Private ownership	1,110	9,035	3,886,903	3,879,106	1,330,786	908,230	1,151,066	430.2	100.5	
Cooperate ownership	11	49	6,890	6,890	8,126	4,610	-20,452	140.6	94.1	
Mixed ownership	94	9,561	2,466,608	2,456,994	1,908,969	1,380,530	-610,600	258.0	144.4	
GROWTH INDICES										
02/'01										
TOTAL	100	90.4	117.5	118.5	122.2	121.3	129.9	134.1	96.9	
Social ownership	100	93.6	106.6	108.0	129.8	128.6	113.9	137.4	82.9	
Private ownership	100	108.0	148.7	149.8	145.0	145.2	137.6	134.4	102.4	
Cooperate ownership	100	89.2	160.4	172.1	188.2	217.4	179.7	243.6	73.8	
Mixed ownership	100	82.2	104.4	105.0	110.4	109.5	126.9	133.2	95.3	
03/'02										
TOTAL	104.0	88.9	110.9	110.4	151.5	156.7	124.7	176.3	70.8	
Social ownership	69.0	56.7	59.7	58.4	167.1	175.9	105.4	310.2	34.0	
Private ownership	105.6	121.5	141.2	140.9	167.1	169.5	116.2	139.5	83.3	
Cooperate ownership	100.0	98.3	193.3	193.3	23.0	23.6	196.7	24.0	820.6	
Mixed ownership	122.4	96.6	109.2	109.0	135.5	139.7	113.0	144.6	78.1	
04/'03										
TOTAL	101.2	97.8	138.8	139.7	80.9	81.0	141.9	82.8	171.3	
Social ownership	81.0	69.2	75.5	77.2	27.1	27.7	109.0	40.1	272.1	
Private ownership	102.4	138.6	174.0	175.3	134.1	131.4	125.6	94.8	132.4	
Cooperate ownership	91.7	86.0	84.3	84.3	376.2	308.2	98.1	358.5	27.4	
Mixed ownership	101.1	85.9	117.4	117.6	98.0	99.5	136.6	115.8	118.0	

Table 6. Serbia: Enterprise Performance by Sector of Activity, 2001-2004
Electricity, gas and water supply - All enterprises

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
2001										
TOTAL	232	49,995	7,263,754	5,829,200	8,535,598	5,900,872	-11,569,590	145.3	118.0	
Social ownership	102	31,141	4,669,421	3,381,000	5,822,143	4,012,975	-7,461,651	149.9	128.9	
Private ownership	14	292	26,791	26,668	37,000	24,673	-6,540	91.8	84.5	
Cooperate ownership	2	8	1,086	953	523	369	-146	135.8	46.1	
Mixed ownership	11	1,207	344,234	340,354	217,661	147,022	-636,164	285.2	121.8	
State ownership	103	17,347	2,222,222	2,080,225	2,458,271	1,715,833	-3,465,089	128.1	98.9	
2002										
TOTAL	232	48,980	29,529,961	23,330,322	12,088,553	8,508,533	-4,894,774	602.9	173.7	
Social ownership	102	30,136	19,899,536	14,752,700	8,015,560	5,647,207	-3,350,580	660.3	187.4	
Private ownership	14	358	68,235	68,235	66,198	46,043	-8,102	190.6	128.6	
Cooperate ownership	2	7	1,301	1,301	919	640	-925	185.9	91.4	
Mixed ownership	11	1,147	985,789	982,475	324,672	222,718	-413,578	859.4	194.2	
State ownership	103	17,332	8,575,100	7,525,611	3,681,204	2,591,925	-1,121,589	494.8	149.5	
2003										
TOTAL	243	49,591	38,613,289	37,605,406	15,079,546	10,541,358	-7,566,235	778.6	212.6	
Social ownership	64	12,290	13,087,675	13,065,886	3,801,924	2,656,259	-2,387,234	1064.9	216.1	
Private ownership	13	181	55,138	55,077	37,422	26,006	-5,031	304.6	143.7	
Cooperate ownership	2	8	2,760	2,591	1,199	839	-677	345.0	104.9	
Mixed ownership	14	1,461	488,090	488,077	364,566	252,084	-497,588	334.1	172.5	
State ownership	150	35,651	24,979,626	23,993,775	10,874,435	7,606,170	-4,675,705	700.7	213.4	
2004										
TOTAL	247	49,385	52,105,213	49,459,219	18,462,585	13,254,590	-9,899,978	1055.1	268.4	
Social ownership	60	9,771	12,024,262	11,726,983	3,570,247	2,451,000	-2,604,384	1230.6	250.8	
Private ownership	17	136	93,121	93,121	56,748	41,191	41,967	684.7	302.9	
Cooperate ownership	2	10	2,255	2,175	1,915	1,431	-2,054	225.5	143.1	
Mixed ownership	15	1,388	1,168,144	1,168,034	473,867	341,932	-537,653	841.6	246.3	
State ownership	153	38,080	38,817,431	36,468,906	14,359,808	10,419,036	-6,797,854	1019.4	273.6	
GROWTH INDICES										
02/'01										
TOTAL	100	98.0	406.5	400.2	141.6	144.2		415.0	147.2	281.9
Social ownership	100	96.8	426.2	436.3	137.7	140.7		440.4	145.4	302.8
Private ownership	100	122.6	254.7	255.9	178.9	186.6		207.7	152.2	136.5
Cooperate ownership	100	87.5	119.8	136.5	175.7	173.4		136.9	198.2	69.1
Mixed ownership	100	95.0	286.4	288.7	149.2	151.5		301.4	159.4	189.0
State ownership	100	99.9	385.9	361.8	149.7	151.1		386.2	151.2	255.4
03/'02										
TOTAL	104.7	101.2	130.8	161.2	124.7	123.9		129.1	122.4	105.5
Social ownership	62.7	40.8	65.8	88.6	47.4	47.0		161.3	115.3	139.8
Private ownership	92.9	50.6	80.8	80.7	56.5	56.5		159.8	111.7	143.1
Cooperate ownership	100.0	114.3	212.1	199.2	130.5	131.1		185.6	114.7	161.8
Mixed ownership	127.3	127.4	49.5	49.7	112.3	113.2		38.9	88.9	43.7
State ownership	145.6	205.7	291.3	318.8	295.4	293.5		141.6	142.7	99.3
04/'03										
TOTAL	101.6	99.6	134.9	131.5	122.4	125.7		135.5	126.3	107.3
Social ownership	93.8	79.5	91.9	89.8	93.9	92.3		115.6	116.1	99.6
Private ownership	130.8	75.1	168.9	169.1	151.6	158.4		224.8	210.8	106.6
Cooperate ownership	100.0	125.0	81.7	83.9	159.7	170.6		65.4	136.4	47.9
Mixed ownership	107.1	95.0	239.3	239.3	130.0	135.6		251.9	142.8	176.4
State ownership	102.0	106.8	155.4	152.0	132.1	137.0		145.5	128.2	113.4

Table 7. Serbia: Enterprise Performance by Sector of Activity, 2001-2004
Construction - All enterprises

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
2001										
in 000 `s Dinars										
TOTAL	3,536	91,369	15,691,945	14,200,450	10,327,849	7,194,018	-2,012,113	171.7	78.7	
Social ownership	440	35,808	5,207,418	4,950,046	3,822,090	2,665,612	-1,257,209	145.4	74.4	
Private ownership	2,620	16,599	3,570,961	3,554,583	1,477,622	1,008,732	364,155	215.1	60.8	
Cooperate ownership	194	929	212,821	211,859	94,406	63,802	-8,311	229.1	68.7	
Mixed ownership	223	34,626	6,125,417	6,115,148	4,340,305	3,040,790	-1,150,280	176.9	87.8	
State ownership	59	3,407	575,328	-631,186	593,426	415,082	39,532	168.9	121.8	
2002										
TOTAL	3,536	89,467	22,747,197	19,962,030	15,206,500	10,624,521	-44,448	254.3	118.8	
Social ownership	440	32,812	6,755,720	6,321,304	5,161,744	3,617,709	-624,621	205.9	110.3	
Private ownership	2,620	18,508	5,605,202	5,548,596	2,512,973	1,751,065	989,788	302.9	94.6	
Cooperate ownership	194	863	329,076	328,894	122,894	83,179	16,279	381.3	96.4	
Mixed ownership	223	33,121	8,522,035	8,517,262	6,344,454	4,422,111	-491,396	257.3	133.5	
State ownership	59	4,163	1,535,164	-754,026	1,064,435	750,457	65,502	368.8	180.3	
2003										
TOTAL	3,967	87,076	31,612,363	28,914,720	18,813,387	13,064,425	893,287	363.0	150.0	
Social ownership	345	24,155	6,198,171	5,813,006	4,447,972	3,063,332	-1,743,964	256.6	126.8	
Private ownership	3,053	23,956	9,870,131	9,832,668	4,228,636	2,920,785	2,257,503	412.0	121.9	
Cooperate ownership	240	881	410,843	407,199	175,759	120,216	55,987	466.3	136.5	
Mixed ownership	253	33,576	11,875,587	11,853,422	8,159,764	5,701,697	129,004	353.7	169.8	
State ownership	76	4,510	3,257,631	1,008,425	1,801,256	1,258,395	194,757	722.3	279.0	
2004										
TOTAL	4,138	86,076	46,883,909	44,602,403	23,844,838	17,921,352	5,652,689	544.7	208.2	
Social ownership	297	21,306	7,353,150	7,338,973	4,883,022	3,387,208	-1,573,520	345.1	159.0	
Private ownership	3,321	29,391	18,358,559	18,341,843	6,478,949	4,893,598	5,816,968	624.6	166.5	
Cooperate ownership	240	906	367,402	367,300	214,152	157,478	36,829	405.5	173.8	
Mixed ownership	251	30,867	16,689,067	16,670,762	10,414,236	8,154,572	642,095	540.7	264.2	
State ownership	29	3,606	4,115,731	1,883,525	1,854,479	1,328,496	730,317	1141.4	368.4	
GROWTH INDICES										
02/'01										
TOTAL	100	97.9	145.0	140.6	147.2	147.7		148.0	150.8	98.2
Social ownership	100	91.6	129.7	127.7	135.1	135.7		141.6	148.1	95.6
Private ownership	100	111.5	157.0	156.1	170.1	173.6		140.8	155.7	90.4
Cooperate ownership	100	92.9	154.6	155.2	130.2	130.4		166.5	140.3	118.6
Mixed ownership	100	95.7	139.1	139.3	146.2	145.4		145.4	152.0	95.7
State ownership	100	122.2	266.8	119.5	179.4	180.8		218.4	148.0	147.6
03/'02										
TOTAL	112.2	97.3	139.0	144.8	123.7	123.0		142.8	126.3	113.0
Social ownership	78.4	73.6	91.7	92.0	86.2	84.7		124.6	115.0	108.4
Private ownership	116.5	129.4	176.1	177.2	168.3	166.8		136.0	128.9	105.6
Cooperate ownership	123.7	102.1	124.8	123.8	143.0	144.5		122.3	141.6	86.4
Mixed ownership	113.5	101.4	139.4	139.2	128.6	128.9		137.5	127.2	108.1
State ownership	128.8	108.3	212.2	-133.7	169.2	167.7		195.9	154.8	126.5
04/'03										
TOTAL	104.3	98.9	148.3	154.3	126.7	137.2		150.0	138.8	108.1
Social ownership	86.1	88.2	118.6	126.3	109.8	110.6		134.5	125.4	107.3
Private ownership	108.8	122.7	186.0	186.5	153.2	167.5		151.6	136.6	111.0
Cooperate ownership	100.0	102.8	89.4	90.2	121.8	131.0		87.0	127.4	68.3
Mixed ownership	99.2	91.9	140.5	140.6	127.6	143.0		152.9	155.6	98.3
State ownership	38.2	80.0	126.3	186.8	103.0	105.6		158.0	132.0	119.7

Table 8. Serbia: Enterprise Performance by Sector of Activity, 2001-2004
Wholesale and retail trade, repairs - All enterprises

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
2001										
TOTAL	31,917	181,110	39,746,085	39,363,722	17,717,411	12,153,419	-617,705	219.5	67.1	
Social ownership	865	36,483	14,631,117	14,604,004	4,598,419	3,173,685	-1,199,926	401.0	87.0	
Private ownership	30,147	88,810	16,971,957	16,830,073	6,824,822	4,624,773	2,275,060	191.1	52.1	
Cooperate ownership	129	399	20,181	19,783	26,442	16,793	-10,872	50.6	42.1	
Mixed ownership	756	54,196	7,625,684	7,564,261	5,947,070	4,099,858	-1,767,370	140.7	75.6	
State ownership	20	1,222	497,146	345,601	320,658	238,310	85,403	406.8	195.0	
2002										
TOTAL	31,917	185,515	50,209,877	49,631,862	26,086,484	18,139,458	-4,205,469	270.7	97.8	
Social ownership	865	33,910	12,594,571	12,568,253	6,180,176	4,338,343	-81,157	371.4	127.9	
Private ownership	30,147	100,553	27,625,898	27,383,422	11,642,241	7,994,000	6,154,365	274.7	79.5	
Cooperate ownership	129	379	37,830	37,304	36,097	23,917	-31,708	99.8	63.1	
Mixed ownership	756	49,381	9,199,225	9,174,863	7,777,903	5,446,893	-10,438,220	186.3	110.3	
State ownership	20	1,292	752,353	468,020	450,067	336,305	191,251	582.3	260.3	
2003										
TOTAL	35,350	188,901	61,439,616	60,766,684	33,700,853	23,493,310	1,581,703	325.2	124.4	
Social ownership	759	24,194	12,389,363	12,371,290	6,042,551	4,292,217	133,754	512.1	177.4	
Private ownership	33,658	116,576	40,136,599	39,845,436	17,930,386	12,347,994	6,727,928	344.3	105.9	
Cooperate ownership	159	360	33,645	30,456	42,184	26,704	-22,423	93.5	74.2	
Mixed ownership	751	46,253	7,575,540	7,538,258	9,008,735	6,332,112	-5,584,723	163.8	136.9	
State ownership	23	1,519	1,304,469	981,244	676,997	494,283	327,167	858.8	325.4	
2004										
TOTAL	35,724	197,006	86,329,451	85,616,848	44,305,940	32,729,177	-1,985,826	438.2	166.1	
Social ownership	660	20,566	11,175,752	11,148,109	6,347,096	4,454,365	-2,752,144	543.4	216.6	
Private ownership	34,172	134,444	64,209,087	63,905,026	26,576,392	19,415,401	11,984,288	477.6	144.4	
Cooperate ownership	170	365	57,840	52,779	44,919	31,303	-8,829	158.5	85.8	
Mixed ownership	704	40,179	9,419,287	9,370,348	10,453,725	8,113,914	-11,532,893	234.4	201.9	
State ownership	18	1,452	1,467,485	1,140,586	883,808	714,194	323,752	1010.7	491.9	
GROWTH INDICES										
02/'01										
TOTAL	100	102.4	126.3	126.1	147.2	149.3		123.3	145.7	84.6
Social ownership	100	92.9	86.1	86.1	134.4	136.7		92.6	147.1	63.0
Private ownership	100	113.2	162.8	162.7	170.6	172.9		143.8	152.7	94.2
Cooperate ownership	100	95.0	187.5	188.6	136.5	142.4		197.3	149.9	131.6
Mixed ownership	100	91.1	120.6	121.3	130.8	132.9		132.4	145.8	90.8
State ownership	100	105.7	151.3	135.4	140.4	141.1		143.1	133.5	107.2
03/'02										
TOTAL	110.8	101.8	122.4	122.4	129.2	129.5		120.2	127.2	94.5
Social ownership	87.7	71.3	98.4	98.4	97.8	98.9		137.9	138.7	99.4
Private ownership	111.6	115.9	145.3	145.5	154.0	154.5		125.3	133.2	94.1
Cooperate ownership	123.3	95.0	88.9	81.6	116.9	111.7		93.6	117.5	79.7
Mixed ownership	99.3	93.7	82.3	82.2	115.8	116.3		87.9	124.1	70.8
State ownership	115.0	117.6	173.4	209.7	150.4	147.0		147.5	125.0	118.0
04/'03										
TOTAL	101.1	104.3	140.5	140.9	131.5	139.3		134.7	133.6	100.9
Social ownership	87.0	85.0	90.2	90.1	105.0	103.8		106.1	122.1	86.9
Private ownership	101.5	115.3	160.0	160.4	148.2	157.2		138.7	136.3	101.7
Cooperate ownership	106.9	101.4	171.9	173.3	106.5	117.2		169.6	115.6	146.7
Mixed ownership	93.7	86.9	124.3	124.3	116.0	128.1		143.1	147.5	97.0
State ownership	78.3	95.6	112.5	116.2	130.5	144.5		117.7	151.2	77.9

Table 8.1. Serbia: Enterprise Performance by Sector of Activity, 2001-2004
Wholesale and intermediation - All enterprises

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
2001										
TOTAL	24,484	90,162	19,243,343	18,902,302	8,777,545	6,024,186	1,258,470	213.4	66.8	
Social ownership	506	9,229	3,177,275	3,154,484	1,273,671	886,657	-424,467	344.3	96.1	
Private ownership	23,407	64,295	12,976,670	12,858,590	5,059,651	3,426,933	1,981,812	201.8	53.3	
Cooperate ownership	85	206	12,696	12,665	14,307	9,163	-7,742	61.6	44.5	
Mixed ownership	473	15,866	2,881,821	2,833,204	2,237,709	1,555,183	-306,595	181.6	98.0	
State ownership	13	566	194,881	43,359	192,207	146,250	15,462	344.3	258.4	
2002										
TOTAL	24,484	96,108	28,190,022	27,657,095	13,531,940	9,378,663	-3,750,748	293.3	97.6	
Social ownership	506	8,457	2,639,287	2,619,629	1,759,209	1,240,646	-779,219	312.1	146.7	
Private ownership	23,407	73,001	21,223,245	21,011,173	8,632,249	5,929,530	5,207,743	290.7	81.2	
Cooperate ownership	85	204	20,623	20,508	19,200	12,621	-16,060	101.1	61.9	
Mixed ownership	473	13,858	4,011,940	3,994,377	2,848,844	1,991,545	-8,183,880	289.5	143.7	
State ownership	13	588	294,927	11,408	272,438	204,321	20,668	501.6	347.5	
2003										
TOTAL	27,040	104,173	36,474,470	35,871,359	18,497,618	12,860,516	3,141,963	350.1	123.5	
Social ownership	456	5,665	2,560,722	2,548,747	1,369,525	959,577	-212,142	452.0	169.4	
Private ownership	26,010	83,911	30,523,209	30,279,388	13,226,601	9,131,310	5,632,076	363.8	108.8	
Cooperate ownership	107	200	11,062	10,757	22,067	14,117	-19,119	55.3	70.6	
Mixed ownership	452	13,612	2,739,903	2,716,003	3,444,875	2,440,057	-2,300,549	201.3	179.3	
State ownership	15	784	639,574	316,464	434,550	315,455	41,697	815.8	402.4	
2004										
TOTAL	27,291	112,895	55,927,379	55,284,686	25,350,739	18,484,163	3,571,082	495.4	163.7	
Social ownership	398	4,245	2,421,989	2,396,060	1,408,838	995,214	-172,272	570.6	234.5	
Private ownership	26,358	96,109	49,150,803	48,893,474	19,576,973	14,184,511	9,608,326	511.4	147.6	
Cooperate ownership	118	205	24,590	20,923	20,843	12,037	-6,206	120.0	58.7	
Mixed ownership	408	11,676	3,656,206	3,622,087	3,858,805	2,912,423	-5,874,689	313.1	249.4	
State ownership	9	660	673,791	352,142	485,280	379,978	15,923	1020.9	575.7	
GROWTH INDICES										
02/'01										
TOTAL	100	106.6	146.5	146.3	154.2	155.7		137.4	146.1	94.1
Social ownership	100	91.6	83.1	83.0	138.1	139.9		90.7	152.7	59.4
Private ownership	100	113.5	163.5	163.4	170.6	173.0		144.0	152.4	94.5
Cooperate ownership	100	99.0	162.4	161.9	134.2	137.7		164.0	139.1	117.9
Mixed ownership	100	87.3	139.2	141.0	127.3	128.1		159.4	146.6	108.7
State ownership	100	103.9	151.3	26.3	141.7	139.7		145.7	134.5	108.3
03/'02										
TOTAL	110.4	108.4	129.4	129.7	136.7	137.1		119.4	126.5	94.4
Social ownership	90.1	67.0	97.0	97.3	77.8	77.3		144.8	115.5	125.4
Private ownership	111.1	114.9	143.8	144.1	153.2	154.0		125.1	134.0	93.4
Cooperate ownership	125.9	98.0	53.6	52.5	114.9	111.9		54.7	114.1	48.0
Mixed ownership	95.6	98.2	68.3	68.0	120.9	122.5		69.5	124.7	55.7
State ownership	115.4	133.3	216.9	2774.1	159.5	154.4		162.6	115.8	140.5
04/'03										
TOTAL	100.9	108.4	153.3	154.1	137.0	143.7		141.5	132.6	106.7
Social ownership	87.3	74.9	94.6	94.0	102.9	103.7		126.2	138.4	91.2
Private ownership	101.3	114.5	161.0	161.5	148.0	155.3		140.6	135.6	103.7
Cooperate ownership	110.3	102.5	222.3	194.5	94.5	85.3		216.9	83.2	260.7
Mixed ownership	90.3	85.8	133.4	133.4	112.0	119.4		155.6	139.1	111.8
State ownership	60.0	84.2	105.3	111.3	111.7	120.5		125.1	143.1	87.5

Table 8.2. Serbia: Enterprise Performance by Sector of Activity, 2001-2004
Retail trade (except vehicles), repairs - All enterprises

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
2001										
TOTAL	5,304	67,888	6,467,678	6,438,942	5,430,517	3,707,898	-1,917,029	95.3	54.6	
Social ownership	297	17,983	982,359	978,568	1,315,471	885,975	-683,959	54.6	49.3	
Private ownership	4,770	17,514	2,159,200	2,140,427	1,165,773	787,891	-9,836	123.3	45.0	
Cooperate ownership	41	125	4,681	4,314	9,584	6,378	-3,031	37.4	51.0	
Mixed ownership	189	31,610	3,019,173	3,013,391	2,811,238	1,935,594	-1,290,144	95.5	61.2	
State ownership	7	656	302,265	302,242	128,451	92,060	69,941	460.8	140.3	
2002										
TOTAL	5,304	66,501	9,113,055	9,082,614	7,798,625	5,422,984	-2,540,147	137.0	81.5	
Social ownership	297	16,644	1,048,094	1,042,498	1,882,643	1,304,629	-1,506,479	63.0	78.4	
Private ownership	4,770	19,504	3,703,294	3,684,419	1,973,137	1,344,225	522,284	189.9	68.9	
Cooperate ownership	41	114	14,122	13,711	14,163	9,709	-15,279	123.9	85.2	
Mixed ownership	189	29,535	3,890,119	3,885,374	3,751,053	2,632,437	-1,711,256	131.7	89.1	
State ownership	7	704	457,426	456,612	177,629	131,984	170,583	649.8	187.5	
2003										
TOTAL	5,845	61,613	11,264,150	11,208,401	9,126,032	6,317,696	-3,775,777	182.8	102.5	
Social ownership	264	11,398	970,083	964,361	1,639,966	1,121,010	-2,021,631	85.1	98.4	
Private ownership	5,322	22,369	5,475,392	5,440,418	3,002,308	2,043,849	348,562	244.8	91.4	
Cooperate ownership	49	133	19,331	16,447	17,880	11,800	-3,122	145.3	88.7	
Mixed ownership	202	26,979	4,134,449	4,122,395	4,223,431	2,962,209	-2,385,056	153.2	109.8	
State ownership	8	734	664,895	664,780	242,447	178,828	285,470	905.9	243.6	
2004										
TOTAL	5,791	59,575	14,818,642	14,771,712	11,450,083	8,547,310	-6,111,036	248.7	143.5	
Social ownership	231	9,189	918,206	916,815	1,521,278	1,000,784	-3,330,351	99.9	108.9	
Private ownership	5,304	26,496	8,227,624	8,200,199	4,477,904	3,329,593	713,727	310.5	125.7	
Cooperate ownership	49	105	29,630	28,316	20,582	15,790	-2,516	282.2	150.4	
Mixed ownership	198	22,993	4,849,488	4,837,938	5,031,791	3,866,927	-3,799,725	210.9	168.2	
State ownership	9	792	793,694	788,444	398,528	334,216	307,829	1002.1	422.0	
GROWTH INDICES										
02/'01										
TOTAL	100	98.0	140.9	141.1	143.6	146.3		143.8	149.3	96.3
Social ownership	100	92.6	106.7	106.5	143.1	147.3		115.3	159.1	72.5
Private ownership	100	111.4	171.5	172.1	169.3	170.6		154.0	153.2	100.5
Cooperate ownership	100	91.2	301.7	317.8	147.8	152.2		330.8	166.9	198.2
Mixed ownership	100	93.4	128.8	128.9	133.4	136.0		137.9	145.6	94.7
State ownership	100	107.3	151.3	151.1	138.3	143.4		141.0	133.6	105.6
03/'02										
TOTAL	110.2	92.6	123.6	123.4	117.0	116.5		133.4	125.7	106.1
Social ownership	88.9	68.5	92.6	92.5	87.1	85.9		135.2	125.5	107.7
Private ownership	111.6	114.7	147.9	147.7	152.2	152.0		128.9	132.6	97.2
Cooperate ownership	119.5	116.7	136.9	120.0	126.2	121.5		117.3	104.2	112.6
Mixed ownership	106.9	91.3	106.3	106.1	112.6	112.5		116.3	123.2	94.4
State ownership	114.3	104.3	145.4	145.6	136.5	135.5		139.4	130.0	107.3
04/'03										
TOTAL	99.1	96.7	131.6	131.8	125.5	135.3		136.1	139.9	97.2
Social ownership	87.5	80.6	94.7	95.1	92.8	89.3		117.4	110.7	106.0
Private ownership	99.7	118.4	150.3	150.7	149.1	162.9		126.9	137.5	92.2
Cooperate ownership	100.0	78.9	153.3	172.2	115.1	133.8		194.2	169.5	114.5
Mixed ownership	98.0	85.2	117.3	117.4	119.1	130.5		137.6	153.2	89.9
State ownership	112.5	107.9	119.4	118.6	164.4	186.9		110.6	173.2	63.9

Table 9. Serbia: Enterprise Performance by Sector of Activity, 2001-2004
Other sectors - All enterprises

Sector	Number of enterprises	Employed	GVA at factor cost	GVA minus subsidies	Gross wages	Net wages	Profits, net	Productivity	Average net wage	Productivity/Average net wage
2001										
TOTAL	16,412	343,862	84,300,333	69,021,054	42,923,416	29,852,797	-30,706,912	245.2	86.8	
Social ownership	1,303	112,751	21,121,172	17,856,828	12,856,534	8,878,709	-12,849,767	187.3	78.7	
Private ownership	11,984	41,769	8,067,066	7,930,900	3,607,167	2,445,189	415,686	193.1	58.5	
Cooperate ownership	1,982	17,479	2,510,610	2,383,195	1,566,414	1,071,784	-1,236,981	143.6	61.3	
Mixed ownership	907	90,832	32,360,150	30,893,302	11,985,036	8,318,161	-8,540,206	356.3	91.6	
State ownership	236	81,031	20,241,335	9,956,829	12,908,265	9,138,954	-8,495,644	249.8	112.8	
2002										
TOTAL	16,412	340,830	111,192,437	90,036,449	60,651,493	42,818,787	-12,679,318	326.2	125.6	
Social ownership	1,303	106,982	23,143,456	19,382,974	17,949,613	12,565,499	-4,108,558	216.3	117.5	
Private ownership	11,984	47,685	13,219,508	13,041,627	6,220,357	4,304,872	982,595	277.2	90.3	
Cooperate ownership	1,982	16,575	2,646,910	2,487,497	2,220,922	1,522,854	-840,003	159.7	91.9	
Mixed ownership	907	91,394	46,063,552	43,643,892	17,424,366	12,341,710	1,290,652	504.0	135.0	
State ownership	236	78,194	26,119,011	11,480,459	16,836,235	12,083,852	-10,004,004	334.0	154.5	
2003										
TOTAL	18,193	331,072	125,294,349	100,672,780	72,464,614	50,976,192	-20,429,079	378.5	154.0	
Social ownership	1,097	73,616	15,967,820	12,444,735	14,809,605	10,298,294	-5,158,311	216.9	139.9	
Private ownership	13,651	64,049	19,445,688	19,096,844	10,337,604	7,120,854	1,806,093	303.6	111.2	
Cooperate ownership	2,185	14,890	3,009,622	2,715,374	2,399,516	1,635,436	-1,552,045	202.1	109.8	
Mixed ownership	988	89,254	51,110,867	48,228,672	20,928,877	14,857,014	-3,301,569	572.6	166.5	
State ownership	272	89,264	35,760,352	18,187,155	23,989,012	17,064,594	-12,223,247	400.6	191.2	
2004										
TOTAL	18,949	327,230	169,872,995	147,491,673	97,460,186	72,854,525	-8,203,837	519.1	222.6	
Social ownership	943	54,293	16,395,559	15,035,028	13,369,128	9,788,203	-4,905,243	302.0	180.3	
Private ownership	14,566	80,811	37,757,589	37,013,121	18,256,536	13,360,404	5,443,006	467.2	165.3	
Cooperate ownership	2,237	16,188	6,528,762	6,139,946	5,174,052	4,251,318	-599,585	403.3	262.6	
Mixed ownership	982	84,628	59,783,261	56,822,636	27,576,225	20,436,172	2,074,069	706.4	241.5	
State ownership	221	91,310	49,407,824	32,480,942	33,084,245	25,018,428	-10,216,084	541.1	274.0	
GROWTH INDICES										
02/'01										
TOTAL	100	99.1	131.9	130.4	141.3	143.4		133.1	144.7	92.0
Social ownership	100	94.9	109.6	108.5	139.6	141.5		115.5	149.2	77.4
Private ownership	100	114.2	163.9	164.4	172.4	176.1		143.5	154.2	93.1
Cooperate ownership	100	94.8	105.4	104.4	141.8	142.1		111.2	149.8	74.2
Mixed ownership	100	100.6	142.3	141.3	145.4	148.4		141.5	147.5	95.9
State ownership	100	96.5	129.0	115.3	130.4	132.2		133.7	137.0	97.6
03/'02										
TOTAL	110.9	97.1	112.7	111.8	119.5	119.1		116.0	122.6	94.7
Social ownership	84.2	68.8	69.0	64.2	82.5	82.0		100.3	119.1	84.2
Private ownership	113.9	134.3	147.1	146.4	166.2	165.4		109.5	123.2	88.9
Cooperate ownership	110.2	89.8	113.7	109.2	108.0	107.4		126.6	119.5	105.9
Mixed ownership	108.9	97.7	111.0	110.5	120.1	120.4		113.6	123.3	92.2
State ownership	115.3	114.2	136.9	158.4	142.5	141.2		119.9	123.7	97.0
04/'03										
TOTAL	104.2	98.8	135.6	146.5	134.5	142.9		137.2	144.6	94.9
Social ownership	86.0	73.8	102.7	120.8	90.3	95.0		139.2	128.9	108.0
Private ownership	106.7	126.2	194.2	193.8	176.6	187.6		153.9	148.7	103.5
Cooperate ownership	102.4	108.7	216.9	226.1	215.6	260.0		199.5	239.1	83.5
Mixed ownership	99.4	94.8	117.0	117.8	131.8	137.6		123.4	145.1	85.0
State ownership	81.3	102.3	138.2	178.6	137.9	146.6		135.1	143.3	94.2

Serbia's Economy: The Stylized Facts

APPENDIX TWO

Macroeconomic Developments in Serbia: 2001-2004

I PRICE STABILIZATION AND RECENT ACCELERATION: ASSESSMENT AND SUMMARY

As the analysis below (part B) shows there are two distinctive sub-periods in macro-developments in Serbia. In the first sub-period (2001- 2002) inflation was curbed upon its outburst at the start of the program in October 2000. The program applied is exchange rate based stabilization (ERBS). Thus a proper way to summarize and assess the developments in 2001 and 2002 is to use stylized facts of ERBS as a framework. In the course of the second sub-period, specifically in 2004, inflation picked-up again and has been accelerating even through 2005. Therefore an assessment of developments in the second sub-period could be organized around the issue what triggered inflation.

1. Exchange-Rate-Based Stabilization: 2001-2002

The exchange-rate-based-stabilizations in chronic-inflation countries, which was Serbia prior to stabilization (1994-2000), have been characterized by a series of empirical regularities¹³.

1.1. Slow convergence of the inflation rate to the devaluation rate. A rationale for ERBS is that by fixing exchange rate inflation of traded goods would immediately halt, thus leading to fast slowdown of overall inflation. Nonetheless, empirical regularity is that inflation decreases slowly.

As shown in section B. III, inflation exploded after price liberalization at the start of the program, being per month 27% and 19% in October and November 2000 respectively, but then it was quickly decreased to 1% per month in March 2001. In April, major administrative price adjustments and tax reform triggered inflation again. It then took more than two years to achieve one digit inflation in 2003 (B. III, Table A2-26, A2-27 and Graph A2-25). Thus there was considerable inflationary inertia in Serbia, and hence slow convergence to devaluation rate that was in fact zero in the 2001 and 2002 (B. III, Table A2-30).

1.2. Real exchange rate appreciation (a rise in the relative price of nontraded goods). This empirical regularity of ERBS is a consequence of using exchange rate as an anchor in the presence of inflationary inertia. Serbia entered stabilization in October 2000 with historically very low real value of dinar (B.III, Graph A2-31) leaving ample space for its real appreciation, while using exchange rate as the nominal anchor. That space was more than generously used, leading to large real appreciation of dinar. Thus as early as 2002, dinar surpassed its historic average and remained 15 to 20% above it during 2003 and 2004 (B. III, Graph A2-31, Table A2-31). The latter suggest that dinar might be over valued.

Another indicator of real exchange rate appreciation is the rise of relative price of nontraded goods in terms of traded goods. The corresponding price indices are not readily available, but good approximations are price indices of services and goods, or non-core and core price indices. Whatever approximation one uses, price of nontraded goods increased more than traded ones (B. III, Graph A2-24 and A2-25).

1.3. A boom in real estate market, i.e. the price of residential and commercial property tends to rise significantly in ERBS. There is a lot of anecdotic evidence that this also occurred in Serbia, but systematic research is due to document it. Residential and commercial property belongs to nontraded good and the rise of its price fits the previous regularity as well.

¹³ There were 13 major ERBS through mid-90s. A good summary and analysis of competing theories is given in S. Rebelo and C. A. Veigh, 'Real Effects of ERBS: An Analysis of Competing Theories', and J. Sachs 'Comment', both in NBER Macroeconomic Annual, 1995. We shall extensively draw on these two papers.

1.4. An increase in real wages measured in units of tradable goods. Real wages rose in Serbia thus concurring with the outcome in other ERBS. This increase is recorded both in units of all goods (retail price index, B. III, Table A2-33) but even more so in units of trade goods as the latter recorded lower inflation. Some warnings are due to possible measurements errors overestimating wage growth in the first two years, but even upon downward adjustment wage growth would be still remain high.

In addition wage rate in terms of euros, is higher in Serbia than in relevant comparator countries (B. III, Table A2-36). This suggests that in Serbia either wages became relatively high, or dinar is well overvalued, or some combination of the two.

1.5. A remonetization of the economy. In the first two years of the program monetary base and M1 increased sharply in real terms indicating strong rise in money demand. Thus both real base money and real M1 more than doubled in two years. Subsequently, in 2003, monetization of the Serbian economy in terms of dinars was halted (B. II, Graph A2-11 and A2-13). Historical assessment indicates that real money holdings almost doubled in 2002 compared to those in the inflationary 1990s. An important consequence of large increase in money demand is strong rise in foreign currency reserves.

Nevertheless, remonetization in terms of broad money that includes foreign currency deposits (M2) carried on in 2003 and 2004 (B. II Graph A2-14). Obviously it was driven by growth of foreign currency deposits that reached 55% of broad money (B. II Graph A2-15). The latter indicates sizeable financial euroization of the Serbian economy. Furthermore, increasing foreign currency deposits in 2003 and 2004 were one of the two main drivers of credit expansion in that period.

1.6. An ambiguous response of real interest rates. In orthodox programs, as in Serbia, real interest typically decreased. However, there is not yet sound comparable data on interest rates to asses this regularity in Serbia.

1.7. A deterioration of trade and current account. The external accounts got worse sharply as shown in Table A2-1 below.

Table A2-1. Serbia's Trade and Current Account Deficit Before grants, %GDP

	2001	2002	2003	2004
Trade deficit	18.7	22.9	22.7	30.1
CA deficit	8.7	13.5	11.7	15.6

Source: FREN, based on IMF and NBS.

Trade account deteriorated even more. Import sharply increased, while export was very weak, well below the export in comparable economies. A part of these external accounts worsening is most probably due to large real appreciation of dinar.

1.8. A large fiscal adjustment (in successful or temporarily successful programs). Serbia has enacted a substantial fiscal adjustment starting from fiscal disorder inherited from the 1990s (cf. B. I). At the outset of the program, large latent fiscal deficit was present, consisting of deferred payments and hidden subsidies to public and social enterprises large loss-makers, as well as to agriculture. Neither foreign nor domestic debt was honored. Inherited tax system was highly distorted.

Fiscal deficit was contained in the first year since international assistance was delayed, and it increased somewhat in 2002. It was financed through foreign grants and loans, privatization receipts and a very small fraction (0.7% of GDP) was monetized in 2001.

Tax reform boosted revenues, and expenditure increased partly due to transition related items, but also due to increase in wages and pensions. As a result, both public expenditure and revenue are high in Serbia in comparison to other transition economies.

1.9. An initial expansion in economic activity followed by a later slow down. The conventional wisdom is that inflation could be curbed only at expense of short-term contraction. Moreover, transition recession was expected in Serbia when reforms started. Nevertheless, Serbia recorded strong growth in the first two years which then slowed down in 2003.

Table A2-2. Growth in Serbia - growth rates of GDP (%)

2001	2002	2003	2004
5.1	4.5	2.4	8.6

Source: Statistical Bureau of Serbia (SBS)

Alternative explanations are offered for the initial boom in economic activity observed in ERBS programs. The one advanced by Sachs¹⁴ seems to capture best the Serbian case. Namely he argues that halting inflation leads to sharp remonetization of the economy, and consequently to the pointed rise in lending to those who were previously cut off from the credits. The latter drives aggregate demand, and stimulates economic expansion.

Large remonetization of the Serbian economy has been already demonstrated above (and in B. II). Lending trend in Serbia indicates distinctive rise of loans: 80% in 2002¹⁵, although from the very low level (B. II, Graph A2-17). This growth in loans went hand-in-hand with dinar M2 growth, i.e. their ratio was roughly constant in 2002 (cf. B. II, Graph A2-18). Thus large remonetization that significantly increased dinar's money aggregates including M2 in 2001 and 2002, led to reported strong increase in loans. An alternative explanation that expansion is driven by increase in the private consumption of durable goods is in fact complementary one in Serbia. Namely, significant of the credit rise went to households which use them to buy durable consumption goods. Finally, as suggested for other ERBS programs there might also some effects in Serbia of lowering inflation, i.e. decrease in inflation tax and efficiency gains from low inflation.

However there are some specific factors in the case of Serbia. Its foreign trade was severely limited during the 1990s due to UN embargo, and most of its productive capacities were ruined. Thus upon opening in October 2000, large import, supported by foreign grants and subsidized loans, helped removing the worst bottlenecks in production and hence boosted output from the supply side. On the other hand, undertaken reforms at the beginning had some downside effect by decreasing output in part of nonviable social and state sector, particularly in industry.

2. Resurgence of Inflation: Expanding Aggregate Demand

In 2003 GDP growth slowed down in Serbia (2.4%) resembling experience of some other ERBS programs. A number of these programs ended with sharp recession due to the forced adjustment of large current account (CA) deficit, the latter being caused by sizeable real overvaluation of the domestic currency. This is not the case of Serbia in 2003, although it ran big CA account and trade deficit with overvalued currency.

An alternative explanation offered for decline in economic activity in ERBS programs is slow down in banking credits as banks are eventually loaned up. Sometimes this ends in banking crises. The above could partly apply to Serbia in 2003. Namely, after expanding at the rate of 80% in 2002, growth of loans dropped to 33% in 2003 (B. II, Graph A2-17). The latter is due to the halt in dinar's remonetization of the Serbian economy in 2003, explained above.

¹⁴ See footnote ¹ for reference.

¹⁵ Data on loans in 2001 are not comparable. Cf. B. II

Experience with ERBS programs suggest that a two-step approach, of early exchange-rate pegging followed by a more flexible rate, might deliver stabilization with low output cost and still avoid overvaluation of the domestic currency.¹⁶ Serbia may missed that opportunity in 2002, but anyhow NBS initiated dinar depreciation in 2003 and carried on in 2004 (B. III, Table A2-30). As a result, real value of dinar in terms of euro decreased in 2003, while in 2004 it just followed domestic and foreign inflation, i.e. remained constant in real terms. Nonetheless, NBS still exhibited 'fear of floating'¹⁷ as flexibility of exchange rate remained low even in 2003 and 2004.

Stylized facts presented in part B, points to the increase in aggregate demand as the main inflation trigger in 2004.

Thus, sizeable fiscal expansion took place by the end of 2003, partly fueled with large privatization receipts, and it reemerged strongly in the second quarter of 2004 (B. section I. 3). Credit growth recouped and increased at the rate of 52% in 2004 (B. II, Graph A2-17). This credit growth was fueled by rising foreign currency deposits at commercial banks, and subsequently also by borrowing abroad that kept on increasing (B. II Graphs A2-15, A2-19 and A2-20). Both fiscal and credit expansion drove up aggregate demand. An indicator pointing to the large increase in aggregate demand is a big increase in trade deficit recorded in 2004 (30.1% of GDP) compared to previous years (cf. Table A2-1). Alternatively, sharp rise in GDP growth rate to 8.6% in 2004 is above the medium-term growth trend, implying that large aggregate demand pulled it.

The sharp increase in aggregate demand and output in 2004 coincided with turnaround in inflation trend, from decreasing to increasing one (B. III, Graph A2-25, Table A2-26). This turnaround is exhibited both by overall inflation but also the core inflation, i.e. the one that is freely determined at market. The latter suggest that fundamental economic forces, and not administrative price changes, triggered inflation again in 2004. As documented above and in part B, obvious candidate is increase aggregate demand. Exchange rate depreciation did partly add to inflation. Nonetheless, since real depreciation was pronounced in the low inflation 2003, and then halted in 2004, it could hardly be an important inflation trigger.¹⁸

¹⁶ Cf. Sachs (1995)

¹⁷ See G. A. Calvo and C. M. Reinhart, 'Fear of Floating', *Quarterly Journal of Economics*, 117 (2), 2002.

¹⁸ For the more in dept analysis see P. Petrović and Z. Maldenović, 'Inflation in Serbia: Exogenous Shocks and Fundamental Determinants' FREN, QM No. 1, 2005.

II MACROECONOMIC DEVELOPMENTS: THE STYLIZED FACTS

1. Fiscal adjustments

At the start of the program in October 2000 Serbia faced low fiscal deficit on the cash basis. Nonetheless, there was large latent deficit, consisted of deferred payments and hidden subsidies to public and social enterprises large loss-makers, as well as to agriculture. The deferred payments for pensions, childcare and social security welfare, as well as for wages in public sector were regularly recorded. Another large item of postponed expenditure was servicing of public debt; in the 1990s the government neither honored its foreign debt nor the debt to its citizens stemming from the frozen foreign exchange deposits. These distortions asked for expenditure reform, i.e. recognize hidden expenditure explicitly and then addressing them. As a consequence, fiscal deficit went open, and should have been addressed as well.

Inherited tax system was highly distorted. The major distortions referred to retail sales tax and excises, which account for more than third of public revenues. There were seven different retail sales tax rates, ranging from 1% to 28%, thus giving apply space for lobbying. Earmarked surcharges were introduced on an ad hoc basis to deal with the deficit that emerged in pension and health care funds. Considerable part of earnings, in the form of fringe benefits was not taxable.

1.1. Size of the Government and Fiscal Deficit

An overview of public expenditure, revenue, fiscal deficit and its financing since the start of the program given in Table A2-3, lends opportunity to offer several stylized facts related to fiscal adjustment.

Table A2-3. Consolidated General Government Serbia (in % of Serbian GDP), 2000-2004

	2000	2001	2002	2003	2004 Estimate
Total revenue	36,3%	39,1%	43,8%	43,4%	45,8%
Total expenditure and net lending	36,5%	39,5%	47,6%	46,7%	45,8%
Overall balance	-0,2%	-0,4%	-3,8%	-3,2%	0,0%
Foreign grants	0,0%	0,5%	1,0%	0,2%	0,1%
Overall balance including grants		0,2%	-2,8%	-3,0%	0,0%
Financing	..	0,6%	3,6%	3,0%	0,0%
Domestic financing	..	0,6%	-0,2%	-2,7%	-1,6%
Bank financing	..	0,7%	-0,2%	-1,6%	0,0%
Non-bank financing	..	-0,84%	-0,77%	-1,1%	-1,6%
Foreign Financing	..	0,0%	1,9%	1,2%	0,9%
Privatization receipts	..	0,0%	1,9%	4,5%	0,6%

Based on IMF Country Report No. 05/232; Serbian GDP is used to calculate shares. For 2001 and 2002 we estimated and put below the line FX deposit payments to make it comparable with 2003 and 2004. Consequently, total expenditure and overall balance in these two years have been adjusted as well.

Public expenditure and revenue have both increased since Serbia embarked on reform path. Consequently, its government became large in comparative perspective. Thus the GDP shares of expenditure in relevant comparator countries such as Bulgaria (38%) and Romania (31%) are well below the share in Serbia. In that respect, Serbia is comparable with more developed

transition economies.¹⁹ Serbia has also comparatively high share of public revenues compared to Bulgaria (37%) and Romania (30%)

Fiscal deficit emerged in 2002 and 2003, and it was a consequence of explicit inclusion of previously hidden expenditure items in the budget as well as of increase in transition related expenditure, and also public debt servicing. Small deficit showed up in 2001 since public expenditure was compressed due to delay in international assistance; only 0.5% of GDP in foreign grants and no foreign loans were available for budget support. In 2001 deficit was also financed by the central bank (0.7% of GDP) through large remonetization that occurred upon start of the program (see section II). In the subsequent years central bank stopped monetizing fiscal deficit.

In 2002 foreign assistance was made available and public expenditure expanded to catch up, resulting in a large fiscal deficit. Foreign grants (1% of GDP) and foreign loans (1.9% of GDP) were the main source of deficit financing, but privatization receipts emerged as well. Next year, generous privatization receipts allowed still considerable fiscal deficit to be financed, while foreign support decreased.

Foreign currency deposit payments to households were reclassified below the line, hence decreasing both expenditure and deficit, on the ground that they represent debt servicing. Since this a specific debt servicing, one may put these expenditure above the line (which the practice in 2001-2003) that would lead to large fiscal deficit both in 2002 (4.6% of GDP) and 2003 (4.3% of GDP). Adding to expenditure foreign currency deposit payments also shed a different light to accomplished fiscal adjustment in 2004. Fiscal deficit, although decreased, still remains (1.6% of GDP), while expenditure hardly decreased (0.4 percentage points of GDP). Thus the main adjustment in 2004, i.e. decrease in deficit, occurred through raise in public revenue (2.4 percentage points of GDP) from already relatively high level.

1.2. Public Revenue

1.2.1 Tax Reform

The tax reform has been enacted in three steps. Substantial changes took place in 2001 aiming at removing inherited large tax distortions, simplifying the tax system and achieving allocation neutrality. As a second step in 2002, some tax incentives for investment and employment were introduced. Finally, preparations for the introduction of value added tax (VAT) were done in 2003 and in 2004, and it was introduced in January 2005.

A thorough tax reform in Serbia was advanced in March 2001 along with the budget for that year. The major changes were proposed in the area of retail sales tax, excises and in payroll contributions and taxes. These taxes accounted for some 80% of total fiscal revenues in Serbia. Some other taxes, e.g. corporate income tax, property tax etc., have been changed as well. Federal Government pursued, in May 2001, reform of import tariffs.

Tax reform unified retail sales tax at the rate of 20%, from seven different rates ranging from 1% to 28%. Retail tax exemptions were very limited.

The goals of the enacted changes in retail sales tax are to reduce the allocation bias of the previous system, avoid the strong lobbying, simplify the calculation and reduce the cost of calculation and control. Also, the unification of retail tax rate was a good starting point for the planned introduction of the value-added tax.

Radical simplification of the taxation of excise products is also enacted. A consolidated excise is introduced by combining the existing excises and 4-8 charges calculated for excise products. Except simplifying calculation, selective increase in excises was proposed.

¹⁹ Thus such as Croatia (52%), Hungary (50%) and Slovenia 48%; however Poland (44%) and Czech Republic (43%) have lower shares. Source EBRD: Transition Report 2005. data represent approximately average for 2003 and 2004.

Change in the fiscal treatment of wages and salaries are the third, and probably the most important measure within the fiscal reform. The changes were accepted in April and have been effective from June 2001. They encompass: a) shift to the system of gross wage, which represent the uniform base for levying all fiscal charges on wages and salaries; b) tax exemption for minimum wage was abolished; c) luncheon bonus and vacation vouchers are included in gross wage; d) introduction of minimum base for each qualification and a maximum one for levying contributions. At the same time, contribution rates were lowered so that the reduction of fiscal burden on average wage decreased by about 10%.

The combined effect of widening tax base, i.e. gross wage that now includes the whole take home income, and the lowering of contribution rates have led to the reduction of fiscal burden on take home wage from 105% to 72%.

In the course of 2002, decrease in corporate tax rate was advanced, from 20% to 14%, and then further to 10% in 2004, which resulted in the lowest rate in the region. Some tax incentives for investment were introduced, and distortions removed, i.e. by decreasing the tax on financial transactions which was ultimately phased out in January 2004. During 2003 and 2004, preparation for value added tax introduction was pursued, and it was enacted in January 2005.

1.2.2 Public Revenues: Evolution and Main Drivers

Public revenue increased significantly, in absolute terms and as share of GDP, upon introduction of tax reform in 2001. Its share in GDP was raised almost five percentage points from 2001 to 2002 and retained that relative level in 2003. The main drivers of this increase are given in Table A2-4.

Table A2-4. Revenue Drivers (%GDP) in Serbia

	2000	2001	2002	2003	2004
Total revenue	36,3%	39,1%	43,8%	43,4%	45,8%
Retail sales tax	8,3%	10,2%	12,1%	11,5%	12,3%
Excises	3,0%	3,7%	4,9%	5,3%	5,7%
Personal income tax	3,5%	4,6%	5,8%	6,4%	5,9%
Social security contributions	11,2%	10,8%	10,8%	10,6%	11,9%
Taxes on international trade	2,4%	2,0%	2,7%	2,6%	2,6%

Source: IMF (Consolidated General Government Serbia)

Retail sales tax and excises added to the increase in revenue 3.1 percentage points of GDP in 2002. This is a result of tax reform explained above which led to enhanced collection of retail taxes and excises. Government decree in 2001 imposing state monopole on oil import sharply decreased previously huge smuggling of oil. Tax evasion and smuggling of other excise products, standard practice in the 1990s, was also decreased.

Personal income tax added 1.2 percentage points of GDP to increase of revenue in 2002. Again it is due to tax reform, in this case to the shift to gross wages as taxable base. On the other hand, social security contributions remained unchanged as share of GDP; this is a result of the reform that increased taxable wage base but lower social security contribution rates.

Revenues from taxing international trade increased due to strong growth of import, despite the lowering of the rates.

Public revenue increased again in 2004 as a share of GDP, representing the main fiscal adjustment in that year. Increase in revenue was driven by increase in retail tax revenue

(due to better collection as a result of introduction of fiscal cashiers) and by increase in social security contributions²⁰.

1.3. Public Expenditure: Evolution and Main Drivers

Distinctive feature in public expenditure trend is its sharp increase in 2002. As explained above part of that increase was spill-over from 2001 when expenditure was curtailed since international support was still small.

Table A2-5. Expenditure Drivers (% GDP in Serbia)

	2000	2001	2002	2003	2004
Total expenditure and net lending	36,5	39,5	47,6	46,7	45,8
Wages and salaries	9,4	9,2	10,4	10,3	10,3
Transfers to households	13,4	16,2	20,0	19,7	19,1
Subsidies	2,0	3,3	4,6	3,7	3,3
Capital expenditure	3,1	1,5	3,6	2,6	2,8
FX deposit payments*	..	0,64	0,77	1,1	1,6

Source: IMF (Consolidated General Government Serbia)

*FX deposit payments in 2001 and 2002 are our estimates based on Ministry of Finance and Economy, Republic of Serbia, reports.

Expenditure drivers in 2002 could be divided into consumption and transition related items.

Pension outlays represent the largest part of transfers to households. Despite bold pension system reform (December 2001), pension outlays increased substantially in 2002 – by more than 2% of GDP. This increase was only partly due to the exceptionally high growth of gross wages (by around 0.56% in GDP), while around 1.5% was actually a consequence of real growth of pension benefits due to a lower inflation²¹. Second consumption related item that raised expenditure share is wages and salaries in general government. That sector has relatively low wages albeit combined with over-employment. The former resulted into strong upwards pressure on wages which was hard to resist. A consequence of this rise and over-employment is that the share of the public sector wage bill in Serbia (10% of GDP) is large compared to relevant comparative benchmarks, e.g. 5% in Bulgaria and Romania, and 8% in Hungary²²

Transition related increase in expenditure partly comes from transfers to households, i.e. unemployment benefits and social care (child and family allowances). Another important item is subsidies to firms to be restructured, which is now explicitly included in the budget as opposed to various forms of hidden subsidies before reform started. Capital expenditure increased, albeit from the very low level, and it was badly needed to improve ruined infrastructure. However its share, particularly in the subsequent years, is below international standards of some 4% of GDP.

²⁰ Large part of the increase in social contribution was actually only redistribution of the public revenue at the expense of personal income tax: 3.5% tax on salary fund was abolished in July 2004 while the overall social contribution rate was increased for the same percentage. Additional part of the increase of social security contributions is due to the payment of social contributions for youth and service contracts and authorship fee, throughout whole year.

²¹ Since inflation was significantly lowered in 2002 (the average annual inflation of 21.5% compared to 91.8% in 2001), the inherited delay in payment of pensions (2.5 months) stopped leading to a significant devaluation of pension benefits. This in turn influenced the real growth of pensions, thus the pension outlays expenditure.

²² Romanian Ministry of Finance and IMF for Romania, World Bank, 2003. "Serbia and Montenegro, Republic of Serbia: Public Expenditure and Institutional Review" for others.

Estimates of foreign currency deposit payments in 2001 and 2002, given in Table A2-5, lend opportunity to determine comparable expenditure and deficit in the period considered. As explained above, this points to hardly any decrease of public expenditure in 2004.

1.4. Fiscal Developments in 2004: Expansion and Contraction

Fiscal developments by the end of 2003 and in the course of 2004 are distinctive but however blurred by annual data. Namely, it seems that strong fiscal expansion took place in the last quarter of 2003 and in the second quarter of 2004. This was followed by fiscal tightening in the second half of 2004. These swings in fiscal policy might have triggered inflation in 2004, since when it has started accelerating again (see section III).

Fiscal developments above will be documented using various data sources that are available and comparable within the year. The central government budget, encompassing budget of Serbia and State Union, is the largest fiscal aggregate available within the year.

Table A2-6. Central Government Budget % GDP Serbia

		Total expenditure	Wages and salaries
2003	Q2	30,2%	5,4%
	Q3	29,8%	5,8%
	Q4	31,8%	5,7%
2004	Q1	27,2%	6,3%
	Q2	32,3%	6,0%
	Q3	27,2%	5,3%
	Q4	27,1%	5,0%
2005	Q1	28%	6,1%
	Q2	30,6%	5,7%

Sources: Calculated based on Ministry of Finance, Republic of Serbia and SBS data.

The data given in Table A2-6 do support the pattern of fiscal developments suggested above.

Thus public expenditure in the last quarter of 2003 seems to be above the trend even one takes into account seasonal effect. Namely the corresponding relative share of total expenditure and wages are both well above the comparable 2004Q4 figure. Caveats are that considerable fiscal tightening took place in second half of 2004, and that GDP also has strong seasonal component hence affecting results above.

One may also look at the quarterly real growth of central budget expenditure, thus avoiding effect of GDP seasonality, but then loosing indicators for the 2003Q4 and 2004Q1 as incomparable.

Table A2-7. Central Government Budget, (%) over same quarter previous year

		Nominal growth		Real growth	
		Total expenditure	Wages and salaries	Total expenditure	Wages and salaries
2004	Q2	21,5%	24,4%	12,11%	14,79%
	Q3	9,6%	9,6%	-0,65%	-0,65%
	Q4	8,2%	10,6%	-3,47%	-1,32%
2005	Q1	27,9%	17,3%	9,53%	0,45%
	Q2	18,8%	18,7%	1,40%	-4,51%

Sources: Calculated based on Ministry of Finance, Republic of Serbia Bulletin.

Table A2-7 indicates a strong fiscal expansion in the 2004Q2, even when one takes seasonal component into account, i.e. compare with 2005Q2. Subsequently, strong fiscal tightening occurred in the second half of 2004. These results concur with those in Table A2-6.

Evolution of the central budget deficit in the course of 2004 also points to loose fiscal policy in the first half and subsequent tightening.

Table A2-8. Central Budget Deficit

2004	1 st half	2 nd half
22.3 billion dinars	14.1	8.2
100	63%	37%

Note: Foreign currency deposit payments included. Source: Ministry of Finance, Republic of Serbia

Deficit in the second half of 2004 decreased to only 58% of the deficit recorded in the first six months.

Yet another piece of evidence, coming from the National Bank of Serbia (NBS), supports the pattern of fiscal developments given at the beginning of this section.

Table A2-9. Government Net Deposits at NBS (End of period, billion dinars)

September 2003	December 2003	March 2004	July 2004	December 2004
19.4	12.1	10.3	1.2	11.5

Source: Statistical bulletin NBS

Namely, government net deposit at NBS at the beginning of 2003Q4 substantially increased as a result of large privatization receipt. Subsequently they were run down through July 2004, indicating large public expenditure in that period. Later on government net deposits at NBS increased through December 2004, showing again the fiscal tightening.

2. Monetary developments

Monetary policy together with exchange rate policy were first to face outburst of inflation after across the board price liberalization at the start of the program in October 2000 (see section III). The main idea of this initial stabilization policy was to increase money supply only through foreign exchange operations, while at the same time fixing nominal exchange rate. Despite official announcement of managed float regime, the nominal exchange rate is set at the start of the program at its black market level and left unchanged for more than two years.

2.1. Remonetization and Euroization

Base money creation through foreign exchange operations is documented in Table A2-10.

Table A2-10. Base Money Creation, (y-o-y in percent of opening H)

	2001	2002	2003	2004
Base/reserve money growth	108.4	58.9	0.9	10.0
NDA contribution	10.8	-109.0	-41.0	-22.4
NFA contribution	97.6	167.9	41.9	32.4

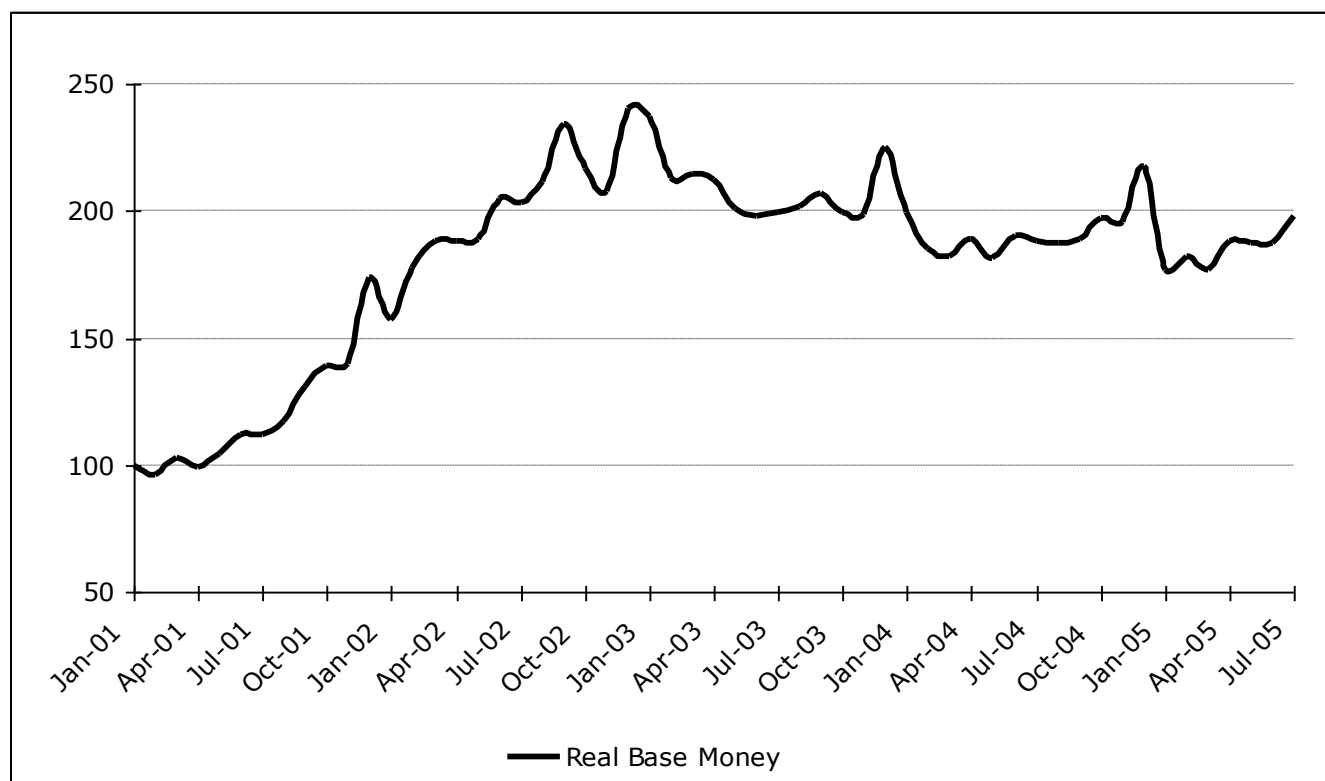
Source: Year 2001 - IMF, Selected issues and statistical appendix 2005, other years - FREN

Increase in net foreign assets (NFA) was the main driver of base money growth in the whole period, while declining net domestic assets (NDA) restrained money growth. Although some warnings are due to data reliability in the first two years, the pattern is so clear that would survive certain data corrections.

As to the base money growth it exhibits different pattern in the two sub-periods. It grew enormously in the first two years and subsequently its growth sharply slowed down. The same pattern still holds when nominal money growth is corrected for inflation, which was considerable in 2001 and 2002. This is depicted in Graph A2-11.

Graph A2-11. Real Base Money

Jan. '00=100



Large growth in real base money demonstrates increase in real money demand for dinars upon stabilization. This remonetization of the Serbian economy, through increase in NFA (Table A2-10) was used to build up foreign currency reserves. Just a small fraction of base money increase was used to finance fiscal deficit and only so in 2001 (0.7% of GDP, see section I). Distinctive rise of central bank foreign currency reserves, albeit from the low level, was achieved during the sharp remonetization in 2001 and 2002; as remonetization slowed down so did the pace at which reserve were growing (see Table A2-12).

Table A2-12. FX Reserves growth rate (%)

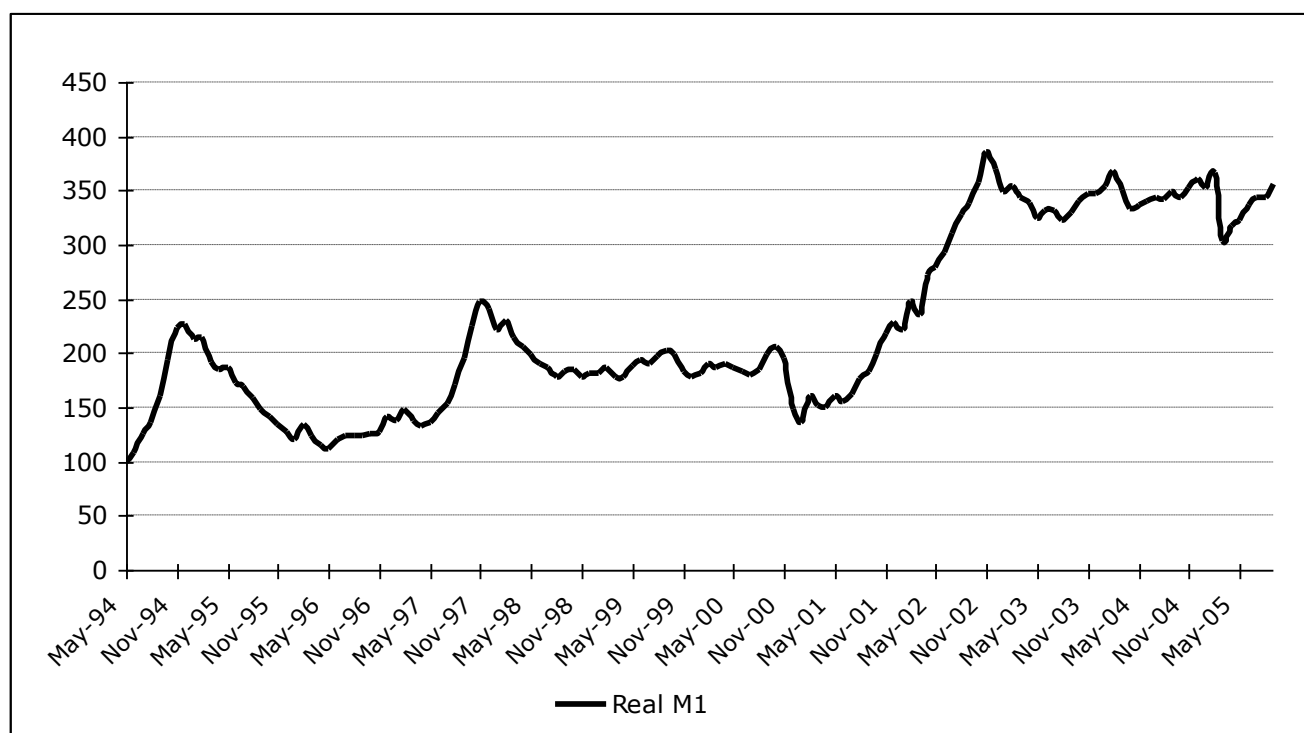
Dec. 2001/ Jan.2001	Dec. 2002/ Dec.2001	Dec. 2003/ Dec.2002	Dec. 2004/ Dec.2003
110	120	30	10

Source: FREN and NBS

Increase in base money led to expansion of M1 both nominally and in real terms. Again strong remonetization occurred in 2001 and 2002 and then halted (cf. Graph A2-13). As a result real money holdings almost doubled compared to those in the inflationary 1990s.

Graph A2-13. Real M1

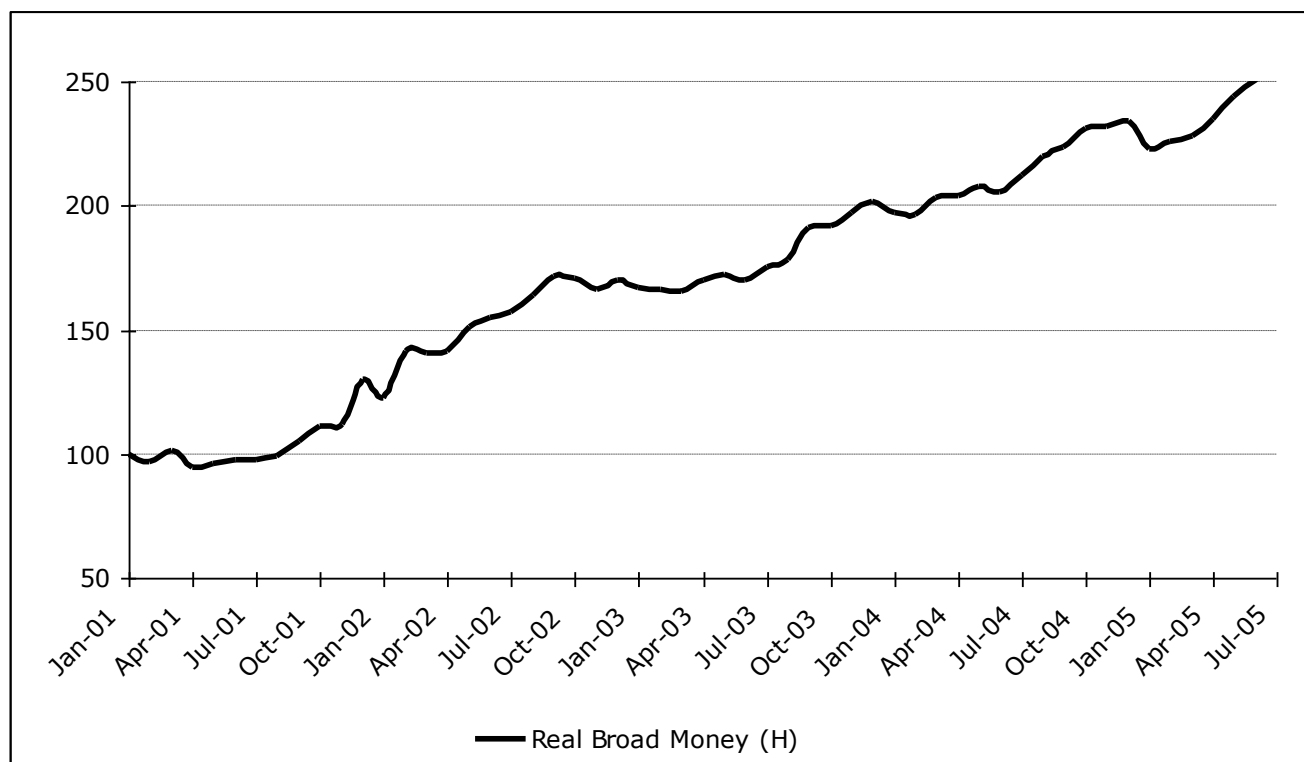
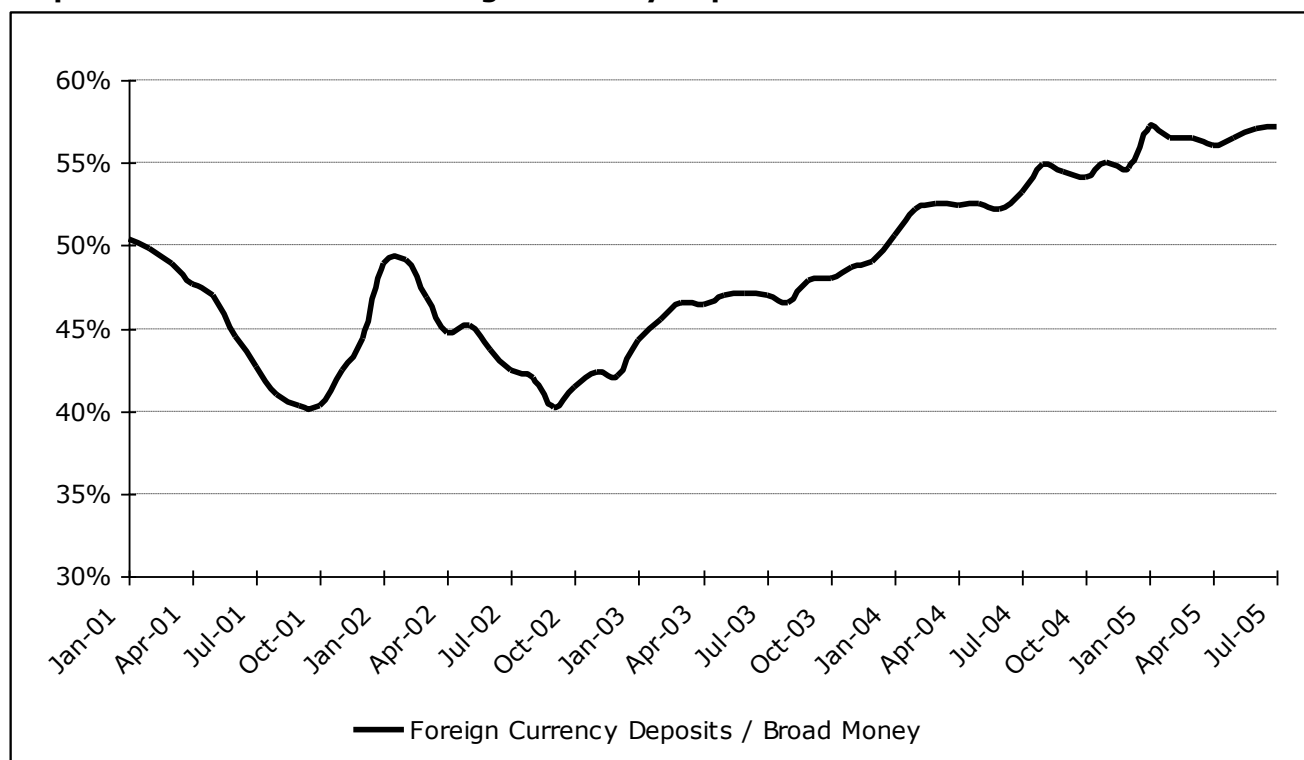
March 94=100



Broad money (M2), that includes also foreign currency deposits, exhibits somewhat different trend compared to base money and M1 (cf. Graph A2-14). Specifically it recorded continually rising trend upon stabilization, indicating that remonetization in terms of broad money has not stopped in 2003 and 2004. The latter is due to the fast growth of foreign currency deposits relative to dinar component (deposits and currency) since beginning of 2003 (cf. Graph A2-15).

Graph A2-14. Real Broad Money (M2)

Jan. 2001=100

**Graph A2-15. The share of Foreign Currency Deposits**

The share of foreign currency deposits in the broad money exhibits different pattern in the two considered sub-periods: 2001-2002, and 2003-2004 (cf. Graph A2-15). In the first sub-period the share is volatile and does not show increasing trend. Decline in the share during 2001 is the consequence of sharp increase in dinar holdings, i.e. remonetization explained above. At the same time, due to low credibility of unreformed banking sector, foreign deposits hardly increased. The subsequent abrupt rise in the share of foreign currency deposits is triggered by

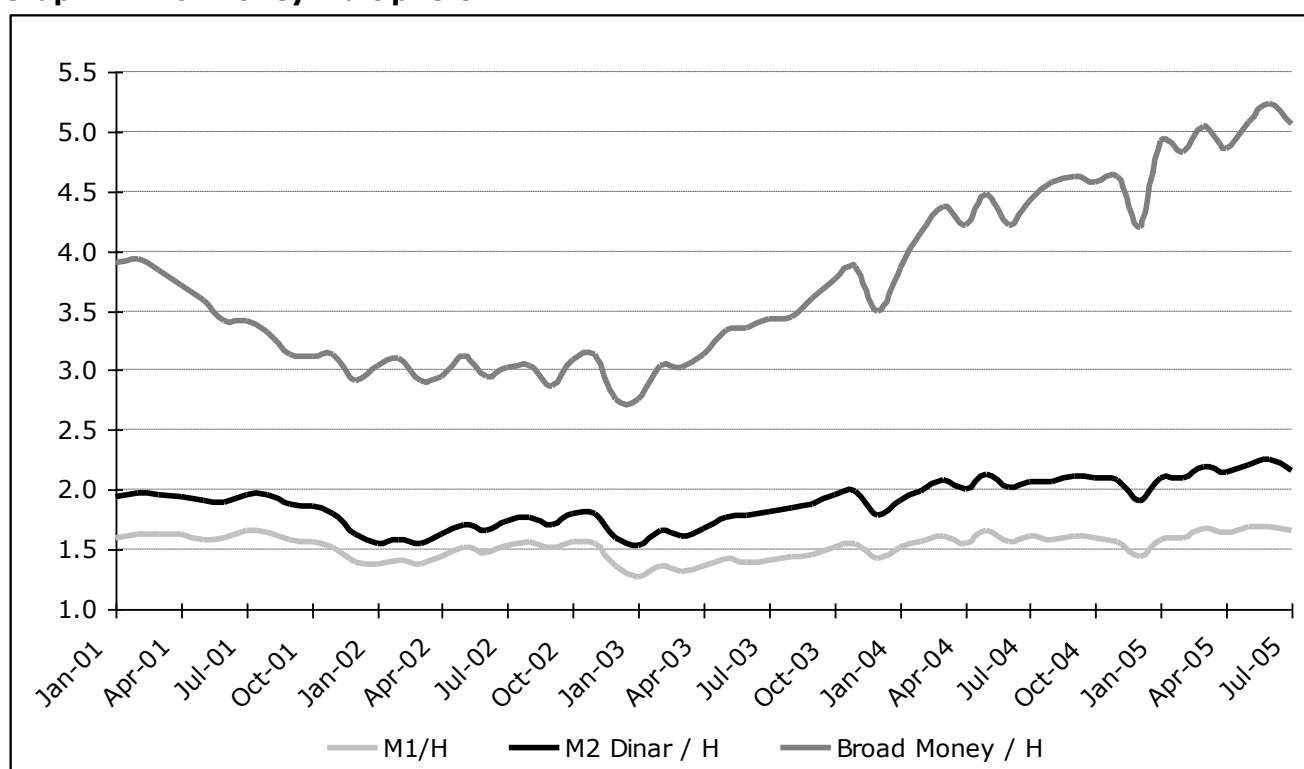
conversion of DEM kept in “mattresses” to euros through banking sector. The precondition for conversion was to deposit DEM holdings in a bank, the idea being that some deposits upon conversion to euro would be left in the banking sector. The result can be seen from Graph A2-15: the short-lived increase in the foreign currency deposit share and the subsequent return to some normal level by the end of 2002.

Since 2003, the share of foreign currency deposits in the broad money steadily increases, leading large financial euroization of the Serbian economy. Foreign currency deposits reached some 55% of broad money in Serbia, and this is comparable only to that in Croatia (65%), while is well above some other comparable transition economies.²³ Thus Serbia experiences large financial euroization.

2.2. Effectiveness of Monetary Policy and Lending Booms

Important consequence of financial euroization observed in Serbia is that it reduces the effectiveness of monetary policy. Money multipliers, indicating the impact of base money on various money aggregates, demonstrate that (Graph A2-17).

Graph A2-16. Money Multipliers



Again two sub-periods emerge, and that could be expected from analysis above. In 2001 and 2002, all three multipliers are relatively stable showing that M1, dinar M2 and broad money (M2) expanded hand-in-hand with base money. Hence by controlling base money supply, central bank of Serbia could affect all three money aggregates.

In the subsequent period (2003 and 2004) the broad money started to increase independently of the base money as the corresponding multiplier in Graph A2-16 shows. This is the consequence of the strong growth in foreign exchange deposits that became the main driver of the broad money expansion (cf. Graph A2-16). Therefore monetary policy began losing the

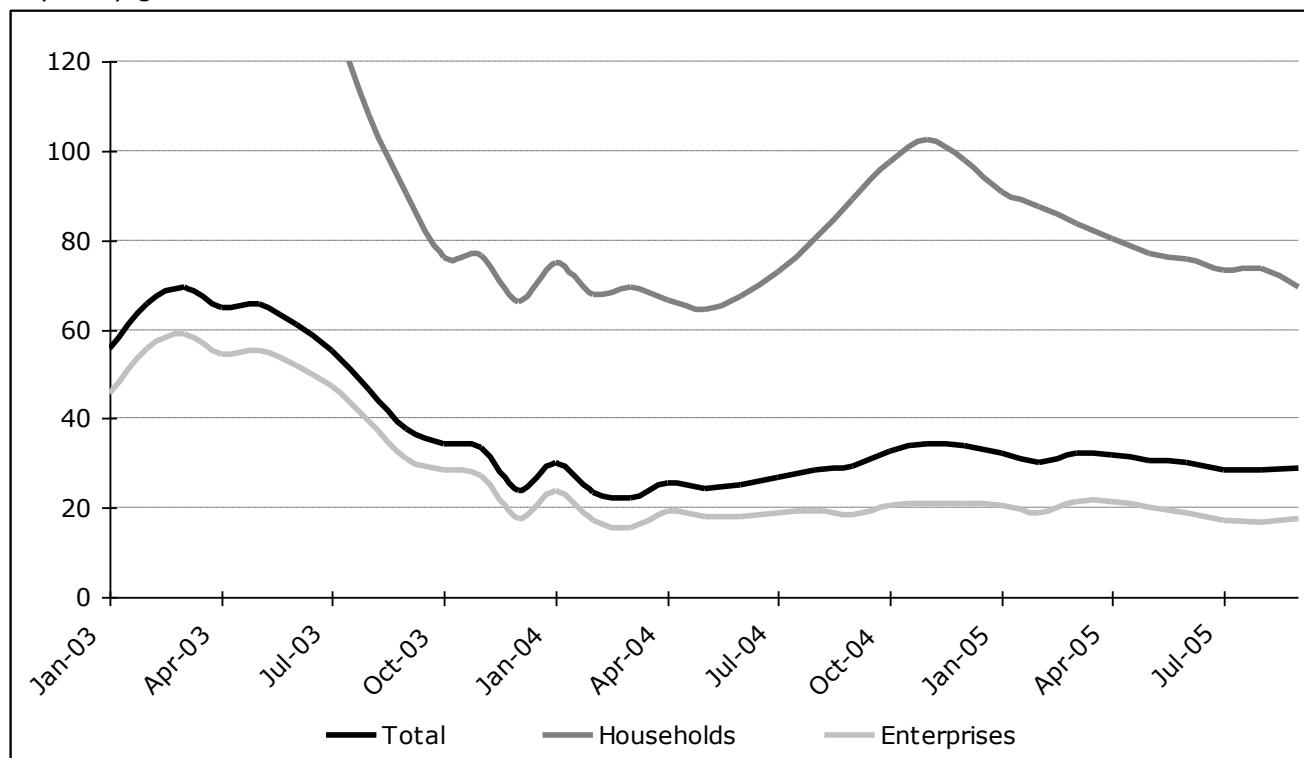
²³ Czech Republic, Slovak Republic, Hungary, Romania and Slovenia. Cf. A. Billmeir and L. Bonato, “Exchange Rate Pass-through and Monetary Policy in Croatia”, *J: of Comparative Economics*, Vol. 32, 2004, Fig. 3.

grip over broad money growth in 2003 and 2004. On the other hand, dinar's monetary aggregates (M1 and dinar M2) kept the same pace as base money (cf. Graph A2-16), and could had been controlled by the central bank.

Lending trend in Serbia is well described by Graph A2-17.

Graph A2-17. Loans to the Non-government Sector

% y-on-y growth rates



Source: FREN, QM No 1, 2005.

Namely, growth rates of extended loans follow a U shape in period 2002 -2004. Data for 2001 are incomparable since they include large part of non-performing loans of the insolvent state banks that were subsequently (January 2002) closed.

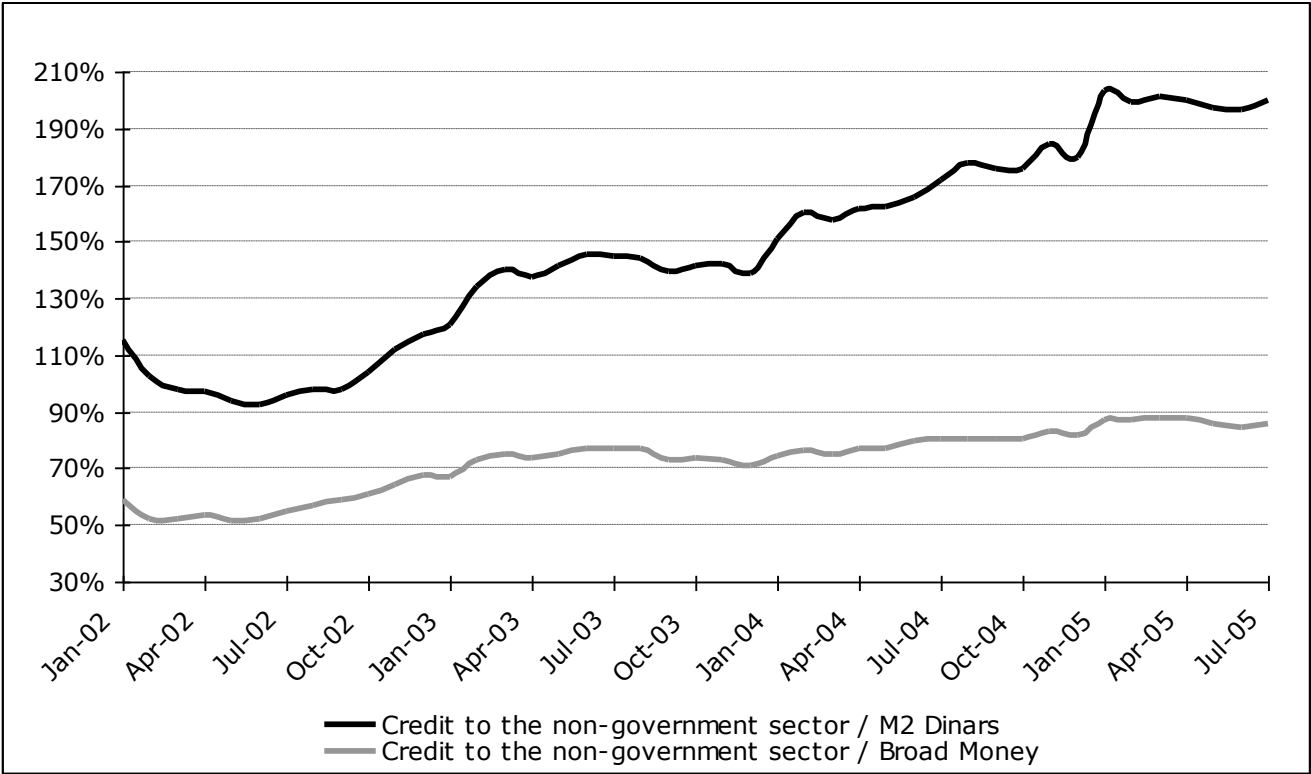
Distinctive rise of new loans was achieved in 2002 – some 80%²⁴, albeit from the very low level. Then the growth slow down in 2003 (33%) followed by a large expansion in 2004 (52%).

Thus there were two large increases in lending activity. In 2002 extended loans went hand-in-hand with dinar M2 growth, i.e. their ratio was roughly constant in 2002 (cf. Graph A2-18). Thus large remonetization that significantly increased dinar's money aggregates including M2 in 2001 and 2002, led to reported strong increase in loans.

As shown above, remonetization of dinar's money aggregates stopped at the beginning of 2003, while broad money carry on rising due to increasing foreign currency deposits. Nonetheless, in 2003 and 2004 extended loans grew faster than dinar M2, and approximately like the broad money (cf. Graph A2-18). The latter suggests that the credit growth in 2004 was driven by foreign currency sources, which on their part drove broad money growth.

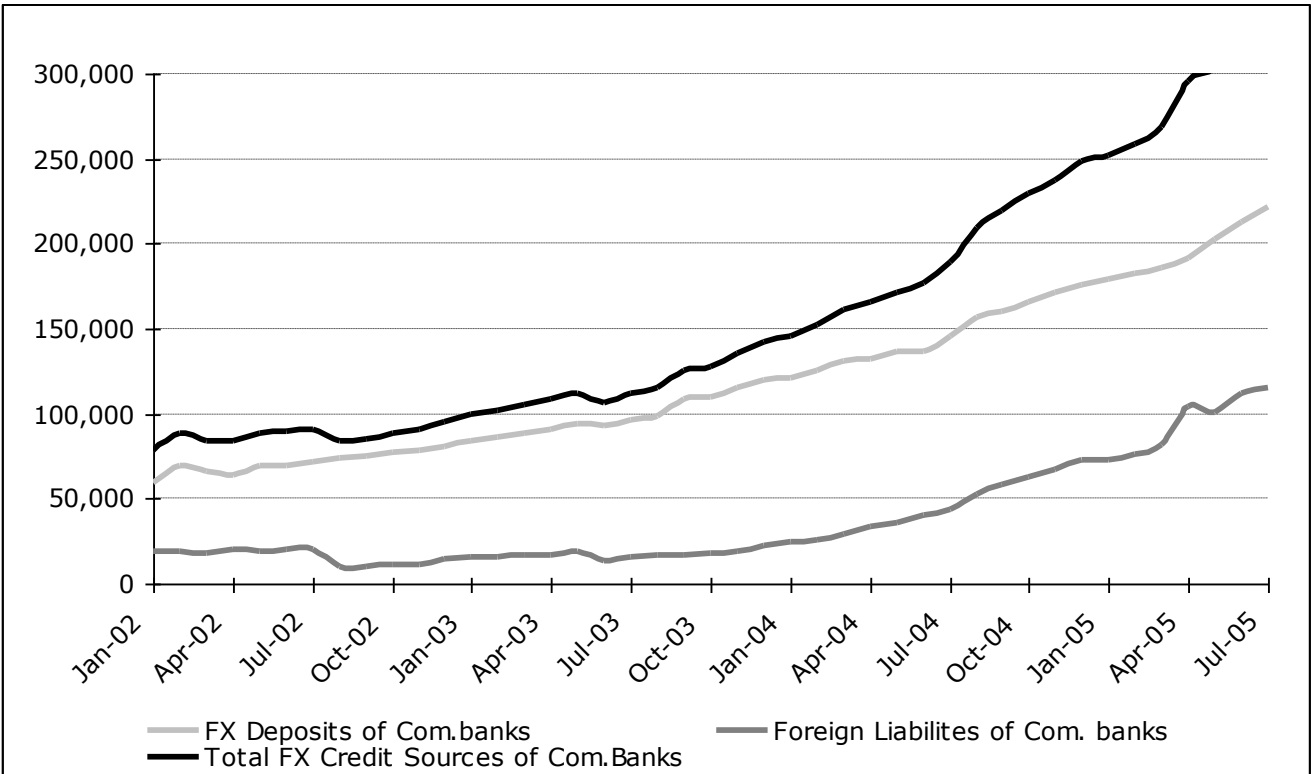
²⁴ Actually it is January 2003/January 2002, as data for December 2001 is incomparable.

Graph A2-18. Credit and Money



Foreign currency sources of the banking sector encompass foreign currency deposits but also borrowing abroad. These two components taken together (tentatively labeled: total FX credit sources) has started to grow strongly since last quarter of 2003 (cf. Graph A2-19).

Graph A2-19. Foreign Currency Sources of Commercial Banks

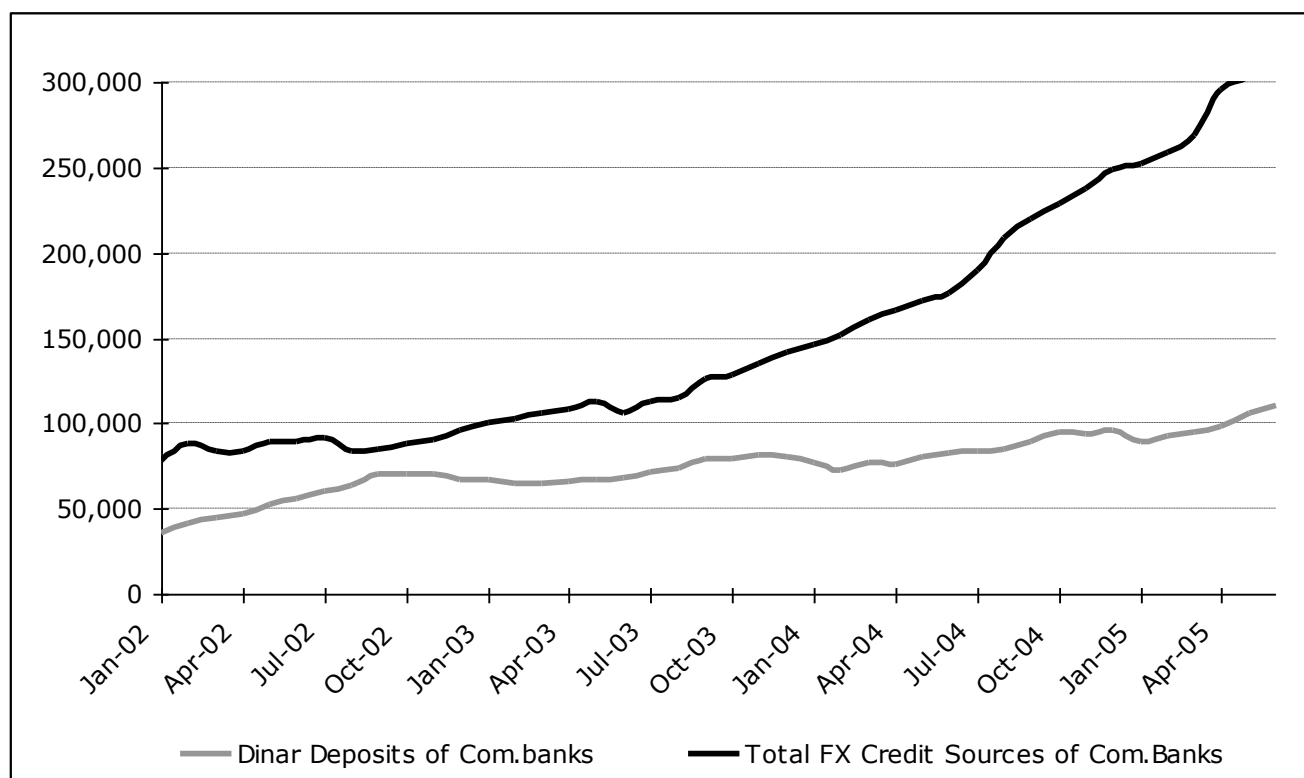


Source: NBS

The dominant part of the total is still foreign currency deposits, but borrowing abroad has been expanding at the stronger pace than FX deposits in 2004.

While foreign currency sources have exhibited distinctive growth since the last quarter of 2003, dinar deposits at commercial banks recorded slow growth (cf. Graph A2-20).

Graph A2-20. Main Credit Sources of Commercial Banks



Source: NBS

Trends in Graph A2-20 are approximately a mirror image of trends in broad money and dinar M2 considered above.

The evidence considered in this section suggests two stylized facts related to lending activity in Serbia. In the first period, 2001 and 2002, recorded credit growth may be attributed to the sharp remonetization of the Serbian economy and hence mainly to the rise of dinar sources. In the second period, specifically from the last quarter of 2003, foreign currency sources took the lead in creating lending boom.

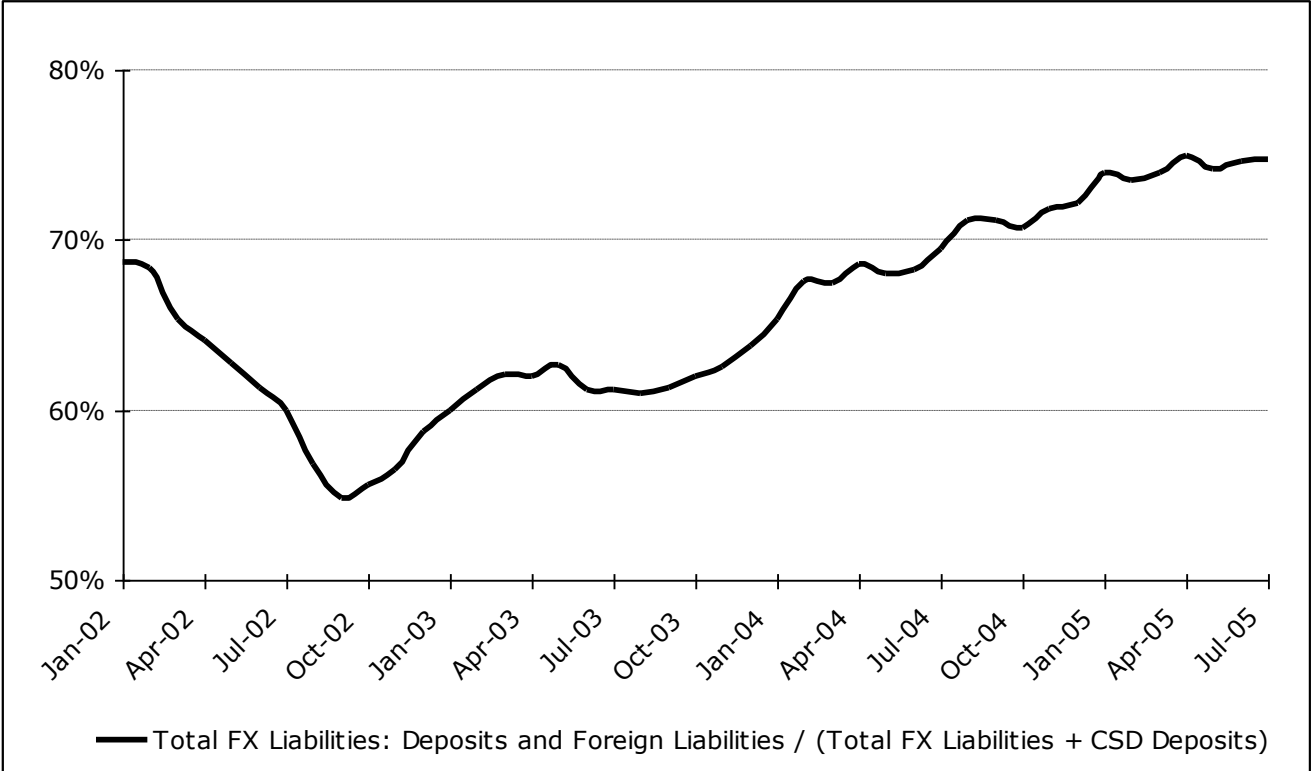
The credit expansion generated strong increase in aggregate demand, and that was an inflation trigger in 2004 (see section III). Since the large credit expansion in 2004 was based on foreign currency sources, the effectiveness of monetary policy substantially decreased making it harder to contain lending boom and the consequent rise in aggregate demand.

2.3. Risks of Financial Euroization

Large financial euroization has been already documented (cf. Graph A2-15), as well as its important consequence i.e. decrease in the effectiveness of monetary policy. Now one may look at implications for banking sector.

The main stylized fact is that the share of foreign currency liability of the banking sector is very high (see Graph A2-21).

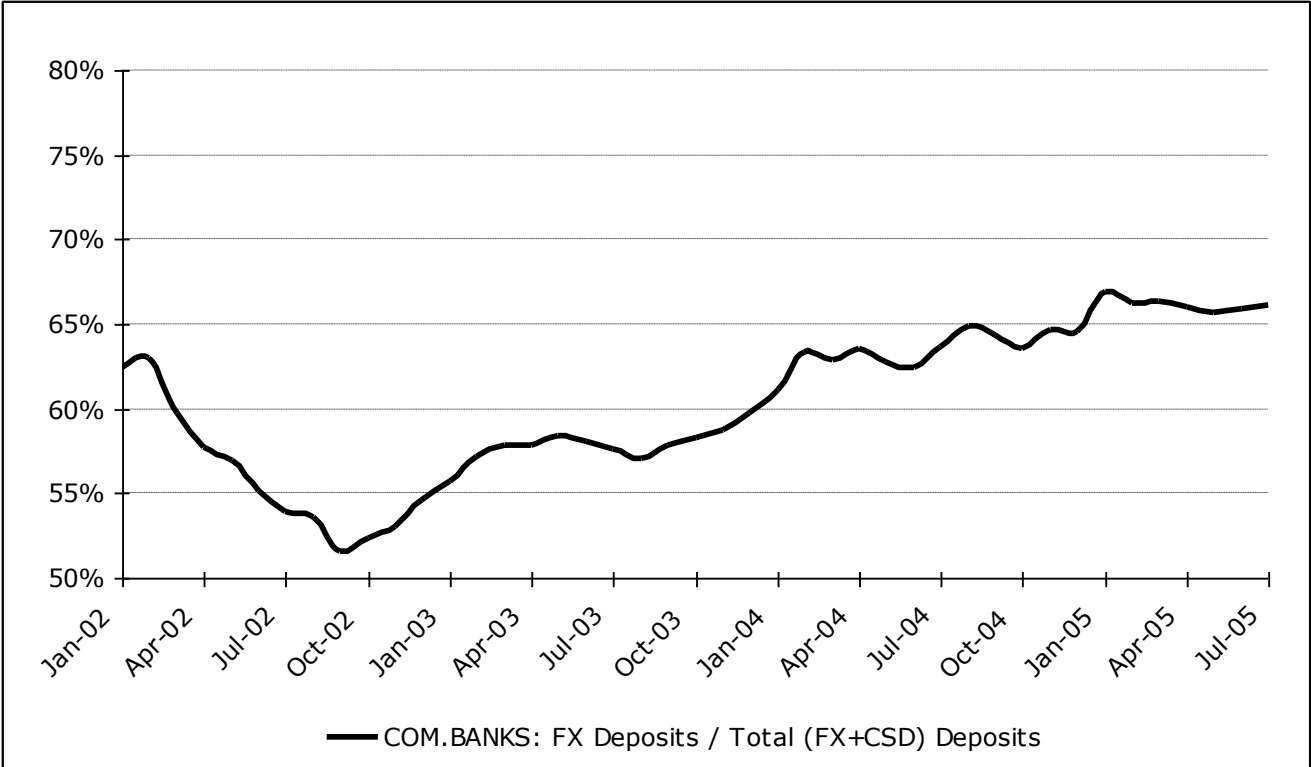
Graph A2-21. Total FX liability (deposits and foreign liabilities)/ (Total FX liability + CSD deposits)



Source: NBS

This is also the case when one looks only at deposits (see Graph A2-22).

Graph A2-22. Foreign Currency and Total Deposits



Source: NBS

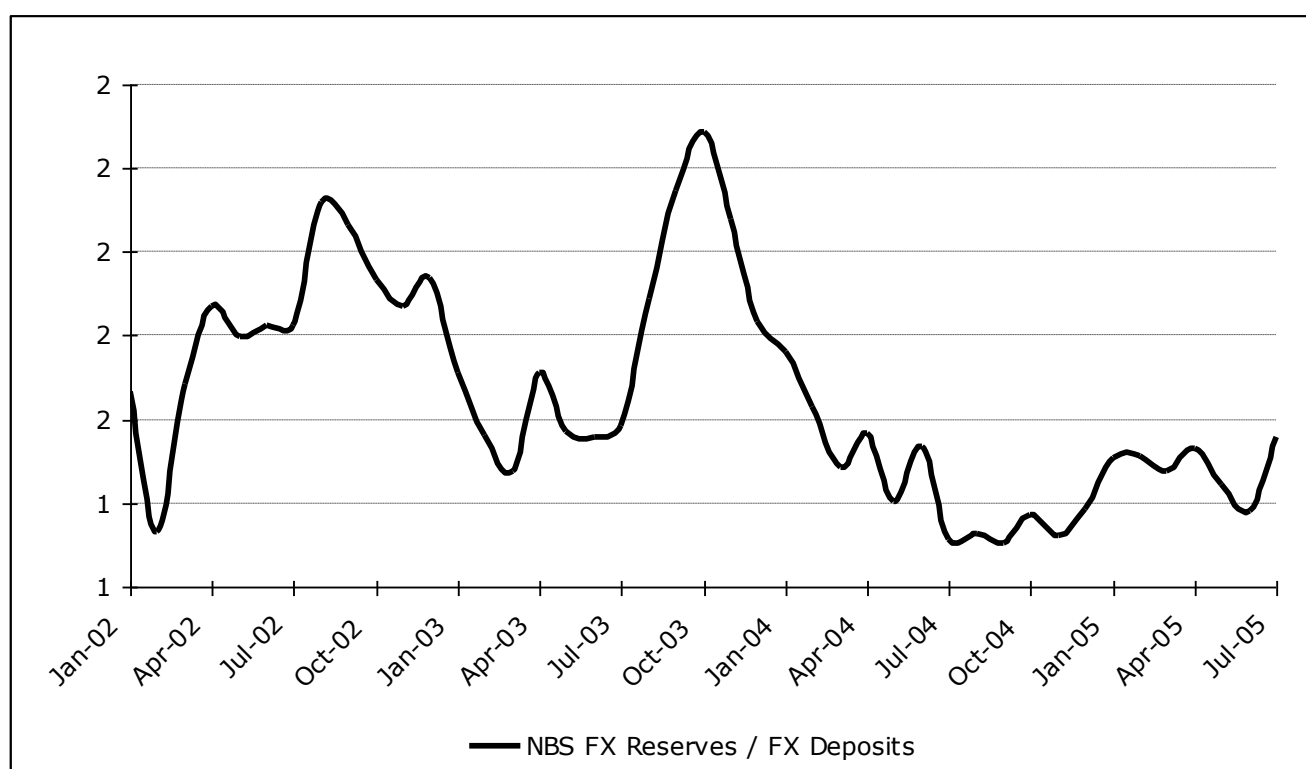
Again, as in the previous analysis, the two sub-periods emerge. In 2002 dinar's remonetization of the Serbian economy was still strongly going on and hence the dinar deposits grew faster than foreign currency one (cf. Graphs A2-21 and A2-22). Second sub-period, 2003 and 2004, witnessed large increase in foreign currency deposits and liabilities in general. Thus the most of the deposits are euroized.

This could make banking sector vulnerable to exchange rate depreciation. However, banks have passed this risk to borrowers by extending either foreign currency indexed or denominated loans. As the result, approximately 70% of the total loans in Serbia are in the terms of euros in one way or another²⁵.

Nonetheless, vulnerability of the banking sector is not removed by passing the risk to borrowers, as they now have a mismatch i.e. liabilities in foreign currency and earnings in dinars. Large real depreciation may lead to widespread credit default and hence potential banking crises.

Foreign currency reserves of NBS should be large enough to cover potential run of foreign currency deposits.

Graph A2-23. NBS FX Reserves and FX Deposits at Commercial Banks



Source: NBS

As a result of increase in foreign currency deposits, the ratio decreased in 2004, but it is still around 1.4 indicating satisfactory coverage of FX deposits.

²⁵ See IMF Country Report No.05/232, July 2005, p.67.

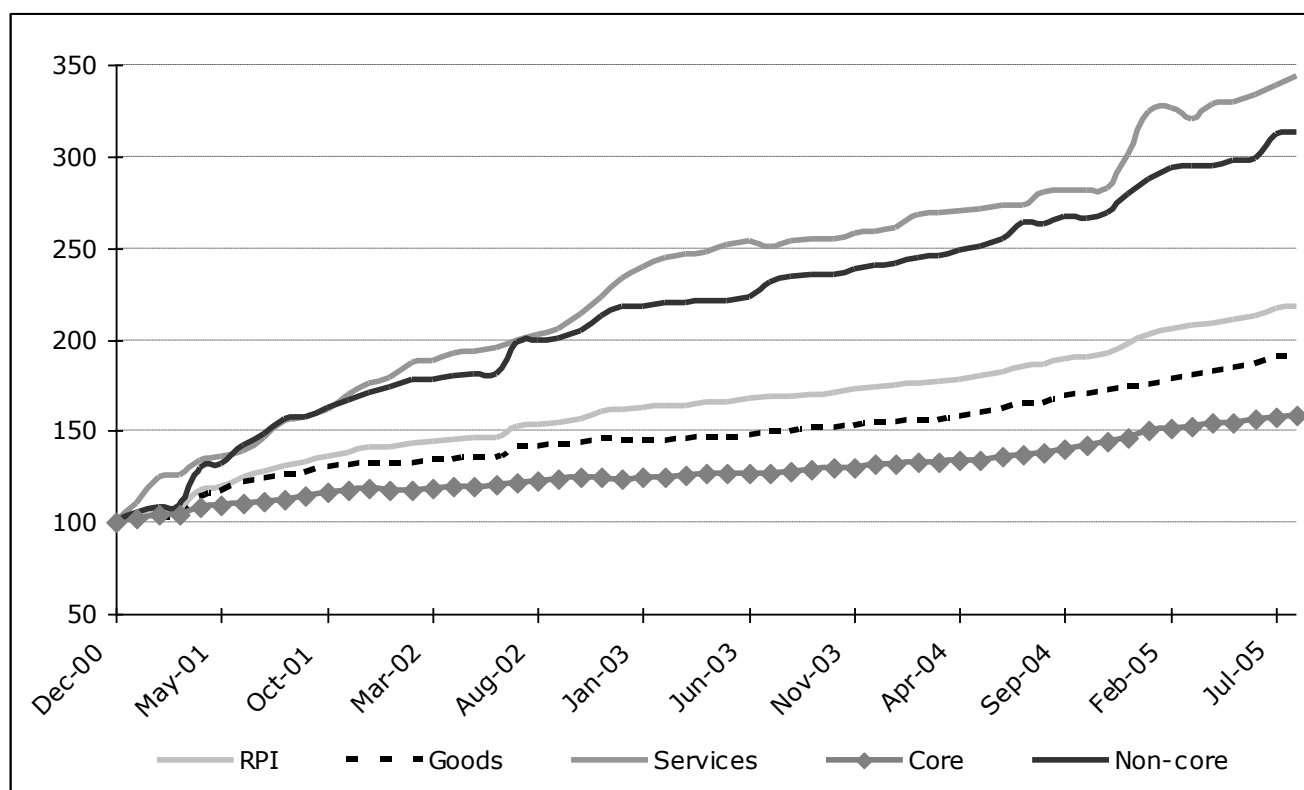
3. Prices, exchange rate and wages

3.1. Administrative Price Adjustments and Inflation

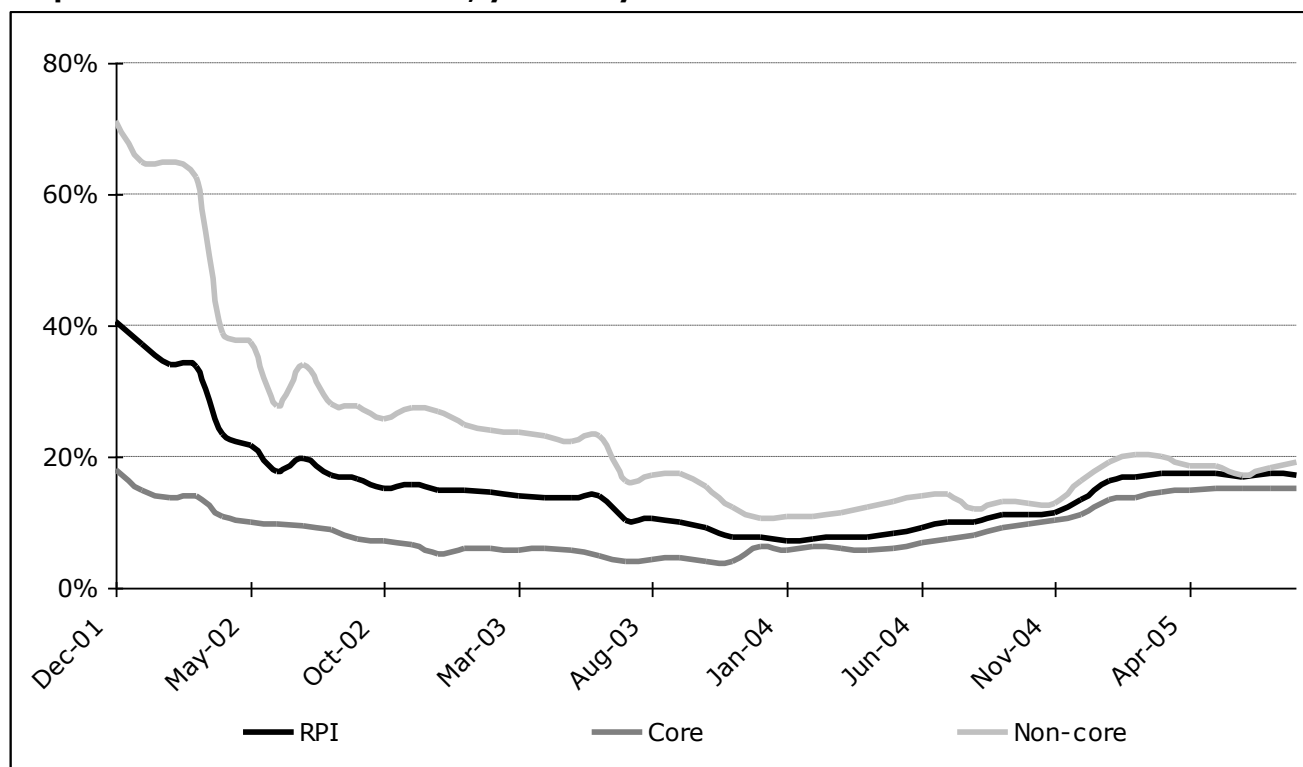
Inflation trends in Serbia, captured by Graphs A2-24 and A2-25 below, suggest two stylized facts. First, administrative price change, had stronger impact on overall inflation particularly in the first two years compared to market determined core inflation²⁶ (cf. Graph A2-24). Second, overall inflation (retail price index, RPI), core and non-core slowed down from 2001 through 2003 and since then kicked off (Graph A2-25).

Graph A2-24. Retail Price Index and Its Components

December 2000=100



²⁶ According to the NBS methodology, the retail price index is divided into core and non-core components. The non-core component includes all the prices which are in any way controlled (series in the Graph A2-24 above; the weight is 45 percent) and agricultural products (the weight is 3 percent). Controlled prices include the prices of electricity, petroleum products, various services: utility, PTT, transport, then prices of certain foodstuffs, drugs and the like. The core component includes other prices which are freely set on the market (the weight is 52 percent). It does not cover the prices fixed administratively or the prices of agricultural products, because they are under a dominant influence of exogenous factors.

Graph A2-25. Inflation % rates, year-on-year

Administrative price changes had pronounced effect on overall inflation in the first sub-period (2001 and 2002). Subsequently, its impact considerable decreased.

Table A2-26. Inflation (% year-on-year)

	2001	2002	2003	2004
Non-core	56.4	26.1	9.8	16.3
Core	18.1	5.1	6.3	11.0
RPI	40.6	14.8	7.7	13.7

Note: 2001-2005 end of the year.

Table A2-27. Contribution of the Non-core and Core Inflation to Retail Price Inflation %

	2002	2003	2004
Non-core	82.4	61.0	61.0
Core	17.6	39.0	39.0
Retail Price	100	100	100

Note: Calculated based on NBS sources.

Table A2-26 and A2-27 demonstrates that the main determinant of inflation in 2001 and 2002 is non-core inflation. Excessive RPI inflation in 2001 is mainly pulled by administrative price changes. Retail price inflation slowed down in 2002 but still the main impact came from non-core inflation with contribution being as high as 82%.

The size of administrative price adjustment could be captured by relative price changes of non-core prices to core prices, given in Table A2-28.

Table A2-28. Size of Administrative Price Adjustments: Relative Non-core/Core Price Increase %

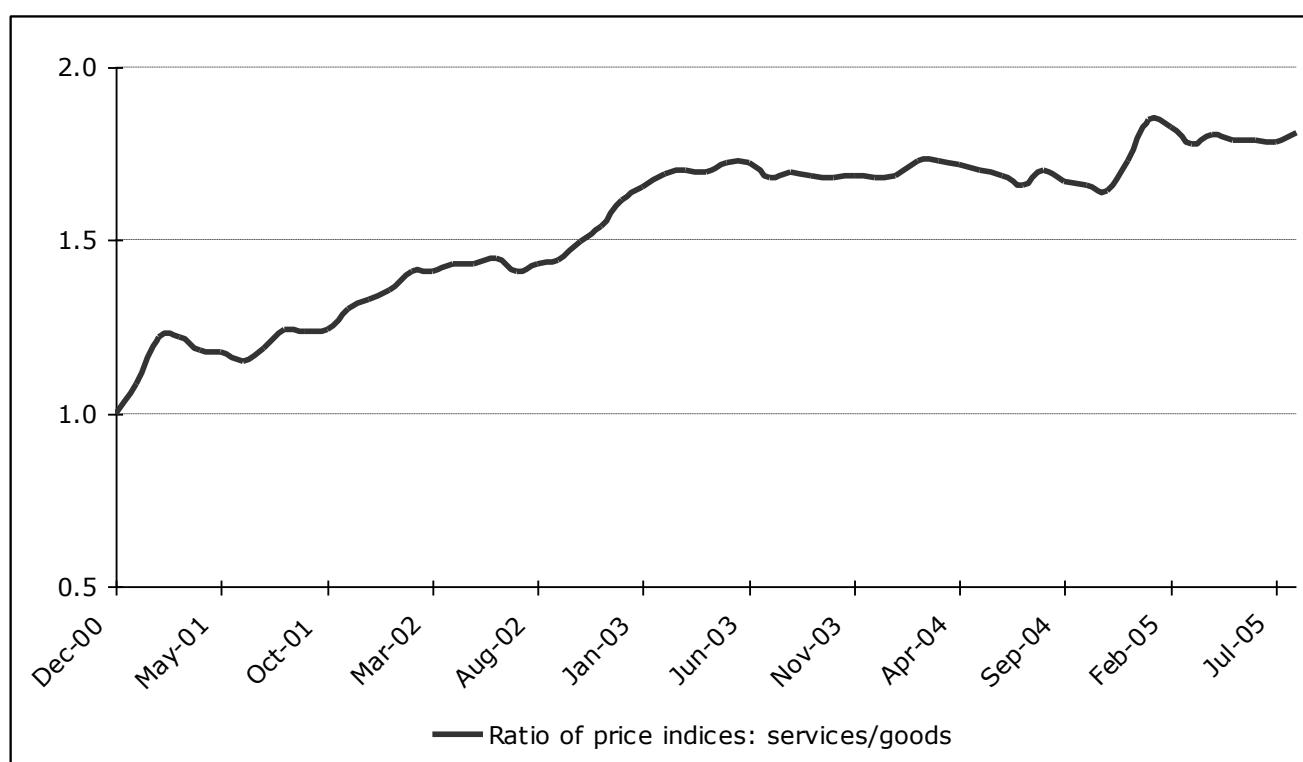
	2001	2002	2003	2004
Non-core/ Core	32.4	20.0	3.3	4.8

Thus major relative price adjustments took place in 2001 and 2002. They encompass major changes in electricity prices both in 2001 and 2002, communal utility prices, prices of postal and telephone (fixed) services, transportation particularly railway tariffs, prices of medicaments etc. Tax reform also affected inflation through changes in retail sale taxes and excises in the first half of 2001.

In subsequent period (2003 and 2004), administrative price adjustments have been mild – the non-core price index grew only 3.3 to 4.8 percent more than did the core price index. Thus, controlled prices could have not been the main trigger and driver of inflation in this sub-period.

Another important price adjustment is that of non-traded goods and services prices compared to traded ones. The corresponding indices are not available, but a good approximation is the non-core and core price index respectively²⁷. Alternatively, retail price indices for services and goods could be used respectively as proxies for non-tradable and tradable price indices.

Whatever approximation one takes, prices of non-tradable goods and services grew faster than those of tradable. Comparisons of non-core and core inflation above have showed that. Respective trends in prices of services and goods (cf. Graphs A2-24 and A2-29) points to the faster growth of the former, hence also confirming the increase in relative price of non-tradable goods and services. Upward trend in relative price of services in terms of goods is depicted in Graph A2-29.

Graph A2-29. Ratio RPI services/RPI goods

As to the second stylized fact i.e. inflation trend, it first exploded upon price liberalization at the start of the program in October 2000. Thus inflation was running at the monthly rate of 27% and 19% in October and November 2000 respectively, but was decreased to 1% as soon

²⁷ In the core price index, services which are nontradable, have weight of only 15.6%.

as in March 2001. In April major administrative price adjustments and tax reform took place. This triggered inflation again both non-core and core. The latter was affected by tax reform that included major changes in retail taxes and excises (see section I). As shown in Graph A2-25 and Table A2-26, inflation was put under control in 2003, but then it kicked off again in 2004. This time it is not set off by administrative price changes, hence raising the question what has triggered inflation.

3.2. Exchange Rate

At the start of the stabilization program in October 2000, exchange rate was set at its black market level, while the managed float regime was officially announced. Nevertheless, nominal exchange rate was kept practically fixed for two years (2001 and 2002) showing that authority de facto implemented an exchange-rate-based stabilization. Subsequently, in 2003 and 2004 National Bank of Serbia (NBS) allowed some nominal depreciation.

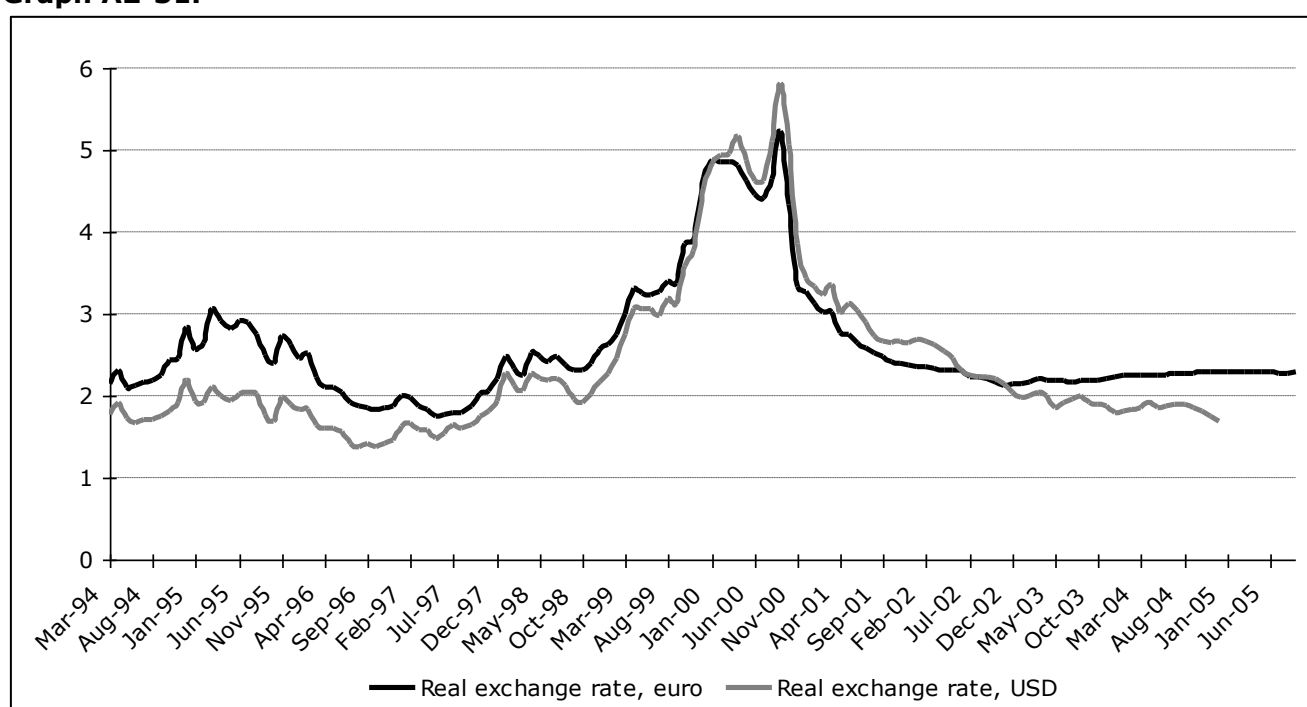
Table A2-30. Nominal and Real Exchange Rate (ER) change, end of period (in %)

	2001	2002	2003	2004
Nominal ER change	1.77	3.03	11.04	15.49
Inflation (RPI)	40.6	14.8	7.8	13.7
Euro-zone inflation	2.1	2.3	2	2.4
Real ER change	-25.78	-8.19	5.07	0.00

As a consequence of fixing nominal exchange rate dinar appreciated significantly in real terms since October 2000 through 2002. Namely, at the same time inflation exploded in the last quarter of 2000 and remained very high in 2001. As a result, dinar increased its real value, from September 2000 to December 2002, 2.4 and 2.84 times compared to euro and US dollar respectively. In the second period (2003 and 2004) NBS started to depreciate dinar in nominal terms, thus achieving some real depreciation in 2003 (cf. Table A2-30).

Real appreciation of dinar upon stabilization might be assessed from historical perspective. Besides dinar/euro exchange rate, one may look at dinar's exchange rate with USD as well as with some combination of euro and USD. The latter would represent an approximation for effective exchange rate. Graph A2-31 depicts movements in dinar's real exchange rate with euro and \$US; an effective real exchange rate would be somewhere in between these two.

Graph A2-31.



As shown in Graph A2-31, Serbia entered stabilization in October 2000 with historically very low real value of dinar. This is the result of large real depreciation of dinar in 1999 and 2000, i.e. during and after NATO bombing. A consequence of latter was massive flight from dinar and its real depreciation. On the other hand, in 1997 considerable foreign capital inflow from TELECOM Serbia privatization was recorded, and that led to dinar appreciation in real terms.

Low value of dinar at the start of stabilization gave ample space for its real appreciation, while using exchange rate as the nominal anchor. That space was generously used, as indicated above, increasing the real value of dinar above its historic average (cf. Graph A2-31).

As Table A2-32 indicates, as early as 2002 real value of dinar surpassed its historic average and remained 15 to 20% above it during 2003 and 2004.

Table A2-32. Real Exchange Rate

1994-2004=100

	2000	2001	2002	2003	2004
Euro	172	103	87	84	87
USD	201	124	100	81	78
0.7EUR+0.3USD	180	109	90	83	84

A caveat is due that the long-run real exchange rate might be increasing, and hence the above historical comparisons are just approximate. On the other side, the large current account deficit, above 10% of GDP that Serbia was running in 2001-2004 period, do also suggest that dinar may be overvalued.

3.3. Wages

Wages in real terms recorded substantial growth upon stabilization, particularly in the first two years. Large expectations upon democratic changes in October 2000 strongly pushed up inherited low wages in government, education and health (cf. section I), thus initiating wage increase in other sectors as well. In the second sub-period (2003-2004) wage growth slowed down.

Table A2-33. Gross Wage Rate Growth rate in%

	2001	2002	2003	2004
Nominal	130	52	25	24
Real	19	30	14	11

There might be measurement problems²⁸ overestimating wage growth rate in 2002, but even upon downward adjustment wage growth would be still high.

As a consequence of substantial growth of wages as well as appreciation of the currency, the competitiveness of the Serbian economy worsened. Evolution of unit labor costs – real and in terms of euro, demonstrates the latter.

Table A2-34. Unit Labor Cost Growth rates %, end of the year

	2001	2002	2003	2004
Real	27.3	9.4	7.9	0.6
Euro	52.7	18.2	3.4	-0.3

²⁸ In June 2001 fringe benefits were included in wages and became taxable as explained above (see section I. 2 above). This might have led to a measurement error underestimating wage rate in 2001 and hence overestimating its growth in 2002. Furthermore, legalization of informal economy lead to higher reported wages, as well as closing down of large loss-maker enterprises that hardly paid any wages.

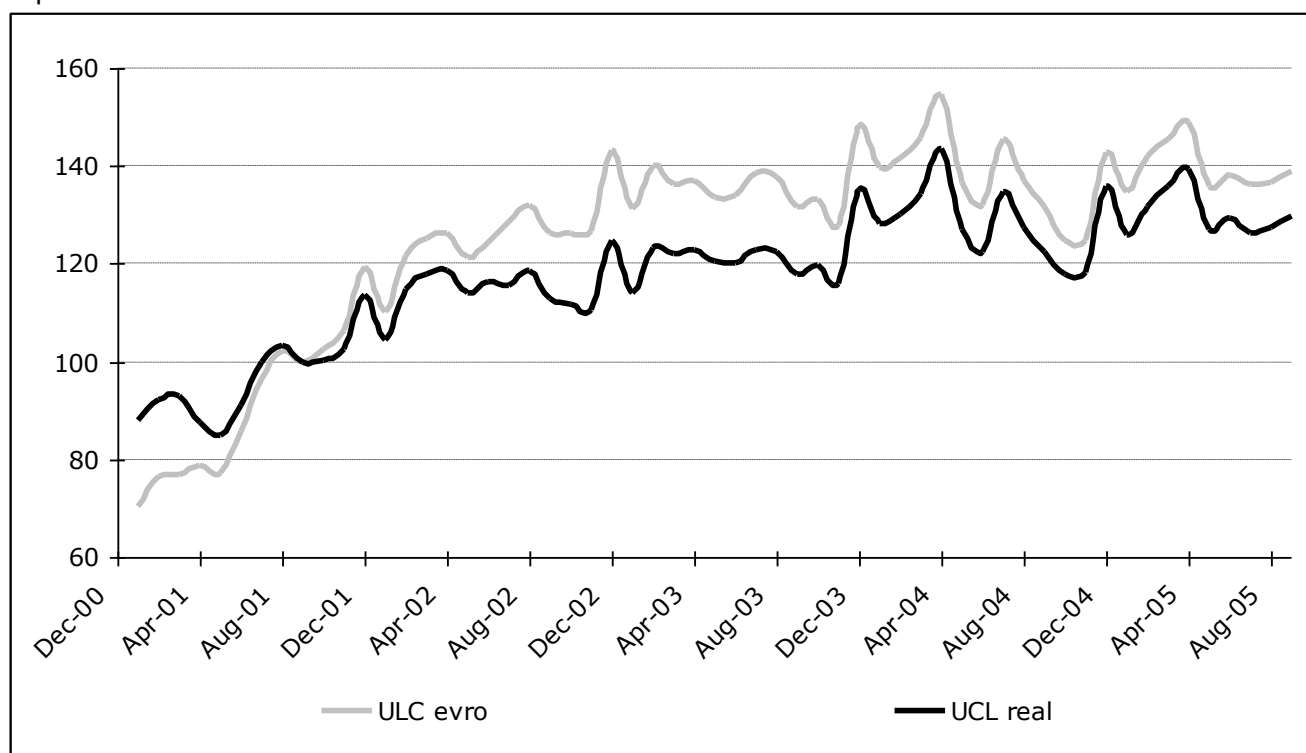
Deterioration of competitiveness occurred mostly in 2001 and 2002, even if one takes into account possible measurement error in wages.²⁹

Conservatively, one may take some month in the second half of 2001 while assessing changes in competitiveness. Thus in September 2001, dinar real exchange rate was again, after a large appreciation, approximately at its long-run average (cf. Graph A2-31), i.e. tentatively at some 'normal' level. Also, taking September 2001 as benchmark, one avoids large increase in wages in June and July that might be questioned. Now, even from some normal level of September 2001, unit labor cost increased through 2004 by 36% in real terms, and 43% in euro terms, thus worsening competitiveness by one third.

Graph A2-35 gives corresponding monthly evolution of unit labor cost.

Graph A2-35. Unit Labor Cost

September 2001 = 100



Source: wages in non-government sector and quarterly GDP: SBS. We have then calculated monthly GDP unit labor costs.

Competitiveness assessments above are supported by comparisons with Romania and Bulgaria, as relevant comparator economies for Serbia.

²⁹ Measurement error, if any, now appears in 2001 as we are looking end of the year growth rates.

Table A2-36. Competitiveness in Comparative Perspective

	2002	2003
Romania		
GDP per employed (EUR at PPP)	14302	14893
GDP per employed (euro)	5241	5459
Gross wages (euro)	174	179
Net wages (euro)	124	130
Bulgaria		
GDP per employed (EUR at PPP)	17468	17447
GDP per employed (euro)	6034	6206
Gross wages (euro)	132	140
Net wages (euro)	95	101
Serbia		
GDP per employed (EUR at PPP)	12381	13183
GDP per employed (euro)	5043	5752
Gross wages (euro)	218	255
Net wages (euro)	152	176

* GDP/Labor Force Survey employed

Sources:

Wages- Romanian National Institute of Statistics, National statistical institute, Bulgaria (cross-validated with WIIW), except for net wages for Bulgaria (an estimate, based on data for one year from Dresdner bank report and data on employee contributions and income tax)

Exchanges rates- Central banks (cross-validated with WIIW)

GDP- WIIW (nominal GDP in local currency cross-validated with national sources)

Although GDP per employed, either at current exchange rate or PPP, is lower in Serbia compared to Romania and Bulgaria, Serbia's wages expressed in euros are well above those in Romania and Bulgaria. This would suggest lower competitiveness of the Serbian economy relative to comparator economies.

Serbia's Economy: The Stylized Facts

APPENDIX THREE

Analysis of Investment in Serbia in 2003 and 2004

I EXECUTIVE SUMMARY

This analysis of the value of investment in Serbia has included evaluation of the official methodology, field work, consultations with experts in the fields of interest, and development of independent methodology for robust estimation of true level of investments in Serbia.

The analysis has brought out that the official data has been incorrect over a long period of time.

It consists of three parts, the purpose of which was to:

- Point up and quantify errors in the methodology government agencies employ in gathering and processing data, and to point to and quantify all other errors that have led to the longstanding incorrect estimates in official statistics;
- Arrive at an independent estimate of the value of investments in Serbia in 2003 and 2004;
- To examine and document through field research the causes of possible problems in analyzing investments, and to identify modalities for solving them.

The following emerged as the main reasons for the incorrect and unreliable estimates of official statistics:

- Incorrectly estimating investments in the private sector, primarily owing to the absence of a practice of surveying companies, as well as the methodology inherited from the pre-transition period when the sector was poorly developed.
- Insufficient relevancy of data upon which the analyses are based. This is the result of an absence of legal norms to oblige respondents to fill in their forms correctly, and the objective circumstances of the Serbian economy. Namely, the principles of market economy under which correct reporting of investments is economically desirable behavior were not in force up to 2004.
- The assumption that companies which have not submitted data to the Republic Statistics Office of Serbia (SBS) did not have any investments. It should be noted in this context that no mechanism of systematic checks or a data base of companies which do not submit INV-01 forms exist. Introduction of these could efficiently eliminate the problem.

The study ranks the reasons for incorrect estimates in the above order.

This independent estimate of the value of investments in Serbia in 2003 and 2004 is the result of organizing data in the form of matrices and independent estimates of the individual elements in the matrix which could be analyzed.

Estimated value of investments in 2003:

Table A3-1.

2003 estimate (mil dinars)	Construction	Equipment		Other	Total
		Domestic	Imported		
State owned sector		56 000	49 000		
Private sector					
Total (mil dinars)	125.345	105 000		20 030	250 375
% of GDP*	11.5%	9.6%		1.8%	23.0%

*official GDP

Published official SBS data:**Table A3-2.**

2003 official (mil dinars)	Construction	Equipment		Other	Total
		Domestic	Imported		
State owned sector	51 712	32 617	25 335	6 097	115 662
Private sector	30 145		5 927	5 598	41 670
Total (mil dinars)	81 857		63 780	11 695	157 332
% of GDP*	7.5%		5.8%	1.1%	14.4%

*official GDP

The independent estimate shows a 59.1% higher value of investments in 2003 than the official figure.

There is no official data for 2004. The results of the independent estimate are as follows:

Table A3-3.

2004 estimate (mil dinars)	Construction	Equipment		Other	Total
		Domestic	Imported		
State owned sector	65 500	35 500	39 500	8 500	148 924
Private cos	34 000	27 400	32 900	5 500	101 000
Small businesses and residential construction	55 000		12 800	-	74 928
Total (mil dinars)	154.537		149 200	21 115	324 852
% of GDP*	11.8%		11.4%	1.6%	25.2%

Note: Since the table is a compilation of several independent analyses, there are discrepancies in the totals of rows and columns.

*official GDP

Field research brought out a number of problems that affect the validity of the data submitted to the SBS:

- The subjectivity of persons completing the INV form contributes to a major extent to the imprecision and unreliability of the data submitted to the SBS. This is further compounded by the complexity of the form itself and poor communication between the respondents and the SBS.
- Completing the INV form is not really perceived as an important aspect of accounting, and is therefore most frequently relegated to hierarchically lower units.
- A proportion of the public works financed by local governments remains unrecorded by INV-01 forms.

II INTRODUCTION

The value of investments in Serbia is published by the SBS on an annual basis. Basically, the SBS classifies investments into those by the state owned sector (socially owned companies, state and mixed companies, state agencies, and public services) and by the private sector. Data on investments by the state owned sector are obtained from the INV-01 form that all these companies are required to submit to the SBS. Up to 2003, private sector investments were estimated. For the first time in 2004, a survey by way of the INV-02 form (similar to INV-01 but simplified) was carried out on a sample of 600 companies. The following table sums up the sources of data, coverage, and potential problems.

Table A3-4.

	Source	Coverage	Potential problems
State owned cos	INV-01 form	All these companies (including state and mixed and cooperatives) should be encompassed. However, of the approx. 10,000 units, somewhat less than 4,500 submitted data in 2003 and 2004.	Companies that did not submit forms to the SBS (over 5,000) are considered to have had no investments in that year. Unclear classification of data to be entered creates room for arbitrariness on the part of persons charged with filling in the forms.
Private cos up to 2003	Estimate		No clear methodology for making estimates exists. The major changes in the structure of the Serbian economy were not taken into account. We consider that the private sector has been systematically underestimated (the share of construction works is very high, indicating that the SBS considers residential construction to account for the bulk of private sector investments).
Private cos from 2004	INV-02 form	Sample of 600 companies	Experts believe the underestimation of data on private sector construction is due primarily to the gray sector in residential construction. The first survey of its kind. It remains to be seen how valid the method is.
Total	INV-01, INV-02, estimate		Data on equipment imports does not match with data on investments in imported equipment. Based on customs declarations, the value of imported equipment is much higher. The gray area is not taken into account. Certain items (e.g. software) are not properly defined.

The most recent available data is for 2003, while data for 2004 is currently being processed. (We were given some unofficial figures.)

According to the unofficial data, investments recorded a major rise in 2004. Though there has doubtless been an increase, we consider that the figures reflect also the better credibility and method of data-processing, as well as the fact that investments were considerably underestimated in 2003.

All of the above indicates the need to develop an independent methodology so as to obtain a realistic estimate of the level of investments in Serbia.

The independent analysis and estimate of the level of investments is based on two identical matrices for 2003 and 2004, and their technical and institutional analysis.

Table A3-5.

	Construction	Equipment		Other	Total
		Domestic	Imported		
State owned cos					
Public cos					
State agencies					
Private cos					
Small businesses and residential construction					
Total					

Analysis by technical structure of investments (technical analysis):

Technical analysis of investments is based on separate analysis of three technical components of investments and their assessment, without the use of INV-01 and INV-02 forms. It analyzes investments in construction works, equipment and other investments.

Construction works:

- Estimate based on consumption of cement.
- Estimate based on the work force engaged,
- Estimate based on analysis of segments in construction (particularly residential),

Equipment:

- Estimate based on analysis of foreign trade, and the portion of domestic and imported equipment in total investments in equipment.

Other:

- Presenting of software, studies and expert opinions is a problem,
- Estimate based on the share of other investments in countries in the region.

Analysis by institutional sector of investors (institutional analysis):

Analysis by institutional sector of investors is primarily based on submitted INV-01 and INV-02 forms and the assessment of investments of units that were not included in INV-02 survey.

State owned companies:

- INV-01 data used for analysis;
- Value for 2003 is underestimated owing to the unreliability of the data and the assumption that all those companies which did not submit the form had no investments. Only the latter will probably hold for 2004;
- A comparative analysis of individual reports submitted by companies for 2003 and 2004 can confirm the critical stands of the technical analysis with regard to the real growth of investments;
- The 2004 value as presented by the SBS is taken as the minimum. Cross-referencing with the technical analysis will produce a rough estimate of the error in coverage and confirm or deny that this error is the least important of the three mentioned in the analysis;

- A possible partial qualitative analysis.

Public companies:

- The total value of investments reported by major public companies is known only for 2004 (the SBS is experiencing technical problems with the 2003 data base);
- Certain illogical discrepancies have been noted in the reported investments of major public companies.

State agencies:

- A problem exists with regard to capital subsidies and local governments' donations to local public companies (a proportion of these funds remains unrecorded);
- Possible systemic errors in completing the INV form can be eliminated only by changing the accounting standards. The trend obtained from official statistics will probably be the most reliable.

Private companies:

- The indications are that this category will continue to be the most imprecise in 2004, just as in 2003, and produce the biggest error in the estimate (first year of the implementation of the new methodology);
- It is necessary to make an independent estimate for this segment alone.

The institutional analysis will rely mainly on the official data. The results of the estimate will consequently be more susceptible to the problems discussed than the results obtained by technical analysis.

III TECHNICAL ANALYSIS

1. Value of construction works

1.1. Summary

The official figure for the value of construction works in Serbia is considerably below the real value. The independent analysis indicates that the total value of investments in construction works executed in Serbia in 2003 is 57% higher than reported.

The reasons why this area is so underestimated lie mostly in inadequate registration of the works executed, but also in methodology that uses the value of construction works as the value of investments in constructions (disregarding some administrative and intermediation costs). Other reason is the participation of the gray area in the industry.

The independent analysis is based on the comparison of reliable inputs in the construction industries of Croatia and Serbia. The difference between the inputs is used to estimate the differences in the total value of such works in the two countries. Croatia was chosen because of the similarity in geography and the structure of construction works.

Cement is a very reliable parameter in technical analysis and also because the official data on its use is credible. Very precise estimates of the value of construction in Serbia can be obtained by comparing cement consumption in Serbia and Croatia, while taking into account the different valuation of the buildings and roads constructed in the two countries.

When analyzing the value of construction works in Serbia, another parameter that can indicate the state of the industry is the number of workers it employs and their average pay.

Last part analyzes the impact of the gray area on errors in the official data. The analysis brought out that it is not the dominant reason for the underestimated official value of construction works in Serbia.

1.2. Introduction

The total value of construction in Serbia is published by the SBS, and is independently estimated by its Construction Division. It is obtained from reports to the SBS by registered construction companies on the works they have performed. The official data on construction works and the methodology used to obtain them are discussed in greater detail in the Appendix V.

There are numerous indications that the reported value of construction works is considerably below the real figure. In our research into this issue, we consulted a number of distinguished experts, representatives of institutions and companies in Serbia (Faculty of Civil Engineering, the Construction Directorate, the Energoprojekt company, and the cement plant in Novi Popovac). They all agreed that the level of reported construction works is underestimated, and cited the following as the main reasons for this:

- Some legal construction is not registered by the SBS.
- A proportion of the construction works is carried out in by the "gray sector" and goes completely unrecorded;

The estimate of the real value of construction works was carried out from three directions:

- On the basis of consumption of cement.
- On the basis of the work force engaged;
- Analyzing the segments of the construction industry;

1.3. Estimate based on consumption of cement

When estimating on the basis of materials use, data on cement is applied since it is the most widely used material in the construction industry. Cement consumption and the value of construction in any country are, as a rule, in very stable proportions. Apart from apparently being the most reliable at present in estimating the total value of construction work, this method also produces the most reliable analysis of the trends in the industry. To wit, any increase in the annual consumption of cement is directly reflected in the growth of construction. A change in the ratio between annual consumption of cement and the value of total construction work in an economy can be the consequence only of a major change in the structure of construction, which is usually the result of long-standing trends, or of a change in taxation policy when different rates are levied on cement and construction work.

The basic problem in making this estimate is how to find the initial ratio between cement use and the value of construction works in Serbia. In order to solve the problem, we analyzed the construction industries of countries in the region. Croatia, with a similar structure of construction, a higher price of construction and a 10% higher price of cement, turned out to be the most suitable for comparison. Construction work is more expensive in Croatia than in Serbia because of the higher wages (in 2004 average gross wage in construction sector in Serbia was about 250€ and in Croatia it was about 650€) and higher prices of materials and energy. The ratio of prices of a built object in Serbia and Croatia was calculated using the average price of a square meter of newly built dwellings (for residential construction), the average price of a square meter of factory building and office building (for non-residential construction) and the average price for a kilometer of highway of the same type (for civil engineering). The ratios of prices in these three segments were then weighted by their contribution to the total value of construction works. As a result, an object built in Croatia has, on average, a 40-45% higher value than in Serbia. (Sources: Croatian State Bureau of Statistics /DZSH/; SBS; construction industry experts; Serbian Cement Manufacturers Association.)

The consumption of cement in Croatia in 2004 was 2.637 billion tons, while the total value of investments in construction works that year amounted to 3.83 billion euros (Source: DZSH). Hence, if the amount of cement used in Serbia is known, we transfer this ratio and calculate the total value of investments in construction works³⁰.

Table A3-6.

	Serbia 2003	Serbia 2004
Cement consumption (mil T)*	1.892	2.077
Estimated investments in construction works in Serbia (bil €)	1.813	1.991
Value in mil dinars	125.345	154.537

* Source: Association of Serbian Cement Manufacturers

The 9.8% increase in the use of cement in 2004 also represents a real growth of the entire construction industry that year. It is noteworthy that cement use dropped 7% in the first quarter of 2005 compared to the same period the preceding year, mainly because of very bad weather.

Important thing about this analysis is that it does not rely on official statistics. However, it is based on reliable data and produces very robust assessment of value of investments in construction in 2003 and 2004.

³⁰ We assume that the value of an average object built in Croatia is 42.5% higher than in Serbia.

1.4. Estimate based on work force engaged

The estimate based on the work force engaged is used primarily as an indicator of the real situation in a particular industry. Relying on very few input components and, although rough and unreliable for making a precise estimate, it is very useful as a completely independent and robust means of arriving at the approximate value of construction work. Without entering into numerous details and specifics, the method allows estimation of total value, trends, and the essential characteristics of the construction industry in Serbia.

The model is based on analyzing the number of workers on construction sites and the share of costs for the work force in overall costs. Our source for this data was SBS, which regularly tracks the number of workers on construction sites. The construction industry experts also provided us with a cost accounting according to which labor costs made up 20% of the final price of a completed facility. (All experts that we spoke with agreed that this percentage could be taken as an approximate average for the whole industry.)

If the gross wage per worker is 15,178 dinars (about 230€) in 2003, and 18,443 dinars (about 250€) in 2004 (Source: SBS, average wage in construction industry), the results are as follows:

Table A3-7.

	2003	2004
Average wage *	15,178 din	18,443 din
Number of workers *	126,972***	132,400***
Total	1,927,117,530 din	2,441,853,000 din
Months	12	12
Total	401,400,000 din	29,302,238,000 din
Work force costs as % of total costs **	20%	20 %
Total value of construction works	115,627,051,800 din	146,511,000,000 din

* Source: SBS; in line with our own independent research

** experts' estimate (Energoprojekt, Construction Directorate)

*** this is about 5% of total employed persons in Serbia, according to LFS

Statistically speaking, this kind of analysis does not produce a completely accurate estimate of the total value of construction and it will be an underestimation due to the fact that not all workers are recorded. By comparing this value with that obtained by consumption of cement, we see that there is a difference, that is probably due to this reason.

1.5. Analysis of the segments

In the European Union, construction works are officially categorized as:

- Residential,
- Non-residential, including schools, hospitals, business premises, industrial facilities...
 - Civil engineering, including roads, pipelines and other infrastructure (sewage systems, railroads, water supply systems, overpasses).

A similar categorization is applied by the SBS.

The estimate based on analysis of the segments rests on the assumption that the gray area is the main reason for the underestimated value of construction. The gray area is dominant in residential construction; hence analysis of the sector will enable an approximate correction for the zone.

Legal but unregistered construction works will remain a problem.

Civil engineering

Civil engineering includes the building of roads, railways, airport runways, overpasses, bridges, levees and the like. In Serbia, competence for investment in this segment remains mostly in the hands of the state so that there is virtually no gray area. According to the SBS, the value of construction in this segment was 36.134 billion dinars in 2003, and was not affected by the gray area.

The field research brought out the problem of legal but unregistered public works in local communities.

Non-residential

This segment encompasses the construction of educational, medical, and sports facilities, hotels, administrative buildings and business premises, as well as industrial production facilities and buildings.

A large variety of investors appears in this segment. The state basically invests in building schools and hospital, while state owned, public and private companies are involved in the construction of the other facilities cited above.

The gray area figures in this sector only when the investors are small businesses.

The official value of non-residential construction in Serbia is 15.181 billion dinars. Since the leading investors are outside of the gray area, the figure is only slightly underestimated and will be used in further analysis.

Residential

The official value of residential construction in 2003 was 28.684 billion dinars. (Source: SBS)

The estimated total construction in this segment starts with an analysis of newly built housing units. Data on the number of units is published by the SBS, which uses tax returns and sale/purchase contracts as its sources. We consider the SBS data more reliable than data obtained from the reports of construction companies.

The number of newly built units in Serbia varies from year to year, though there has recently been a mild upward trend.

Table A3-8.

Number of completed apartments in Serbia										
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Serbia	14689	11400	11834	10828	9700	11036	10372	10496	10713	13833
Central Serbia	11776	8493	9382	8679	7726	8996	7812	8704	7951	
Vojvodina	2837	2835	2211	1956	1954	2017	2540	1792	2605	

Source: SBS

Newly built units in 2003 had a floor space of 1124,000 m².

Another datum contained in the official statistics can serve to arrive at a more precise estimate of the real value of residential construction in Serbia: the average price at which newly built apartments are sold. According to the statistics, the average price of a square meter in Serbia in 2003 is 60,628.00 dinars. The figure, the source for which are sale/purchase contracts, has a regional dimension and can be found at municipal level. When analyzing construction from the perspective of investments, this price should be reduced by the value of location.

Construction companies view the value of location as an expense that they incorporate into the final price of a square meter. An analysis of the value of location in total expenses shows that it constitutes some 20% of the price of apartments. This, of course, varies in dependence on several parameters (primarily the size of the building and its location) but is within 16-24% of the sale price. We now have all the data necessary for a realistic estimate of the value of residential construction in Serbia in 2003.

Table A3-9.

Floor space of apartments built in 2003 * (m ²)	1124,000
Average price of m ² for newly built units*	60,628 din (about 930€)
Reduction for costs of building sites **	20.0 %
Total (bil dinars)	54.5
Difference compared to official value (bil din)	25.8

* Source: SBS

** Source: estimate based on cost figures of representative construction companies

Officially, the value of construction works in Serbia is 28.684 billion dinars, or 52.6% of the estimated residential construction based on information on the number of newly built apartments. There are three reasons for this difference. The value of built apartments that construction department of the SBS records does not include some administrative and intermediation costs that have to be included when investments are analyzed. The rest of the difference is due to works that SBS fails to register (but are legal) and grey area. Additional administrative and intermediation costs, the gray area and unregistered but legal residential construction accounted for an estimated 25.8 billion dinars in 2003.

The estimated total value of construction works in 2003 based on the susceptibility of the segments to the gray area is as follows:

Table A3-10.

2003 (bil dinars)	Official figure *	Estimate **
Value of residential construction	28.684	54.5
Non-residential buildings	15.181	15.181
Civil engineering	36.134	36.134
Total construction	79.999	105.815

* Source: SBS

** Source: SBS and author's calculations

Data needed for a similar analysis for 2004 is at present unavailable.

The basic flaw of such an analysis is that it is based mainly on the SBS data on the total number of apartments built, which is probably somewhat underestimated, the systematic disregard of the gray area in non-residential construction (small businesses), and the non-registration of legal construction in both the civil engineering and non-residential sectors. Hence, the total value of construction arrived at in this way is underestimated by this amount. On the other hand, the variability of the share of location in total expenses allows for a variation of 22% in the final value.

Since this analysis proceeds from the assumption that the value of legal construction unregistered by the SBS is negligible, in the event that the assumption is incorrect, we will not be able to consider as accurate the official figures for any of the segments. Consequently, the result of the analysis will be an underestimated value of the total construction.

It is obvious that this is the case, because the value of construction works estimated in this way yielded the results that are lower than those of previous two estimations. Cross-referencing this analysis with the one based on cement consumption underlines just how serious the problem of the failure to register legal construction is. The difference between these two analyses for 2003 is approximately 20 billion dinars.

There is also a discrepancy with the figures of Euroconstruct³¹, according to which the share of residential construction in overall construction works in Serbia and Montenegro was

³¹ <http://www.euroconstructi.org/>

approximately 40% in 2002. Taking into account this estimate and the independent estimate of the value of residential construction in 2003, the total value in Serbia would be around 135 billion dinars for 2003. Since we are not acquainted with the methodology of this estimate, the estimate based on this share cannot be accepted as valid. It may, however, be an indication that this method of analysis is seriously flawed.

The difference in the value of construction based on the assumption that the gray area is the dominant factor in creating the differing real and official figures, indicates there is an error in the gathering of data by the SBS and that only some of this difference can be accounted to the gray area.

Cross-referencing with data obtained from analyses of the segments also indicates that the estimate based on cement consumption is realistic, as the share of residential in total construction then amounts to 43.5%, which is consistent with the Euroconstruct figure for 2002.

Estimates of construction from three different directions produced different results. We have adopted as apposite the estimate based on cement use.

Table A3-11.

(bil dinars)	2003	2004
Analysis of segments	105.815	-
Work force engaged	115.627	146.511
Cement consumption	125.345	154.537
Final estimate	125.345	154.537

Or in the matrix:

Table A3-12.

2003	Construction	Equipment		Other	Total
		Domestic	Imported		
State owned cos					
Public cos					
State agencies					
Private sector					
Total	125.345				
(mil dinars)					

Table A3-13.

2004	Construction	Equipment		Other	Total
		Domestic	Imported		
State owned cos					
Public cos					
State agencies					
Private sector					
Total	154.537				
(mil dinars)					

Valid data does not exist to enter into all the construction column elements.

2. Value of investments in equipment

2.1. Summary

As a starting point of this analysis, we look at the data for equipment imports. This data is based on the reports submitted by the customs office and we use it to make an independent assessment of investments in imported equipment. However, there are several problems with this data. First, several classifications of imports exist, and there is a very significant difference in the amount of imported equipment depending on which classification is looked at. We are trying to be conservative in our analysis and so we use the classification based on statements of importers. This classification shows the lowest amount of imported equipment compared to all other classifications. Also, this classification solves another problem – some of the imported capital goods are built-in in other products produced domestically, and also some are re-exported. With the classification based on statements of importers this should not be the case.

Finally, there is a problem of overinvoicing of imports. This was common practice in the previous years and we had to account for that effect to. Our analysis indicates that the upper limit for overinvoicing was 35% of original value. Independent CEVES econometric analysis concludes that the lower limit for overinvoicing of total imports was about 7%. Since capital goods are especially suitable for overinvoicing, for that category the overinvoicing is almost certainly higher. We assume that equipment was overinvoiced by 17%. To get the value of investments in equipment we also have to add additional costs to this figure – transport from border to factory, set up of equipment, administrative and intermediation costs etc. These should amount to about 20% to 30% (we adopt the value of 25%). As a result of these two effects, the value of imported equipment based on the classification by statement of importers should be corrected by approximately 5% upwards to get the value of investments in imported equipment.

There are no similar independent data for equipment of domestic origin. We used the data about the ratio of domestic and imported equipment from INV-01 and INV-02 forms (there are no reasons why this ratio should be flawed) and apply it to get the value of investments in domestic equipment in 2004. This result is roughly confirmed by the output of manufacturing industry. We then apply the growth of domestic capital goods production to obtain the value for 2003. In 2003 INV-02 survey was not done, but the result is confirmed by the ratio of domestic and imported equipment from INV-01

2.2. Introduction

The official investment statistics categorize equipment either as imported or domestic. Data on purchases of domestic equipment is not independently processed. The only information available for analysis that is independently reviewed is the foreign trade balance, on the basis of which investments in imported equipment can be estimated.

The SBS bases its equipment imports statistics on customs declarations and importers' statements. It is noteworthy that the structure of imports differs to a major extent depending on which classification of data is applied. We have taken as credible the statements of importers³², which show a 730 million euros total value of imports in 2003, and 1,128 million in 2004. It is important to note that according to other classifications of imports, the values of imported equipment are much higher, so in that sense we are adopting a conservative approach to the analysis. Nevertheless, this value is considerably higher than the reported import of equipment as given in investment statistics. The analysis starts with an assessment of the credibility of the import data.

It was relatively common practice in recent years to blow up the value of imports in order to facilitate the transfer of capital abroad. Customs fee for capital goods are minimal, so

³² This was done in consultations with experts that suggested that for analysis of investments classification based on statements of importers is the most appropriate one. Capital goods under other classifications can be built in other products produced domestically, or can be re-exported. With classification based on statements of importers, this shouldn't be the case.

equipment is especially suitable for overinvoicing. From the January of 2005, VAT is paid on the value of invoiced goods. (In the further production-trade cycle, importers could recover VAT on the realized value which, being the market value, would be far below the value declared.)

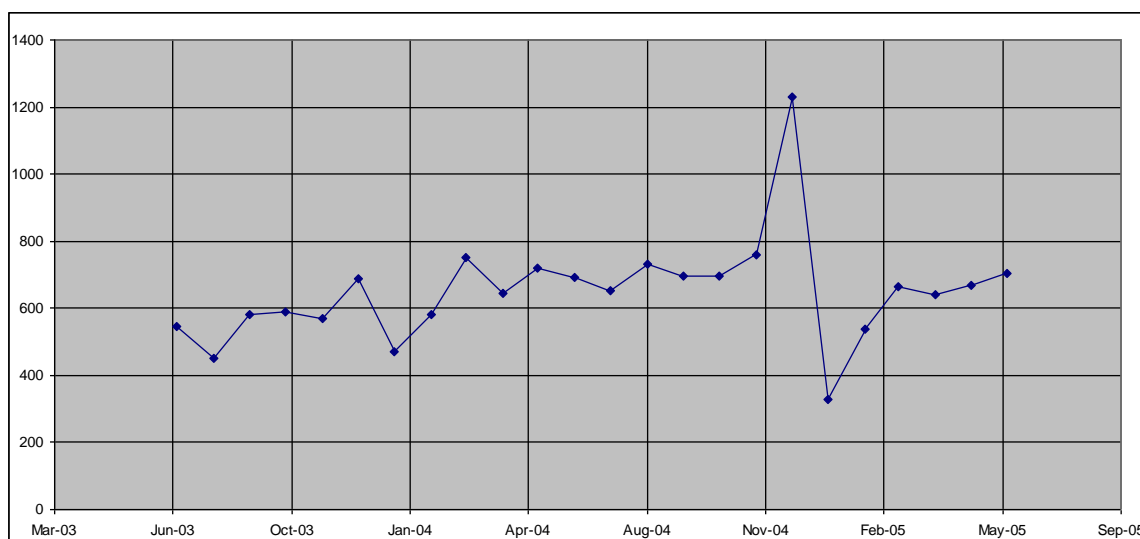
The introduction of VAT had two effects on imports of equipment. There was a surge of equipment imports in December 2004, so as to avoid the payment of VAT and its negative impact on liquidity. Also, it changed the conditions for overinvoicing.

We first need to assess how much of the imports in December is the consequence of the VAT introduction (and should thus be "transferred" to next year). Then, we give a rough assessment of the effect of overinvoicing.

2.3. Estimate of equipment imports

In order to arrive at a realistic assessment of the real imports of equipment in 2003/04, it is necessary first to eliminate the factor of stockpiling in late 2004.

Graph A3-14. To analyze the trend of total imports in the July 2003-June 2005 period (Source: SBS, statement ST16):

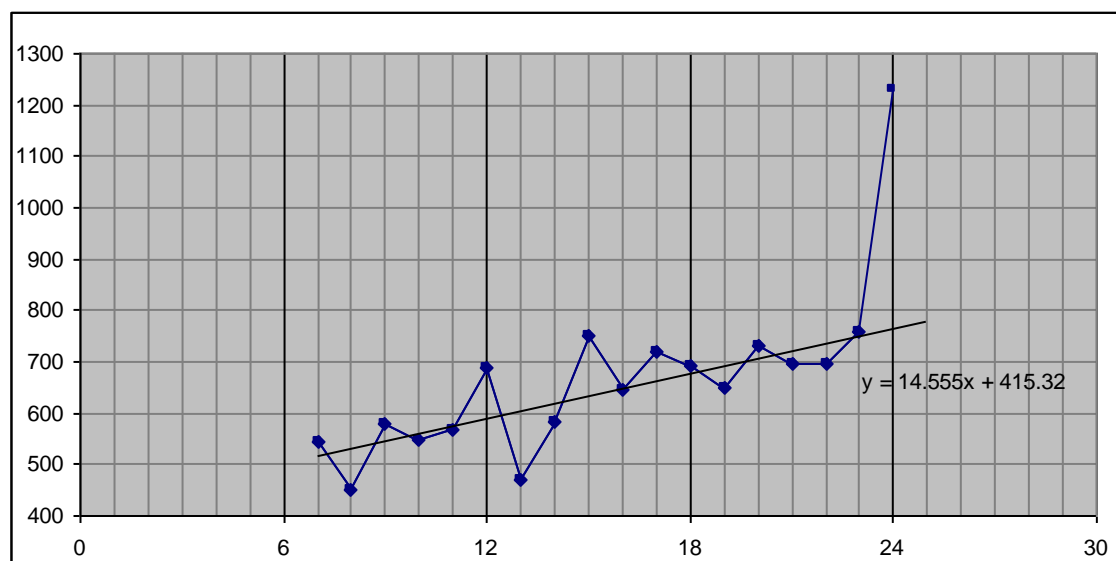


The sharp decrease in imports in the first months of 2005 was evidently the result of the surge in December 2004. It is also clear that "ironing out" of the December surge by transferring a proportion of the imports to the first months of 2005 will result in a fall in imports and the establishment of a new trend that will be below the 2003/04 trend.

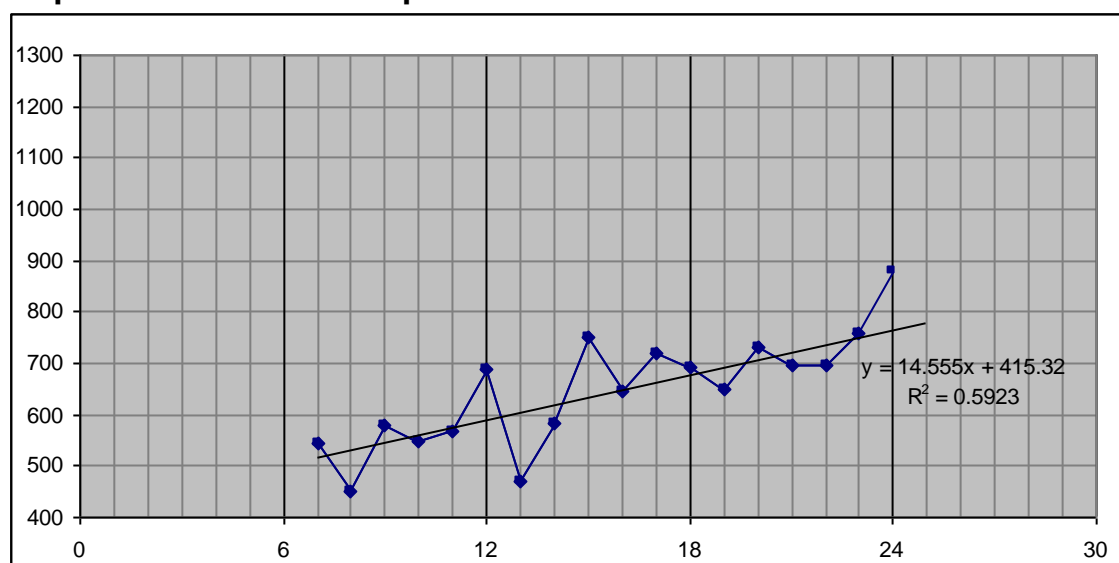
The December 2004 surge was prompted by the need of importers to avoid advance payment of VAT in the course of the customs procedure, since that would have jeopardized their liquidity.

Correction of December imports

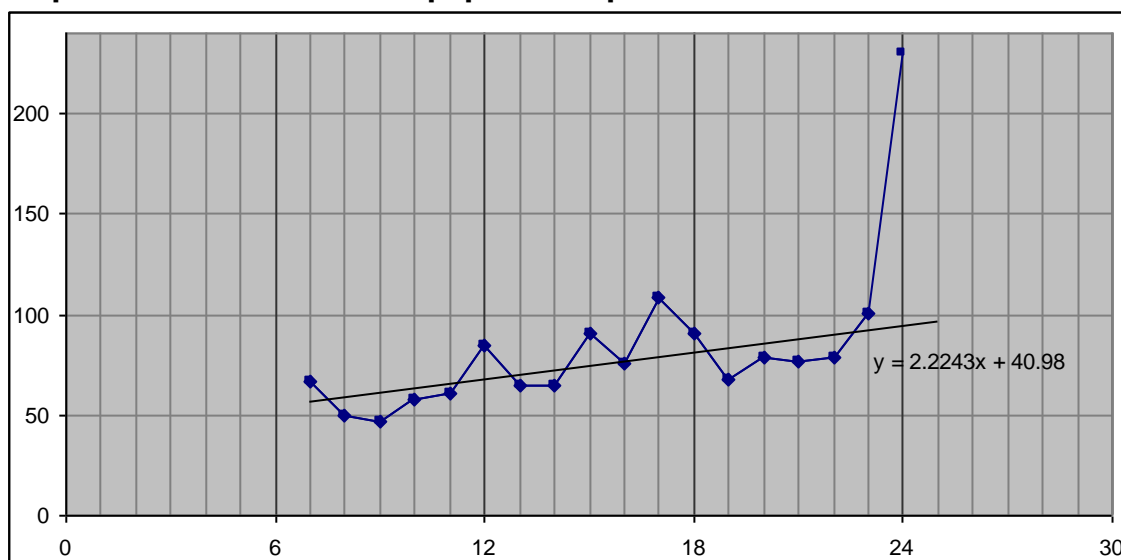
The correction will be made by grapho-numerical method. It is based on forming an import trend excluding December 2004, and then extrapolating the value of the December imports on the basis of the trend and the seasonal standard.

Graph A3-15. Import: July 2003-December 2004

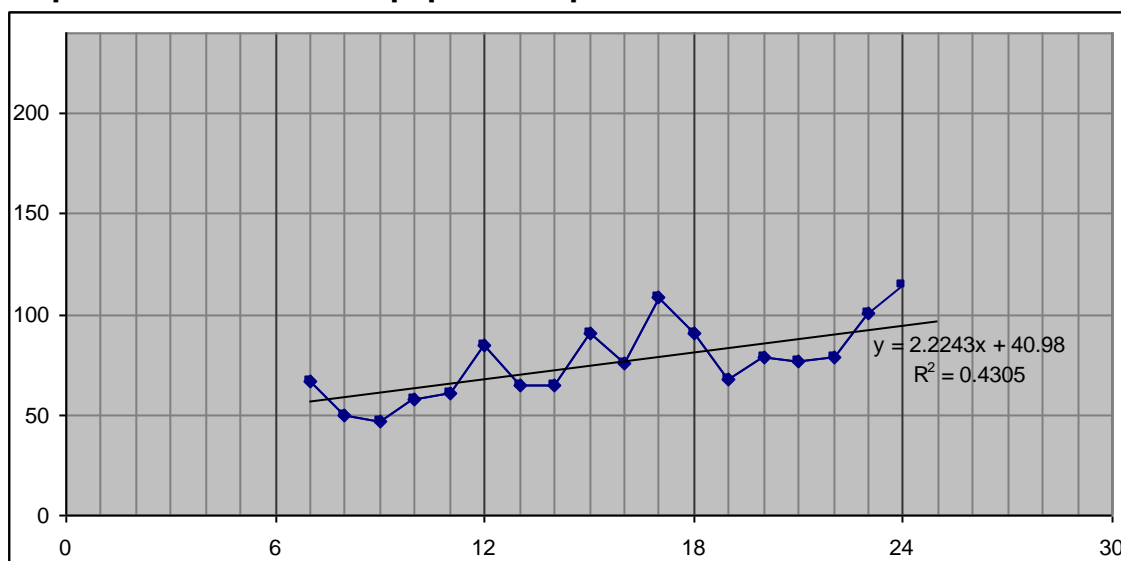
Analysis of the import trend and value in December 2004 shows that a correction of 350 million euros should be made and transferred to 2005.

Graph A3-16. Corrected import:

Equipment imports should now be subjected to a similar analysis.

Graph A3-17. Uncorrected equipment imports:

In terms of percentage, it is evident that the increase in equipment imports was considerably higher in December compared to total imports. Consequently, on the basis of the trend and the December seasonal factor, we will correct equipment imports by 115 million euros.

Graph A3-18. Corrected equipment imports:

Again in terms of percentage, the correction for equipment was obviously much higher than for total imports. The amount of equipment imported in December was double the expected value, while total imports were 40% higher than expected. Evidently, the imminent introduction of VAT had a stronger impact on the import of equipment.

Since equipment imports are more volatile than total imports (R^2 value is not satisfactory), we shall introduce another, more stable, parameter to assess the value of the correction made: the share of equipment in total import.

Table A3-19.

Share of equipment Jan.-Dec. 2003	11.1 %
Share Jan.-Nov. 2004	12.1 %
Share December 2004 (original data)	18.7 %
Share December 2004 (after correction)	13.1 %
Share of equipment Jan.-Dec. 2004 (after correction)	12.2 %

Source: SBS

The 115 million euro correction made for equipment imports with the grapho-numerical method, and the 350 million euros correction for total imports prove to be accurate and realistic, as the share of equipment in overall import is in keeping with long-lasting trends.

In this analysis we are talking about the investments realized in 2004, so we will transfer the excess imports from December 2004 to the next year and analyze this reduced value.

Table A3-20.

Reported value of equipment imports 2003.	730.7 mn €
Reported value of equipment imports 2004.	1128 mn €
Value 2004 after correction for December effect	1013 mn €

Source: SBS, author's corrections

We now need to quantify the problem of overinvoicing. Separate econometric analysis done by CEVES suggests that imports are overinvoiced by at least 7%. Since equipment is most suitable for overinvoicing, we can safely say that this 7% is the lower limit of overinvoicing. To set the upper limit, we analyzed the change in trend intercept for equipment imports and the changes of share of equipment in total imports. Our conclusion is that upper limit for overinvoicing is around 30%.

The value of imported equipment as registered by the customs office is not the value of investments in equipment. We have to add in the costs of transport from the border to the buyer, costs of setting up the equipment, administrative and intermediation costs. Here we set the limits of 20% to 30% of additional costs that need to be added.

2.4. Estimate of investments in equipment in Serbia

The most recent official data on investments in equipment is from 2003 and amounted to 63.780 billion dinars. In the matrix, the structure of these investments is as follows:

Table A3-21.

2003 official (mil dinars)	Construction	Equipment		Other	Total
		Domestic	Imported		
State owned cos					
Public cos		32 617	25 335		
State agencies					
Private sector			5 927		
Total (mil dinars)			63 780		

Source: official SBS estimate

With our analysis, we estimated equipment imports in 2003 at 40.5 billion dinars (about 620 million euros). This is done with the assumption that imports of equipment are overinvoiced by 17%. However, other costs should be added to this, e.g. administrative costs, forwarding, transport, retail margins if the equipment was not directly imported for own use, and the cost of assembly and set up, which are also included in investments in equipment. Taking into consideration all these parameters, the expected value of investments in equipment will be some 25% (author's estimate) higher than equipment imports, i.e. 50.7 billion dinars. This value of investments in imported equipment obviously differs greatly from the SBS data.

Further analysis will be carried out on the basis of the known ratio of imported to domestic equipment in the state owned sector.

Table A3-22.

	2001	2002	2003	*2004	**2004
Domestic equip.	60.0%	58.5%	56.3%	47.3%	45.4%
Imported equip.	40.0%	41.5%	43.7%	52.7%	54.6%

*2004 - unofficial figures, state owned companies

**2004 - unofficial figures, sample of 600 private companies

There was a substantial change in the ratio of imported to domestic equipment in 2004. As the data for 2004 is far more reliable than for 2003, and since we have data for a sample of private companies, we have taken it that the share of foreign equipment in investments in 2004 was 53%, and of domestic equipment 47%. (The data from the INV-01 form is somewhat flawed since field research has brought out mistakes in the form of foreign equipment being registered as domestic and vice versa. On the other hand, the records of major investors are in good order in this respect.) It is important to note that the assessment obtained this way is in line with the output of capital goods of domestic manufacturing industry.

A problem arises also because of the two real values of equipment imports in 2004. Firstly, the one corrected only by the value of the blown up invoices and, secondly, the one including an additional correction for the December imports. Since we are considering realized investments in 2004, we adopt the value of the equipment corrected by the December imports, since the overwhelming part if not the entire quantity of equipment imported in December starts its investment cycle in 2005.

Having now obtained the real value of investments in imported equipment of 79.1 billion dinars in 2004, we arrive at an estimate of the total value of such investments in Serbia in that year, namely 149.2 billion dinars.

Table A3-23.

2004	Construction	Equipment		Other	Total
		Domestic	Imported		
State owned cos					
Public cos					
State agencies		70 100	79 100		
Private sector					
Total (mil dinars)	154 537		149 200		

There now remains to make an estimate for 2003:

- We apply the same corrections for the imports of equipment to arrive at the value for investments in imported equipment.
- The growth of investments in domestic equipment will be represented by the real growth of the manufacture of capital goods in Serbia in 2004 (18.8%);
- The nominal growth of investments in equipment in 2004 calculated on the basis of the first two items was 42.1% up on 2003, when the figure was 105 billion dinars.

With this data, we can form a matrix for 2003:

Table A3-24.

2003	Construction	D	Equipment	I	Other	Total
State owned cos						
Public cos						
State agencies			54 300	50 700		
Private sector						
Total (mil din)	125 345			105 000		

In contrast to the methodology of estimating the value of construction works, this one employs a large number of parameters. Since each introduces a certain error, the results obtained are reliable, but not as robust as the ones for investments in construction works.

Also, the estimate is reliable enough to determine the trend in equipment investments. It is based on the foreign trade balance and growth of industrial output. A significant growth in equipment investments was recorded in 2004 compared to 2003.

3. Other investments

The estimated value of other investments in Serbia was 19.8 billion dinars in 2003 and 26.1 billion in 2004, or 8% of total investments in the two years.

Owing to the low share of other investments in total investments, no further research in this area is necessary.

The assumption that other investments account for 8% of total investments is based on the standard share of such investments in the countries of the region.

In the official statistics, the share of other investments compared to construction and equipment is low:

Table A3-25.

	2002 total	2002 state owned	2002 private	2003 Total	2003 state owned	2003 private	2004* state owned
Total investments	122.922	102.861	20.061	157.332	115.662	41.670	148.925
Other	6.345	5.728	1.320	11.695	6.097	5.598	8.474
Other as % of total	5.2%	5.6%	6.6%	7.4%	5.3%	13.4%	5.7%

Source: SBS

* 2004 data unofficial

** official GDP value

The data for the years up to 2004 is certainly underestimated since the only source then was the INV-01 form, which is not highly reliable, and the estimate for the private sector was unrealistically low. Another specific feature of other investments is in the lack of their definition. The INV-01 form, for instance, does not define software as an investment, so that this important item is subject to the free interpretation of the respondent. The official record of other investments is therefore contaminated by all the inherited methodological flaws, and this is further compounded by the low credibility of submitted forms.

However, the share of other investments in overall investments is so low that even major mistakes in estimating them have no significant impact on the final estimate. We can therefore start the analysis with the assumption that the underestimation of other investments and their growth in 2004 was equal to the underestimation and growth of construction and equipment. This is to say that the 7.4% share of other investments in overall investments in 2003 will be retained.

In view of the poor definition of investments, this would have to be reflected in a somewhat higher underestimation, i.e. their share would realistically have to be slightly higher. This is indicated also by the mild rise of the share of other investments in the unofficial data in the INV-01s for 2004.

The share of other investments in overall investments in countries in the region will serve as an additional parameter for the estimate. On the basis of this and the preceding analysis, we will take the real share of other investments to be 8%.

The estimated value of other investments in Serbia was 20.0 billion dinars in 2003, and 26.4 billion in 2004.

4. Final tables from the technical analysis

The final tables ensuing from the technical analysis are as follows (in millions of dinars):

Table A3-26.

2003	Construction	Equipment		Other	Total
		Domestic	Imported		
State owned cos					
Public cos		54 300	50 700		
State agencies					
Private sector					
Total (mil din)	125.345	105 000		20 030	250 375

Table A3-27.

2004	Construction	Equipment		Other	Total
		Domestic	Imported		
State owned cos					
Public cos		70 100	79 100		
State agencies					
Private sector					
Total (mil din)	154 537	149 200		26 412	330 149

IV INSTITUTIONAL ANALYSIS

1. Summary

The institutional analysis is based on the data contained in INV forms submitted to the SBS, with the addition of reliable external parameters.

An estimate was made only for 2004 owing to the unreliability of the 2003 data.

The value of investments in Serbia obtained by the institutional analysis amounts to 304.9 billion dinars, excluding investment by small businesses with the exception of private residential construction. No reliable data exists to estimate the investments of small businesses. The institutional analysis, however, yields an expected value of some 320 billion dinars.

The estimated investments by the state owned sector in 2004 is 148.9 billion dinars and was obtained as the sum of all the INV-01 forms submitted to the SBS, since the collection of the forms is carried out according to the principle of complete coverage. It is assumed that the 2004 data is sufficiently reliable for such an estimate, and that the coverage was really complete.

Investments by private companies in 2004 are estimated at 101 billion dinars. This figure was obtained by analyzing the surveyed sample of 600 companies, a sample of 80 companies, and cross-referencing with reliable parameters of the value of construction works in Serbia in 2004. In the event that the state owned sector was not fully covered, the methodology of estimating the private companies will ascribe the state owned sector's non-encompassed investments to the private sector.

2. Analysis

The institutional analysis is based on analysis of data from the INV-01 and INV-02 forms. The final estimate is based on a qualitative analysis of the available data on the basis of which the SBS corrected the 2004 estimate; the retroactive estimate for 2003 is in turn based on the corrected 2004 estimate.

The qualitative analysis included a comparative analysis of a sample of 230 companies in 2003 and 2004, observing the trends in investments reported by the state administration, and an independent estimate of the value of investments in the private sector.

Table A3-28.

Mil dinars	2003	*2004	
State sector total	116012	152925	
State agencies & local gov		27762	35763
Other state owned		88250	117162
Private sector	41670	**135 700	
Total	157332	288625	

Source: SBS

* data for 2004 is unofficial

**estimate excluding small businesses, based on sample; unofficial data

This shows the nominal growth of investments in 2004 as being 83.4%, which is considerably higher than the figure obtained by technical analysis (31.5%). Even more interesting is the structure of the growth according to the SBS data:

Table A3-29.

	nominal growth (%)	real growth (%)*
State owned sector total	31.8%	15.9%
State agencies & local gov	28.8%	13.3%
Other state owned	32.8%	16.8%
Private sector	325.6%	286.4%
Total	83.4%	61.3%

Source: SBS

* since we don't have more appropriate index, we used CPI

To go back to the reasons for the underestimation of investments referred to at the beginning of the study:

1. The assumption that those state owned companies which did not submit the INV-01 forms had no investments;
2. The unreliability of the completed forms;
3. Estimate of private sector investments.

We can now analyze which events in 2004 had an impact on these factors:

Introduction of new accounting standards;

The incentive to report investments, primarily because of the change in the business climate;

The introduction of the INV-02 form for private companies.

The introduction of new accounting standards could have had an effect on all companies, as well as state agencies and local governments.

The incentive to report investments had an effect on companies. Since INV forms were not distributed to private companies in 2003, this parameter can be identified only in the reported investments of state owned companies.

The introduction of the INV-02 form affected only the change in the official level of investments by private companies.

The growth of reported investments upholds the view that external and methodological parameters have brought about a change in the official statistics. Namely, private sector investment, where field research has been conducted for the first time, is recording the highest growth. It is followed by state owned companies, which could have been affected by the new accounting standards and the incentive to report investments. Only the new accounting standards could have brought about the change in the value of reported investments by state agencies and local governments, and these have recorded the lowest growth.

The growth in reported investments by state agencies and local governments is somewhat lower than in the other segments, and also somewhat lower than the overall growth of investments obtained by external analysis. It would appear the changed standards had no significant effect on the reporting of investments by these agencies and local governments.

State owned companies recorded a slightly higher growth than the state agencies, but still within the forecast overall growth level. But caution should be exercised here. Many companies, including some major investors, were privatized in the course of 2003 and 2004. Since their investments were recorded in 2003 as state owned sector investments and they no longer appeared on that list in 2004, the conclusion can be drawn that there has been a very sharp rise on the same number of completed INV-01 forms.

To carry out a qualitative analysis of investment in 2004 and 2003, we set up a sample of 206 companies, of which 108 state owned, 83 private, and 12 whose ownership structure was altered. The sample also included 20 organizations in the category of state agencies.

Monitoring the sample of state owned companies over two years produced interesting results. We were able to find the data for both years for 87 companies. The nominal growth of their investments in 2004 was 53.6% (data from individual INV-01s, SBS), which was far more than the nominal growth of investments obtained through external analysis. This indicates that the credibility of the completed INV-01 forms has indeed improved.

Further analysis brings out the problem in more detail. It has been noticed that a considerable number of companies had an extremely high growth of investments in 2004 (and up to 1,000 times higher in 2003 than in 2004), which is indicative of a systematic error in reporting investments. For the most part, the growth of investments on the sample emerged on the basis of the companies' INVs. A filtered list from which all companies that recorded extreme changes have been excluded, and which contains 67 companies, shows a 35% real growth of investments. Only 20 companies whose investments recorded extreme variations bring this percentage up to 53.6%.

Table A3-30.

Sample	Total investments 2003 (mil dinars)	Total investments 2004 (mil dinars)	Growth (%)	
Filtered	67	13 862	18 716	35.0%
Unfiltered (total)	87	15 697	24 115	53.6%

Source: data for individual companies, SBS.

It cannot be claimed with certainty that there has been a change in credibility only in regard to some companies while all the others reported their real investments. What is certain is that the credibility of the data submitted to the SBS differs to a major extent and that there is still no reliable mechanism to control the validity of the reported investments.

The conclusion of the qualitative analysis that there has been a change in the credibility of the data and dissimilar reporting of investments by companies in 2004. Furthermore, a significant number of companies have been privatized and their elimination from the list of state owned companies make this problem far less discernible.

In view of the companies that have been privatized, the SBS rates of growth of investments by sector must be corrected.

Table A3-31.

	Nominal growth (%)
State owned sector total	*41.1%
State agencies & local gov	28.8%
Other state owned	**45 %
Private sector	*299.7%
Total	83.4%

Source: SBS

* SBS data corrected on basis of qualitative analysis

** Estimate includes the known growth of investments recorded by some major public companies, which was somewhat slower than the growth recorded by the sample.

In spite of some companies having moved from the state owned to the private sector, the growth of investments in the latter is still far above the possible. In other words, all the SBS estimates up to 2004 in connection with the private sector are completely irrelevant. Nor are

the SBS estimates for 2004 markedly more reliable, mainly because of problems arising from the introduction of the new methodology. The 2004 estimate, however, is far better than earlier, and, from year to year, they are likely to improve in that direction.

The 41.1% reported growth of investments in the state owned sector is also unrealistic and considerably higher than the figure obtained by external analysis. The reason for this is primarily the credibility of the completed INV-01 forms.

Analysis of the business climate in 2003 and 2004 indicates that the conditions in 2004 were conducive to more realistic reporting of investments (income tax reduced, the banking sector strengthened, international accounting standards introduced...). Nonetheless, only the adoption and application of legal norms and a more responsible attitude toward the SBS on the part of respondents will result in the data being trustworthy and impervious to subjective factors (company interests).

Further analysis will be based on data from INV-01s for 2004.

Table A3-32.

2004	Construction	Equipment		Other	*Total
		Domestic	Imported		
State owned cos					70 989
Public cos					**46 174
State agencies					35 762
Private sector					
Total (mil dinars)					

*unofficial data

** only major public companies

3. Estimate of the private sector

The value of investments in the private sector will be subjected to an independent analysis since the SBS does not have an adequate original source for 2003, relying instead on estimates and analyses.

For the first time, a sample of 600 private companies was formed for 2004. The estimate of investments in the private sector is based in part on the data contained in the INV-02 forms sent to these companies.

The sample was conceived so as to encompass all the biggest companies in Serbia and a number of smaller ones, and to serve to estimate the remainder. Some major companies whose ownership structure changed in 2003 and 2004 were not included in the sample, and a number of large private companies failed to respond and send back completed forms.

The introduction of the survey in itself considerably improved the SBS's overall estimate of investments, and put an end to the practice of significantly underestimating the private sector. A problem emerges when extrapolating the sample to the total of 60,000 private companies. The SBS extrapolates the value of 44.9 billion dinars obtained from the INV-02s to total investments of 135.7 billion dinars for 60,000 companies. To this will be added the value of investments in private residential construction so that the total value of private sector investment will be considerably higher. However, we were told at the SBS that the 135.7 billion figure would be significantly reduced³³.

Our analyses also indicate that this estimate is far above the real level of investments by private companies. A qualitative analysis of the completed INV-02 forms brought out that only a small number of companies in the private sector accounted for the greatest proportion of total investments.

³³ After this report was completed, we learned that this value will be reduced to about 103 blns.

For further analysis, we formed a sub-sample of 80 of the biggest companies from the original sample. The investments of 80 of the largest companies that returned the INV-02 forms amounted to 30.6 billion dinars, whereas the investments of the complete sample of 600 were 44.9 billion.

First, and quite obvious conclusion, is a confirmation that very small number of companies have dominant effect on the total investments of the private sector. As an implication of this, **it seems that the only correct methodology for the estimation of private sector investments is full coverage of all of the biggest private companies, while sampling can be used for the rest of the private companies.**

Second conclusion that is implied by analysis of our sub-sample of 80 is the relevancy of the estimation of private sector investments based on SBS sample of 600. It must be noted that, in spite of some companies being left out, the SBS sample covers almost all of the largest private companies (investors). In spite of the imprecision of the mathematical processing of the data, it would be unrealistic to expect the investments of the SBS sample to exceed 100 billion dinars by much.

More precisely but still incorrectly in terms of statistics, we can determine the expansion of the sample on the basis of the most reliable parameters in the technical analysis, i.e. estimating the value of construction works. These valued 154.5 billion dinars in 2004, and consisted of the value of investment in construction where the investors were from the state owned sector (65.5 billion dinars), private residential construction (some 55 billion dinars), and the unknown value of construction by private companies.

It ensues from this analysis that the value of investment in construction by private companies was 34.0 billion dinars. The sample of 600 companies gives a value of 15.1 billion, i.e. will be expanded by a coefficient of 2.25.

The quality of such an analysis is that it definitely disproves the expansion of the sample by three or four times for the definitive estimate since, in that case, the estimate of investments in equipment would have to be at least four times higher than the sample, and equipment would account for over 75% of private companies' investments.

To gain an insight into the investments of the private sector, we shall use the known coefficient of 2.25 from the analysis of construction works for the overall expansion of the sample.

Table A3-33.

Value of construction works in Serbia in 2004 (bil dinars)	154.5
State owned sector	65.5
Private residential construction	55
Private companies	34.0
Value of works on sample of 600 private companies	15.1
Coefficient	2.25
Value of investments on sample of 600 private cos.	44.9
Estimate of investments by all private companies	101.0

Source: analysis of investments in construction, INV-02 sample, SBS

A rough estimate of the total value of investments by the private sector will be obtained by adding the known values and estimates.

Table A3-34.

2004 - private sector (bil dinars)	
INV – 02 sample	44.9
Estimate for private cos	101.0
Private residential construction	55
Total private sector	156.0

Source: analysis of investments in construction works, INV-02 sample, SBS

Total investments in Serbia in 2004 calculated by institutional analysis will be systematically underestimated by the value of investments made by state owned sector companies that did have investments but did not return a completed INV-01 form. Another error this entails is the assumption that the structure of investments by smaller companies is quite similar to that of major companies. Furthermore, small businesses are represented only in residential construction. Hence the final figure will be underestimated by the value of all other investments by small businesses.

Table A3-35.

2004 (bil dinars)	Construction	Equipment		Other	*Total
		Domestic	Imported		
State owned sector	65.5	35.5	39.5	8.5	148.9
Private cos	34.0	27.9	33.5	5.5	101.0
Small businesses and housing	55	0	0	0	55.0
Total (bil dinars)	154.5	63.4	73.0	14.0	304.9

Owing to the lack of data, a similar analysis of the private sector will not be done for 2003, nor is the data for the state owned sector as credible as that for 2004.

Comparison of this result with the total estimate of investments obtained through technical analysis brings out that the difference ensuing from not taking into account the value of investments in equipment and the other investments of small businesses and companies that failed to submit INV-01 forms is within the margin of error of the technical analysis.

4. Institutional and technical analyses compared

Viewing by structure the estimates of investments obtained by the institutional and technical analyses, we note that the biggest difference emerges in the estimate of other investments. The first major problem arises in the assumption of the institutional analysis that small businesses had no investments in this area. Since other investments include items such as the basic herd, which are very present in the area of small businesses too, this assumption does not hold. The low level of other investments with respect to investments in equipment and construction works is the most vulnerable to errors in estimation and disregard of potential investors.

The estimate of other investments obtained by technical analysis is far more realistic since institutional analysis does not encompass all the major investors. However, estimate that other investments make up 8% of total investments is based on official historic data and by comparison to other countries in region. Technical structure of investments from data obtained by surveys INV-01 and INV-02 indicates that this percentage is somewhat lower in 2004. We asses that other investments make up 5% to 8% of total investments. In further analysis we assume they make up 6.5% of total investments.

Where equipment is concerned, the value obtained by institutional analysis is also a bit less than that obtained by technical analysis. Here too it should be kept in mind that investments by small businesses in equipment (tractors, fiscal cash registers, vehicles...) have not been taken into account, and that there is some underestimation because of the assumption that the companies which failed to submit the INV-01 forms had no investments. Regardless of everything, there is a very high level of consistency between the institutional and technical analyses.

The estimate for equipment obtained by the technical analysis is possibly due to the assumption that all the equipment additionally imported in December 2004 started its investment cycle in 2005. Perhaps a proportion of this equipment was realized as an investment in 2004, which would raise the value of investments in equipment obtained by the institutional analysis. Practically speaking, this increase in equipment investments in 2004 will result in a decrease in 2005 so that there is no need for correction.

Taking into account the large number of unknown and unreliable parameters in estimating equipment imports and investments in equipment, the institutional analysis nonetheless indicates the credibility of the estimate based on external elements.

The total value of investments in Serbia in 2004, obtained by both technical and institutional analysis, is approximately 325 billion dinars.

V CONCLUSION

For many years, the official data on investment in Serbia was incorrect. All the analyses indicate that the real level of investment up to 2004 was more than 50% higher than the official figure.

The reasons for the underestimation are numerous, and this analysis attempts to point up the most significant and to quantify them.

Imprecise estimating of investments in private sector

This was the main reason for the underestimation of investments up to 2004. The methodology applied by the SBS to estimate investments in the private sector remained the same for 15 years, in spite of the major changes in the structure of the Serbian economy. The state owned sector was for all practical purposes designated as the sole protagonist of investment in the country, and its share in total investments was never below the 73% reported for 2003.

In all the estimates of investments in the private sector, private residential construction was designated as dominant, which resulted in a structure according to which the share of construction works in investments in the sector was 90% in 2002 and 74% in 2003. Excluding residential construction, the official data never showed the private sector having a share larger than 10% in overall investments.

In 2004, the SBS applied a new methodology of gathering and processing data and, for the first time, surveyed a sample of private companies. This is the main reason for the major differences in the level of investments in 2004. The official figure for the private sector in 2004 will be at least two times higher than in 2003. The reason for the increase lies primarily the underestimation of investment up to 2004, not in a real growth of investment or the privatization of a number of major state owned companies in the course of 2003.

It should also be noted that, despite the gathering of data on the ground, the official value of investments in the private sector in 2004 will primarily be the outcome of SBS estimates and analyses. Since new parameters have been processed for the first time in this analysis, the probability is that this estimate too will be burdened by a major error.

Unreliability of completed forms

The low credibility of the data submitted to the SBS is for the most part the result of the non-existence or non-application of legal regulations prescribing the obligation and modalities of collaboration with the SBS. There are, however, many other contributing factors, which are treated in this analysis.

Most frequently, forms are filled in imprecisely or incorrectly because companies and organizations have no interest in collaborating with the SBS, and no sanctions are envisaged for submitting incorrect data. Furthermore, the INV-01 form dates from long before the transition period and, in the opinion of the respondents, is extremely complicated and extensive. The INV-02 form, which is sent to private companies, is far simpler, shorter and easier to complete. Similar forms in neighboring countries were examined and were found to be no simpler than the INV-01.

The systematic under-reporting of investments introduced an error which depended to a major extent on the prevailing business climate.

The business climate in recent years has improved due to the development of the banking system, reduction of tax on profits, and the introduction of international accounting standards. All this encouraged companies to report their real profits in 2004, and, in time, investments too.

The under-reporting of investments in the pre-2004 period was evident in the unrealistic growth of investments by companies that submitted the INV form in 2004 and 2003.

Assumption that companies which failed to submit forms had no investments

This analysis was unable to estimate in any way the existence and magnitude of this error. The methodology of making the estimates was in no way related to these problems and, as the number of companies responding to the INV-01 in 2004 did not rise (it actually decreased by the number of privatized companies), no model exists to identify the error. It would probably be quite realistic to suppose that this error does not exist in practice or is several times smaller than all the others, mainly because of the decentralized system by which the SBS gathers its data. The SBS has 17 local offices which, on the average, cover a sufficiently small number of companies to be able to control the survey. The SBS selects the companies to which the INV-01 will be sent or not, without waiting for a negative response. The local SBS offices also call by telephone the companies they believe had investments but failed to submit forms. If this reason for the underestimation of data on investments exists, the underestimation will be present in both 2003 and 2004. The difference in the official data for these two years can for the greatest part be ascribed to the different ways of gathering and processing data, and not to a real growth of investments.

Estimates of the growth of investments in Serbia based on this analysis indicate that the growth in 2004 was 30%, whereas the official data, according to initial reports, will show an 85% growth.

VI REPORTS ON VISITS TO COMPANIES

As part of the research into investments, visits were made to two companies and the City Assembly of Belgrade. Talks on investment management were held with the directors of several other companies. The companies will not be named for reasons of confidentiality.

1. Summary

The visits and talks with the heads of several other companies, which are not presented here in detail, resulted in the following conclusions:

Scope exists for improvement of the INV-01 forms. New categories should be introduced (e.g. software), and detailed explanations given as to what is included in others. Some of these problems have been dealt with in the INV-02 form.

People charged with filling in the forms should be instructed how to classify certain expenditures. At present, it would seem that this is largely left to the discretion of the persons assigned to this task.

A clearly defined survey of a broad sample with a form designed to clarify the problematic categories could be a response to the issue of the credibility of the reported data. The talks helped to identify potential problems, but could not serve to quantify eventual corrections. We nonetheless believe that a reasonably precise quantitative estimate can be obtained by reviewing the global data as presented above. An additional survey could help to perceive the whole problem from another angle but, in our opinion, the final result would not be changed relative to the estimates presented. Rather, the import of the additional survey would be improvement of the INV-01 form and of communication between the SBS and companies and institutions that are the sources of data.

2. Reports on visits

Company 1

We visited this company at the start of our research. The objective was to meet with company officers charged with filling in the INV-01 form in order to hear their views on the form itself, their contacts with the SBS, to possibly identify some major problems and defects, and gain an insight into the situation of the company in general.

The company was a major industrial firm in the former Yugoslavia. It has experienced difficulties in recent times and faces an uncertain future. All this reflects on its present output and general situation.

The company has an Investments Department, which plans and monitors investments and is charged with reporting to the SBS. We were shown a completed INV-01 form, and the investment plans for the current year and several preceding years. Realized investments were considerably below projections (because of the generally poor state of the company). The company submits the INV-01 forms regularly every year.

The Investments Department registers all the realized investments (in a notebook since it is not computerized). At the year-end, the figures are added up and the INV-01 forms filled in on this basis. Though it appears that the data is entered correctly, we noted several problems. Only the major problems, which were mentioned in all the companies and institutions we visited, will be cited here.

The INV-01 form is extensive, and not all the elements are filled in carefully (only aggregate figures are entered in some elements). The officers filling in the forms consider that some of the elements are not clearly defined. The decision whether items are categorized as investments or costs is left to their discretion. The form does not envisage essential categories,

e.g. software, and it is assumed that they will be entered in some other category, which is not always the case.

A characteristic of this company and, judging by the talks, of others that also used to be major industrial firms, is that it has inherited from former times quite a large number of employees in a variety of support activities: bricklayers, electricians, carpenters, fitters and the like. When these employees perform work for the company itself, such as minor construction, major overhauls of equipment and similar, this is not reported as an investment. According to the data we were shown, "investments with own resources" (as the practice is known) in this particular company were just slightly below the investments it officially reported. This could potentially introduce a systemic error but, in our opinion, it would not be very significant. There are two reasons for this view: the company's investments are rather low (which is also the case with other similar companies where the same problem could emerge); where companies with a higher level of investment are concerned, "investments with own resources" are very small compared to "real investments." Generally speaking, this issue is poorly defined even in much more orderly economic systems, and we consider that any errors it may cause would be minor (not more than 1-2%) when compared to the other serious defects discussed above.

Company 2

This is a big company with major investments financed primarily from the city budget, donations, and partly from its own resources.

We wished to check out how investments funded with donations or from the budget (in the case of this particular company the city budget) are registered; "investments with own resources" in companies with major investments; how accurately investments are registered in companies with major investments.

This company too has a department concerned with investment and our impression is that they are doing a good job.

Where funds received as donations are concerned, we established that their registration is very precise, both when in cash and in kind. Donations in kind consist of used equipment. A committee is set up to evaluate the equipment, which is then reported. We consider that this is well done, as is also the case with funds from the city budget.

We also established that "investments with own resources" introduce only a negligible error - this kind of work can be categorized as regular maintenance which cannot be considered an investment. Any serious investments are separately registered and reported.

We found that the company generally kept very accurate records of its investments. When preparing for the visit, we learned that they had had above average investments in 2003. We then found out on the Internet the prices of the equipment concerned and estimated what kind of figures we could expect. The figures reported by the company were in keeping with our independent estimate. Also, it was evident that 2003 had been an above-average year, and that investments in the preceding and following years were at about the company's average.

Here again we encountered the problem of poor instructions as how to complete the INV-01 form. People tasked with doing this consider that it has not been made clear how certain elements should be filled in, how certain items should be categorized, and that too much was left to them to decide. In this particular company, the officer charged with completing the forms consults the SBS by phone. Whether or not this is the practice in other companies remains a question.

City Belgrade

Belgrade City is among the largest investors in Serbia. We spoke with Mr Dušan Bajec, the Finance Secretary, and an officer of the financial department who monitors investments from the city budget. We were also shown a completed INV-01 form for 2004.

Being a big investor, the City was visited a few months ago by an IMF delegation whose aim was to examine the structure of budget spending. Prior to the visit, all the data was reviewed and consolidated, which helped our analysis.

The City Assembly invests a portion of its funding directly, while a large quantity of funding is transferred to city companies and institutions, who then invest it. In such a complex system, problems arise with regard to classification. For instance, funds spent as "capital subsidies" were not entered into the INV-01 form as investments, although they in fact were. A revision of all expenditures was done for the IMF to determine which of them were investments. It turned out that the City's direct investments totaled 10.2 billion dinars in 2004, but that only 5.8 billion was reported to the SBS by way of the INV-01. Irrespective of which figure is correct (there are arguments in favor of both), this shows just how easy it is to manipulate with investments and how their reporting depends on the interests of people who fill in the INV-01 form. This mistake alone could result in an error of some 4.4 billion dinars, or almost 2% of total investments, in the data that will be brought out by the SBS.

Another thing done for the IMF was the consolidation of city investments. As noted above, the city allocates major investment funds to the city companies and organizations. The analysis showed the consolidated city investments in 2004 as totaling 14.9 billion dinars. The companies and organizations to which the funds are allocated are charged with reporting the investments. In the case of Company 2, the funds were properly registered and reported to the SBS.

VII LIST OF PERSONS INTERVIEWED

Bojka Stevanovski, National Accounts Division, Serbian Statistics Office (SBS)

Dragan Arizanović, Advisor to Director, Serbian Construction Directorate

Andjelko Kovačević, Marketing Director, Energoprojekt construction company

Dragica Šutić, Investments Dept, Company 1

Gordana Lazarević, Assistant Minister, Ministry of Foreign Economic Relations

Milan Veličković, Head, Economic-Financial Dept, Company 2

Violeta Petković, Head, Public Purchases Dept, Company 2

Stojan Stamenković, Economist

Darko Križan, Holcim Cement factory, Novi Popovac

Dušan Bajec, Finance Secretary, City Assembly of Belgrade

Ranka Bijelić, Finance Secretariat, City Assembly of Belgrade

Dejan Marinković, School of Civil Engineering, Belgrade University

Radovan Kovačević, Construction Division, Serbian Chamber of Trade and Industry

Mirko Matijević, Serbian Construction Directorate, expert on residential construction

Goran Vukmirović, Town manager of Sombor municipal government

Informal consultations were held with the directors of several companies, business people, experts, the Customs Service, and the SBS; financial statements of a number of companies were used.

Serbia's Economy: The Stylized Facts

APPENDIX FOUR

Serbia: Key Macroeconomic Data, 2001-2005

I PRICES AND EXCHANGE RATES

- **PRICES**
- **EXCHANGE RATES**

I Prices and exchange rates

1. Prices

- **Definitions**
- **Methodology**
- **Data Tables**
 - Table A4.1-1 Serbia: Retail Price Index (RPI), 2000-2005
Frequency: annual, quarterly, monthly
 - Table A4.1-2. Serbia: Selected Price Indices, 2000-2005
Frequency: annual, quarterly, monthly

2. Exchange rates

- **Definitions**
- **Methodology**
- **Data Tables**
 - Table A4.1-3. Serbia: EURO and USD exchange rate
Frequency: annual, quarterly, monthly
 - Table A4.1-4. Serbia: Euro/Dinar Exchange Rate, 2000-2005
Frequency: annual, quarterly, monthly

1. Prices

Definitions

1.1. Retail Price Index (RPI)

Inflation in Serbia is measured by changes in RPI. Components of RPI:

- Goods,
- Agricultural products,
- Food products (including drink and tobacco),
- Non-food products and
- Services

RPI include around 350 goods and 80 types of services, of which only 22 influence almost 50% of all changes in its value. These are: electricity, utilities, telecommunications, oil and derivatives, public transportation, tobaccos, bread, etc. The VAT is also incorporated in RPI.

The RPI prices are weighted. The weights are retail sales values (including on green markets).

1.2. Consumer Prices Index (CPI)

CPI is RPI of goods and services used for personal consumption. This index differs to the RPI for excluding the following prices: construction material, chemicals and agricultural tools.

The CPI prices are weighted with consumption shares derived from the Household Budget Survey.

1.3. Industrial producers' price index measures the prices under which industrial producers' sell their goods.

Methodology

Source of data:

Republic of Serbia Statistics Bureau (<http://webrzs.statserb.sr.gov.yu/axd/index.php> or in English: <http://webrzs.statserb.sr.gov.yu/axd/en/index.php>)

Data available from January 1999 onwards, monthly series of base indices and chain indices.

Series available:

January 2000 onwards:

- RPI and its components annual, quarterly and monthly data:
 - o base index, y-o-y index, chain index and cumulative index
- CPI annual, quarterly and monthly data:
 - o base index, y-o-y index chain index and cumulative index
- Industrial producers' price index annual, quarterly and monthly data
 - o base index, y-o-y index, chain index and cumulative index

Data Tables**Table A4.1-1 Serbia: Retail Price Index (RPI), 2000-2005****1**

	RPI				RPI components				
	Dec. 2002=100	y-o-y index	Chain index	Cumulative index ¹⁾	GOODS	Agricultural products	Food	Non-food	SERVICES
					Cumulative index ¹⁾				
Annual indices									
2000	39.5	163.9	163.9	211.9	218.1	157.9	266.8	195.7	185.2
2001	76.8	194.3	194.3	140.6	132.3	127.4	133.1	135.0	175.3
2002	93.2	121.4	121.4	114.8	109.4	113.8	98.8	114.1	133.0
2003	104.1	111.7	111.7	107.8	106.6	93.6	106.0	107.8	111.1
2004	114.3	109.8	109.8	113.7	112.8	108.1	113.9	113.2	116.1
2005									
Quarterly indices									
2000									
I quarter	29.8	143.8	102.0	104.5	105.0	99.1	105.1	106.1	102.4
II quarter	33.0	149.6	110.8	117.9	118.1	104.2	119.8	116.3	117.2
III quarter	37.5	154.2	113.6	136.9	139.9	142.6	162.3	125.7	124.0
IV quarter	57.6	197.0	153.4	211.9	218.1	157.9	266.8	195.7	185.2
2001									
I quarter	65.6	219.9	113.8	107.7	103.2	97.8	104.0	103.1	126.1
II quarter	74.8	226.4	114.1	124.6	121.1	125.8	117.9	125.4	139.1
III quarter	80.9	215.4	108.1	132.9	127.1	119.3	130.9	127.2	156.9
IV quarter	85.8	148.9	106.1	140.6	132.3	127.4	133.1	135.0	175.3
2002									
I quarter	88.5	134.9	103.1	102.4	101.0	109.7	98.9	100.7	107.0
II quarter	90.4	120.9	102.2	104.3	102.2	109.7	99.7	101.9	111.3
III quarter	95.1	117.6	105.2	110.0	107.8	103.7	100.9	111.4	117.2
IV quarter	98.8	115.2	103.9	114.8	109.4	113.8	98.8	114.1	133.0
2003									
I quarter	101.4	114.6	102.6	101.8	100.4	104.6	99.1	100.5	105.8
II quarter	103.1	114.0	101.7	103.7	101.9	118.0	99.0	101.2	108.8
III quarter	105.0	110.4	101.8	105.6	104.4	90.1	101.1	106.9	109.0
IV quarter	107.0	108.2	101.9	107.8	106.6	93.6	106.0	107.8	111.1
2004									
I quarter	109.1	107.6	102.0	101.8	101.0	105.1	101.6	100.4	103.9
II quarter	111.9	108.5	102.6	105.1	105.1	125.6	104.6	103.8	105.3
III quarter	116.1	110.6	103.7	109.2	109.4	105.7	110.7	109.3	108.5
IV quarter	120.1	112.3	103.5	113.7	112.8	108.1	113.9	113.2	116.1
2005									
I quarter	127.5	116.9	106.1	105.1	103.8	115.0	104.7	109.6	106.6
II quarter	131.2	117.2	102.9	108.0	107.0	147.8	107.1	104.6	110.7
III quarter	135.9	117.1	103.6	111.8	110.7	119.2	110.1	111.2	115.3
IV quarter									
Monthly indices									
2000									
January	29.2	143.4	100.0	100.0	100.0	103.6	100.3	99.5	99.8
February	29.7	143.2	101.6	101.5	101.8	105.0	102.3	101.2	100.4
March	30.5	144.7	102.9	104.5	105.0	99.1	105.1	106.1	102.4
April	31.6	144.7	103.5	108.1	108.8	97.1	108.4	108.9	105.5
May	33.0	149.8	104.5	113.0	113.7	113.2	113.1	112.7	110.2
June	34.5	154.3	104.3	117.9	118.1	104.2	119.8	116.3	117.2
July	35.5	155.9	102.9	121.4	121.8	105.0	126.6	118.8	119.6
August	37.1	157.3	104.7	127.0	128.4	115.5	142.0	120.2	121.4
September	40.0	149.9	107.7	136.9	139.9	142.6	162.3	125.7	124.0
October	50.6	174.3	126.5	173.2	180.6	157.5	210.6	164.4	141.2
November	60.3	204.7	119.0	206.1	213.9	159.9	262.9	192.2	172.4
December	62.0	211.9	102.8	211.9	218.1	157.9	266.8	195.7	185.2
2001									
January	64.0	218.8	103.2	103.2	101.5	99.8	102.2	101.0	110.3
February	66.1	222.6	103.3	106.7	102.3	98.4	102.1	102.5	124.8
March	66.7	218.3	100.9	107.7	103.2	97.8	104.0	103.1	126.1
April	72.9	230.6	109.3	117.7	113.7	104.8	115.5	114.6	134.2
May	74.3	224.9	101.9	120.0	116.0	128.9	116.2	116.5	136.2
June	77.2	224.0	103.9	124.6	121.1	125.8	117.9	125.4	139.1
July	79.1	222.9	102.4	127.7	123.2	123.7	120.2	126.9	146.3
August	81.2	218.7	102.7	131.1	125.2	117.1	126.9	126.6	155.7
September	82.3	205.7	101.3	132.9	127.1	119.3	130.9	127.2	156.9
October	84.4	166.8	102.6	136.3	130.2	123.0	133.1	131.6	161.4
November	85.8	142.3	101.6	138.4	130.8	124.5	134.0	131.9	170.0
December	87.1	140.6	101.6	140.6	132.3	127.4	133.1	135.0	175.3

Table A4.1-1. Serbia: Retail Price Index (RPI), 2000-2005**2**

	RPI				RPI components				
	Dec. 2002=100	y-o-y index	Chain index	Cumulative index ¹⁾	GOODS	Agricultural products	Food	Non-food	SERVICES
					Cumulative index ¹⁾				
Monthly indices									
2002									
January	87.6	137.0	100.6	100.6	100.1	102.8	98.2	100.1	102.3
February	88.5	134.0	101.0	101.6	100.2	103.0	98.5	100.1	106.4
March	89.2	133.8	100.8	102.4	101.0	109.7	98.9	100.7	107.0
April	90.0	123.4	100.9	103.3	101.5	114.8	98.8	101.2	109.4
May	90.4	121.6	100.4	103.7	101.9	112.4	99.0	101.7	110.0
June	90.9	117.7	100.5	104.3	102.2	109.7	99.7	101.9	111.3
July	94.6	119.6	104.1	108.5	107.1	101.4	99.9	111.1	113.5
August	95.0	116.9	100.4	109.0	107.1	97.7	100.3	111.1	115.4
September	95.8	116.4	100.9	110.0	107.8	103.7	100.9	111.4	117.2
October	97.3	115.2	101.5	111.6	108.5	106.7	101.6	111.9	122.2
November	99.2	115.7	102.0	113.9	109.9	109.8	101.5	113.9	127.4
December	100.0	114.8	100.8	114.8	109.4	113.8	98.8	114.1	133.0
2003									
January	100.8	115.0	100.8	100.8	100.2	102.7	99.5	100.3	102.6
February	101.5	114.6	100.6	101.5	100.2	102.9	99.2	100.4	105.1
March	101.8	114.1	100.4	101.8	100.4	104.6	99.1	100.5	105.8
April	102.5	113.9	100.7	102.5	101.1	109.9	98.7	101.4	106.3
May	103.0	114.0	100.5	103.0	101.3	112.1	98.5	101.5	108.0
June	103.7	114.2	100.7	103.7	101.9	118.0	99.0	101.2	108.8
July	104.4	110.4	100.6	104.4	103.2	100.3	99.1	105.0	107.6
August	105.0	110.5	100.6	105.0	103.6	88.7	100.2	106.1	108.7
September	105.6	110.2	100.6	105.6	104.4	90.1	101.1	106.9	109.0
October	106.1	109.1	100.5	106.1	105.0	93.2	103.2	106.6	109.1
November	107.0	107.9	100.8	107.0	105.8	95.8	103.9	107.3	110.5
December	107.8	107.8	100.7	107.8	106.6	93.6	106.0	107.8	111.1
2004									
January	108.3	107.4	100.4	100.4	100.3	103.9	100.3	100.1	100.7
February	109.3	107.7	100.9	101.4	100.6	104.0	100.9	100.3	103.4
March	109.7	107.8	100.4	101.8	101.0	105.1	101.6	100.4	103.9
April	110.6	107.9	100.8	102.6	102.0	106.7	102.6	101.0	104.4
May	111.7	108.4	101.0	103.7	103.3	120.4	103.4	101.9	104.6
June	113.3	109.3	101.4	105.1	105.1	125.6	104.6	103.8	105.3
July	114.9	110.1	101.4	106.6	107.0	104.8	106.1	108.0	105.7
August	115.7	110.2	100.6	107.3	106.9	102.1	107.6	107.0	108.3
September	117.6	111.4	101.7	109.2	109.4	105.7	110.7	109.3	108.5
October	118.2	111.4	100.5	109.7	110.0	105.0	112.1	109.6	108.8
November	119.6	111.8	101.2	111.0	111.7	107.6	113.2	111.8	109.1
December	122.6	113.7	102.5	113.7	112.8	108.1	113.9	113.2	116.1
2005									
January	125.9	116.3	102.7	102.7	100.9	103.1	102.1	100.2	107.8
February	127.8	116.9	101.5	104.2	102.7	108.1	103.1	102.1	108.5
March	128.8	117.4	100.8	105.1	103.8	115.0	104.7	109.6	106.6
April	129.8	117.4	100.8	105.9	104.7	125.6	105.5	103.1	109.3
May	131.3	117.5	101.2	107.1	106.2	143.5	106.2	104.0	109.7
June	132.4	116.8	100.8	108.0	107.0	147.8	107.1	104.6	110.7
July	135.0	117.5	102.0	110.1	109.3	133.0	107.6	109.2	112.6
August	135.6	117.2	100.4	110.6	109.3	126.0	108.3	109.2	114.3
September	137.1	116.5	101.1	111.8	110.7	119.2	110.1	111.2	115.3
October	139.4	117.9	101.7	113.7	112.8	122.7	113.1	112.6	116.3
November	141.1	118.0	101.2	115.1	114.1	128.5	114.7	113.5	118.1

Source: Republic of Serbia Statistics Bureau.

1) Cumulative index: ratio of end of given period and December of previous year. For example, in annual indices cumulative for 2002 - December 2002 divided by December 2001; in quarterly indices cumulative for II quarter of 2003 - June 2003 divided by December 2002, etc.

Table A4.1-2. Serbia: Selected Price Indices, 2000-2005**1**

	RPI			Industrial producers' price index			Consumer price index		
	Dec. 2002=100	y-o-y index	Chain index	Dec. 2002=100	y-o-y index	Chain index	Dec. 2002=100	y-o-y index	Chain index
Annual indices									
2000	39.5	163.9	163.9	46.5	202.5	202.5	40.5	171.2	171.2
2001	76.8	194.3	194.3	87.1	187.3	187.3	79.1	195.1	195.1
2002	93.2	121.4	121.4	96.4	110.7	110.7	94.5	119.5	119.5
2003	104.1	111.7	111.7	102.1	105.9	105.9	103.8	109.9	109.9
2004	114.3	109.8	109.8	111.8	109.5	109.5	115.2	111.0	111.0
2005									
Quarterly indices									
2000									
I quarter	29.8	143.8	102.0	33.3	167.2	115.1	29.9	147.2	104.0
II quarter	33.0	149.6	110.8	40.7	197.1	122.3	33.3	153.2	111.3
III quarter	37.5	154.2	113.6	46.7	208.9	114.6	39.6	165.6	119.0
IV quarter	57.6	197.0	153.4	65.3	225.8	140.0	59.3	206.3	149.8
2001									
I quarter	65.6	219.9	113.8	77.1	231.4	118.0	65.6	219.2	110.5
II quarter	74.8	226.4	114.1	86.4	212.2	112.1	77.4	232.7	118.1
III quarter	80.9	215.4	108.1	90.8	194.5	105.1	84.3	212.8	108.9
IV quarter	85.8	148.9	106.1	94.1	144.0	103.6	89.0	150.1	105.6
2002									
I quarter	88.5	134.9	103.1	93.1	120.8	99.0	90.0	137.3	101.1
II quarter	90.4	120.9	102.2	93.3	108.0	100.2	91.8	118.6	102.0
III quarter	95.1	117.6	105.2	99.3	109.3	106.4	96.5	114.5	105.2
IV quarter	98.8	115.2	103.9	99.9	106.2	100.6	99.6	111.8	103.1
2003									
I quarter	101.4	114.6	102.6	100.3	107.6	100.4	100.8	112.1	101.3
II quarter	103.1	114.0	101.7	100.9	108.1	100.6	102.9	112.1	102.0
III quarter	105.0	110.4	101.8	103.0	103.7	102.1	104.3	108.0	101.4
IV quarter	107.0	108.2	101.9	104.2	104.3	101.1	107.2	107.7	102.8
2004									
I quarter	109.1	107.6	102.0	106.7	106.4	102.4	109.5	108.5	102.1
II quarter	111.9	108.5	102.6	110.5	109.5	103.5	113.4	110.2	103.6
III quarter	116.1	110.6	103.7	113.6	110.3	102.8	117.1	112.3	103.2
IV quarter	120.1	112.3	103.5	116.6	111.9	102.6	121.0	112.9	103.4
2005									
I quarter	127.5	116.9	106.1	119.8	112.3	102.8	126.9	116.0	104.9
II quarter	131.2	117.2	102.9	123.3	111.6	102.9	132.0	116.4	104.0
III quarter	135.9	117.1	103.6	129.7	114.2	105.2	135.2	115.5	102.4
IV quarter									
Monthly indices									
2000									
Januar	29.2	143.4	100.0	30.6	156.9	102.3	29.3	146.8	101.0
Februar	29.7	143.2	101.6	32.0	160.6	104.5	29.8	147.1	102.0
Mart	30.5	144.7	102.9	37.3	183.6	116.6	30.6	147.8	102.7
April	31.6	144.7	103.5	38.7	188.0	103.6	31.6	146.7	103.3
Maj	33.0	149.8	104.5	40.5	195.8	104.8	33.4	154.2	105.5
Jun	34.5	154.3	104.3	43.0	207.3	106.2	34.8	158.4	104.2
Jul	35.5	155.9	102.9	44.5	212.1	103.5	35.9	159.9	103.2
Avgust	37.1	157.3	104.7	46.4	213.7	104.2	39.2	165.8	109.1
Septembar	40.0	149.9	107.7	49.1	201.9	105.8	43.7	170.5	111.7
Oktobar	50.6	174.3	126.5	55.0	200.6	112.0	54.3	191.2	124.0
Novembar	60.3	204.7	119.0	68.0	230.8	123.7	61.3	212.0	113.0
Decembar	62.0	211.9	102.8	73.0	243.8	107.3	62.4	215.3	101.8

Table A4.1-2. Serbia: Selected Price Indices, 2000-2005**2**

	RPI			Industrial producers' price index			Consumer price index		
	Dec. 2002=100	y-o-y index	Chain index	Dec. 2002=100	y-o-y index	Chain index	Dec. 2002=100	y-o-y index	Chain index
Monthly indices									
2001									
Januar	64.0	218.8	103.2	75.7	247.1	103.7	64.4	220.2	103.2
Februar	66.1	222.6	103.3	76.5	238.9	101.0	65.4	219.2	101.5
Mart	66.7	218.3	100.9	79.2	212.2	103.6	66.9	218.3	102.3
April	72.9	230.6	109.3	83.4	215.7	105.3	74.4	235.2	111.3
Maj	74.3	224.9	101.9	86.1	212.4	103.2	77.1	230.8	103.5
Jun	77.2	224.0	103.9	89.9	208.8	104.4	80.7	232.0	104.7
Jul	79.1	222.9	102.4	89.8	201.5	99.9	82.2	228.9	101.8
Avgust	81.2	218.7	102.7	90.7	195.4	101.0	84.6	215.9	102.9
Septembar	82.3	205.7	101.3	92.0	187.4	101.5	86.1	196.7	101.7
Oktobar	84.4	166.8	102.6	94.0	170.9	102.1	88.5	163.2	102.9
Novembar	85.8	142.3	101.6	94.2	138.4	100.2	89.2	145.4	100.7
Decembar	87.1	140.6	101.6	94.2	129.0	100.0	89.4	143.3	100.3
2002									
Januar	87.6	137.0	100.6	93.21	123.1	99.0	89.0	138.1	99.5
Februar	88.5	134.0	101.0	93.21	121.9	100.0	90.0	137.7	101.2
Mart	89.2	133.8	100.8	93.02	117.4	99.8	91.0	136.1	101.1
April	90.0	123.4	100.9	93.21	111.8	100.2	91.6	123.0	100.6
Maj	90.4	121.6	100.4	93.40	108.5	100.2	91.7	119.0	100.2
Jun	90.9	117.7	100.5	93.40	103.9	100.0	92.1	114.1	100.4
Jul	94.6	119.6	104.1	98.91	110.2	105.9	96.0	116.8	104.3
Avgust	95.0	116.9	100.4	99.30	109.5	100.4	96.2	113.7	100.1
Septembar	95.8	116.4	100.9	99.70	108.3	100.4	97.4	113.2	101.3
Oktobar	97.3	115.2	101.5	99.80	106.2	100.1	98.7	111.4	101.3
Novembar	99.2	115.7	102.0	99.90	106.1	100.1	100.0	112.2	101.4
Decembar	100.0	114.8	100.8	100.00	106.2	100.1	100.0	111.8	100.0
2003									
Januar	100.8	115.0	100.8	100.20	107.5	100.2	100.3	112.8	100.3
Februar	101.5	114.6	100.6	100.20	107.5	100.0	101.0	112.1	100.6
Mart	101.8	114.1	100.4	100.40	107.9	100.2	101.2	111.3	100.3
April	102.5	113.9	100.7	101.00	108.4	100.6	102.1	111.5	100.8
Maj	103.0	114.0	100.5	100.70	107.8	99.7	102.5	111.7	100.4
Jun	103.7	114.2	100.7	101.00	108.1	100.3	104.0	113.0	101.5
Jul	104.4	110.4	100.6	102.82	104.0	101.8	104.1	108.4	100.1
Avgust	105.0	110.5	100.6	103.03	103.7	100.2	103.9	108.0	99.7
Septembar	105.6	110.2	100.6	103.23	103.5	100.2	104.8	107.6	100.9
Oktobar	106.1	109.1	100.5	103.54	103.7	100.3	106.3	107.7	101.4
Novembar	107.0	107.9	100.8	104.37	104.5	100.8	107.2	107.2	100.9
Decembar	107.8	107.8	100.7	104.68	104.7	100.3	108.1	108.1	100.9
2004									
Januar	108.3	107.4	100.4	105.42	105.2	100.7	108.8	108.4	100.6
Februar	109.3	107.7	100.9	106.79	106.6	101.3	109.5	108.5	100.7
Mart	109.7	107.8	100.4	107.96	107.5	101.1	110.1	108.7	100.5
April	110.6	107.9	100.8	109.26	108.2	101.2	111.6	109.3	101.4
Maj	111.7	108.4	101.0	110.68	109.9	101.3	113.3	110.6	101.5
Jun	113.3	109.3	101.4	111.56	110.5	100.8	115.3	110.8	101.7
Jul	114.9	110.1	101.4	112.79	109.7	101.1	116.1	111.5	100.7
Avgust	115.7	110.2	100.6	113.13	109.8	100.3	116.5	112.1	100.3
Septembar	117.6	111.4	101.7	114.94	111.3	101.6	118.6	113.1	101.8
Oktobar	118.2	111.4	100.5	115.97	112.0	100.9	119.8	112.7	101.0
Novembar	119.6	111.8	101.2	116.32	111.4	100.3	120.9	112.8	101.0
Decembar	122.6	113.7	102.5	117.37	112.1	100.9	122.4	113.1	101.2
2005									
Januar	125.9	116.3	102.7	118.19	112.1	100.7	125.1	115.0	102.3
Februar	127.8	116.9	101.5	120.43	112.8	101.9	127.0	115.9	101.5
Mart	128.8	117.4	100.8	120.92	112.0	100.4	128.7	116.9	101.4
April	129.8	117.4	100.8	122.00	111.7	100.9	130.0	116.4	101.0
Maj	131.3	117.5	101.2	123.10	111.2	100.9	132.6	117.0	102.0
Jun	132.4	116.8	100.8	124.93	112.0	101.5	133.5	115.8	100.7
Jul	135.0	117.5	102.0	128.07	113.5	102.5	134.7	116.0	100.9
Avgust	135.6	117.2	100.4	128.85	113.9	100.6	134.8	115.7	100.1
Septembar	137.1	116.5	101.1	132.20	115.0	102.6	136.1	114.7	100.9
Oktobar	139.4	117.9	101.7	134.89	116.3	102.0	139.2	116.2	102.3
Novembar	141.1	118.0	101.2	0.00	0.0	0.0	141.0	116.6	101.3

Source: Republic of Serbia Statistics Bureau.

2. Exchange rates

Definitions

Exchange rate data are the NBS official mid rates dinar/foreign currency³⁴ calculated on daily basis. For analysis purposes, monthly data are used. These data are available on:

- End of period basis, i.e. the NBS official mid rate valid on the last day of the month, and
- Monthly average basis, i.e. the average of exchange rates for all working days during the month

Methodology

Source of data:

National Bank of Serbia (<http://www.nbs.yu/serbian/statistika/index.htm> or in English: <http://www.nbs.yu/english/statistics/index.htm>), and unofficial FREN's source.

Data available:

- Unofficial source: January 1994 onwards – monthly series.
- NBS: May 2002 onwards – daily series, January 2001 onwards – monthly series.

Series available:

January 1995 onwards:

- Dinar / US dollar NBS official mid rates, end of period and average exchange rate data on monthly, quarterly and yearly basis.
- Dinar / Euro NBS official mid rates, end of period and average exchange rate data on monthly, quarterly and yearly basis.
- Euro / US dollar cross rates for end of period data, and average exchange rate
- Dinar / Euro nominal and real: base index, y-o-y index and cumulative index
- Dinar / US dollar nominal and real: base index, y-o-y index and cumulative index

³⁴ The foreign currency here refers to the US dollar and Euro currencies.

Data tables**Table A4.1-3. Serbia: EURO and USD exchange rate¹⁾****1**

	End of period (EoP)		Averages		Cross rates			
	EUR	USD	EUR	USD	End of period (EoP)		Averages	
					EUR/USD	USD/EUR	EUR/USD	USD/EUR
Annual exchange rate								
2000	59.6528	64.2186	51.0887	56.5056	1.0765	0.9289	1.1060	0.9041
2001	59.7055	67.6702	59.4929	66.6991	1.1334	0.8823	1.1211	0.8920
2002	61.5152	58.9845	60.6763	64.5683	0.9589	1.0429	1.0641	0.9397
2003	68.3129	54.8872	64.9743	57.7990	0.8035	1.2446	0.8896	1.1241
2004	79.8900	58.6736	72.6215	58.6020	0.7344	1.3616	0.8070	1.2392
Quarterly exchange rate								
2000								
I quarter	44.9841	47.1530	43.4383	44.5243	1.0482	0.9540	1.0250	0.9756
II quarter	45.9620	48.7193	45.8360	49.2415	1.0600	0.9434	1.0743	0.9308
III quarter	73.3436	83.2124	53.4972	60.3180	1.1346	0.8814	1.1275	0.8869
IV quarter	59.6528	64.2186	61.5832	71.9387	1.0765	0.9289	1.1682	0.8561
2001								
I quarter	59.2834	67.2298	58.9987	64.6463	1.1340	0.8818	1.0957	0.9126
II quarter	59.3678	70.1667	59.4219	68.0760	1.1819	0.8461	1.1456	0.8729
III quarter	59.7593	65.4251	59.6172	67.2530	1.0948	0.9134	1.1281	0.8865
IV quarter	59.7055	67.6702	59.9338	66.8213	1.1334	0.8823	1.1149	0.8969
2002								
I quarter	60.2873	69.0655	60.0760	69.1400	1.1456	0.8729	1.1509	0.8689
II quarter	60.6413	61.3468	60.4773	65.6652	1.0116	0.9885	1.0858	0.9210
III quarter	60.9298	62.3323	60.8455	61.8757	1.0230	0.9775	1.0169	0.9834
IV quarter	61.5152	58.9845	61.3064	61.5922	0.9589	1.0429	1.0047	0.9954
2003								
I quarter	64.3829	60.1822	62.8849	58.6790	0.9348	1.0698	0.9331	1.0717
II quarter	64.2679	56.1588	64.6679	57.2556	0.8738	1.1444	0.8854	1.1295
III quarter	65.9556	57.5579	65.1449	58.5328	0.8727	1.1459	0.8985	1.1130
IV quarter	68.3129	54.8872	67.1996	56.7288	0.8035	1.2446	0.8442	1.1846
2004								
I quarter	69.8000	57.2178	69.2361	55.9171	0.8197	1.2199	0.8076	1.2382
II quarter	72.1759	59.3259	70.8080	58.5988	0.8220	1.2166	0.8276	1.2084
III quarter	75.0000	60.8272	73.4267	60.6188	0.8110	1.2330	0.8256	1.2113
IV quarter	79.8900	58.6736	77.0150	59.2732	0.7344	1.3616	0.7696	1.2993
2005								
I quarter	81.0520	62.4919	80.2421	61.0457	0.7710	1.2970	0.7608	1.3145
II quarter	82.7750	68.6531	81.8942	64.9630	0.8294	1.2057	0.7933	1.2606
III quarter	84.7000	70.2147	83.9171	68.7168	0.8290	1.2063	0.8189	1.2212
Monthly exchange rate								
2000								
January	43.0283	43.7011	42.7759	42.2582	1.0156	0.9846	0.9879	1.0123
February	44.0062	45.8875	43.1227	44.7943	1.0428	0.9590	1.0388	0.9627
March	44.9841	47.1530	44.4163	46.5203	1.0482	0.9540	1.0474	0.9548
April	45.9620	50.4411	45.5839	48.7970	1.0975	0.9112	1.0705	0.9342
May	45.9620	49.3472	45.9620	49.8941	1.0737	0.9314	1.0856	0.9212
June	45.9620	48.7193	45.9620	49.0333	1.0600	0.9434	1.0668	0.9374
July	46.9399	50.3271	46.7380	49.5232	1.0722	0.9327	1.0596	0.9438
August	57.6970	64.6609	51.5771	57.4940	1.1207	0.8923	1.1147	0.8971
September	73.3436	83.2124	62.1765	73.9366	1.1346	0.8814	1.1891	0.8409
October	60.6307	72.1105	65.2679	77.6614	1.1893	0.8408	1.1899	0.8404
November	59.6528	69.9903	59.8288	71.0504	1.1733	0.8523	1.1876	0.8421
December	59.6528	64.2186	59.6528	67.1044	1.0765	0.9289	1.1249	0.8890
2001								
January	58.6233	63.9293	59.1381	64.0739	1.0905	0.9170	1.0835	0.9230
February	58.9046	64.2855	58.7640	64.1074	1.0913	0.9163	1.0909	0.9166
March	59.2834	67.2298	59.0940	65.7577	1.1340	0.8818	1.1128	0.8987
April	59.3241	66.0550	59.3038	66.6424	1.1135	0.8981	1.1237	0.8899
May	59.6159	69.4746	59.4700	67.7648	1.1654	0.8581	1.1395	0.8776
June	59.3678	70.1667	59.4919	69.8207	1.1819	0.8461	1.1736	0.8521
July	59.6120	68.2844	59.4899	69.2256	1.1455	0.8730	1.1637	0.8594
August	59.6759	65.6787	59.6440	66.9816	1.1006	0.9086	1.1230	0.8905
September	59.7593	65.4251	59.7176	65.5519	1.0948	0.9134	1.0977	0.9110
October	59.9754	66.2050	59.8674	65.8151	1.1039	0.9059	1.0993	0.9096
November	60.0936	67.7111	60.0345	66.9581	1.1268	0.8875	1.1153	0.8966
December	59.7055	67.6702	59.8996	67.6907	1.1334	0.8823	1.1301	0.8849

Table A4.1-3. Serbia: EURO and USD exchange rate¹⁾

	End of period (EoP)		Averages		Cross rates			
	EUR	USD	EUR	USD	End of period (EoP)		Averages	
					EUR/USD	USD/EUR	EUR/USD	USD/EUR
Monthly exchange rate								
2002								
January	60.1772	69.5449	59.9414	68.6076	1.1557	0.8653	1.1446	0.8737
February	60.0543	69.5073	60.1158	69.5261	1.1574	0.8640	1.1565	0.8647
March	60.2873	69.0655	60.1708	69.2864	1.1456	0.8729	1.1515	0.8684
April	60.4420	66.9665	60.3647	68.0160	1.1079	0.9026	1.1268	0.8875
May	60.5257	64.8228	60.4839	65.8947	1.0710	0.9337	1.0895	0.9179
June	60.6413	61.3468	60.5835	63.0848	1.0116	0.9885	1.0413	0.9604
July	60.8093	61.9492	60.7253	61.6480	1.0187	0.9816	1.0152	0.9850
August	60.9415	61.8382	60.8754	61.8937	1.0147	0.9855	1.0167	0.9835
September	60.9298	62.3323	60.9357	62.0853	1.0230	0.9775	1.0189	0.9815
October	61.1005	62.1066	61.0152	62.2195	1.0165	0.9838	1.0197	0.9806
November	61.5961	62.0116	61.3483	62.0591	1.0067	0.9933	1.0116	0.9885
December	61.5152	58.9845	61.5557	60.4981	0.9589	1.0429	0.9828	1.0175
2003								
January	62.4138	57.7959	61.9645	58.3902	0.9260	1.0799	0.9423	1.0612
February	63.2918	58.6578	62.8528	58.2269	0.9268	1.0790	0.9264	1.0794
March	64.3829	60.1822	63.8374	59.4200	0.9348	1.0698	0.9308	1.0743
April	63.9865	58.3233	64.1847	59.2527	0.9115	1.0971	0.9232	1.0832
May	65.6918	55.2729	64.8392	56.7981	0.8414	1.1885	0.8760	1.1416
June	64.2679	56.1588	64.9799	55.7159	0.8738	1.1444	0.8574	1.1663
July	65.0318	58.8509	64.6499	57.5049	0.9050	1.1050	0.8895	1.1243
August	65.2911	59.8891	65.1615	59.3700	0.9173	1.0902	0.9111	1.0975
September	65.9556	57.5579	65.6234	58.7235	0.8727	1.1459	0.8949	1.1175
October	66.7753	57.1951	66.3655	57.3765	0.8565	1.1675	0.8646	1.1567
November	67.6892	56.7686	67.2323	56.9819	0.8387	1.1924	0.8475	1.1799
December	68.3129	54.8872	68.0011	55.8279	0.8035	1.2446	0.8210	1.2180
2004								
January	68.8832	55.5823	68.7405	55.2348	0.8069	1.2393	0.8035	1.2445
February	69.5171	56.1165	69.4133	55.8494	0.8072	1.2388	0.8046	1.2429
March	69.8000	57.2178	69.5546	56.6672	0.8197	1.2199	0.8147	1.2274
April	70.3793	59.4771	70.0771	58.3475	0.8451	1.1833	0.8326	1.2010
May	71.1660	58.0473	70.7521	58.7622	0.8157	1.2260	0.8305	1.2040
June	72.1759	59.3259	71.5949	58.6866	0.8220	1.2166	0.8197	1.2200
July	72.9793	60.5537	72.6567	59.9398	0.8297	1.2052	0.8250	1.2122
August	73.7347	61.2262	73.2559	60.8899	0.8304	1.2043	0.8312	1.2031
September	75.0000	60.8272	74.3674	61.0267	0.8110	1.2330	0.8206	1.2186
October	76.2500	59.7665	75.6250	60.2968	0.7838	1.2758	0.7973	1.2542
November	77.3500	58.3026	76.8000	59.0345	0.7538	1.3267	0.7687	1.3009
December	79.8900	58.6736	78.6200	58.4881	0.7344	1.3616	0.7439	1.3442
2005								
January	80.2868	61.5177	79.8494	60.0957	0.7662	1.3051	0.7526	1.3287
February	80.5195	61.0366	80.1272	61.2772	0.7580	1.3192	0.7647	1.3076
March	81.0520	62.4919	80.7498	61.7643	0.7710	1.2970	0.7649	1.3074
April	81.4979	63.0545	81.3236	62.7732	0.7737	1.2925	0.7719	1.2955
May	82.0400	65.5376	81.8419	64.3685	0.7988	1.2518	0.7865	1.2715
June	82.7750	68.6531	82.5172	67.7475	0.8294	1.2057	0.8210	1.2180
July	83.6301	69.1901	82.9982	68.9354	0.8273	1.2087	0.8306	1.2040
August	84.4300	69.1030	84.2574	68.3235	0.8185	1.2218	0.8109	1.2332
September	84.7000	70.2147	84.4958	68.8916	0.8290	1.2063	0.8153	1.2265
October	85.5261	70.3687	85.1413	70.7965	0.8228	1.2154	0.8315	1.2026
November	86.3710	73.0843	86.0770	72.8893	0.8462	1.1818	0.8468	1.1809

Source: NBS.

1) Official mid exchange rate.

Table A4.1-4. Serbia: Euro/Dinar Exchange Rate, 2000-2005**1**

	Nominal average				Real average				CPI in Euro area ⁴⁾ (Dec. 2002=100)
	Exchange rate (FX) ¹⁾	Base index (Dec. 2002=100)	y-o-y index	Cumulative index ²⁾	Real FX ³⁾ (Dec. 2002=100)	y-o-y index	Cumulative index ²⁾	USD/EUR rate	
Annual exchange rate									
2000	51.0887	83.0	202.8	144.9	199.4	126.1	69.9	0.9041	94.9
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	104.7	85.7	91.5	0.9397	99.0
2003	64.9743	105.6	107.1	110.5	102.4	97.8	104.3	1.1241	101.0
2004	72.6215	118.0	111.8	115.6	106.3	103.8	104.0	1.2392	103.0
Quarterly exchange rate									
2000									
I quarter	43.4383	70.6	245.8	107.9	222.7	174.0	103.8	0.9756	94.1
II quarter	45.8360	74.5	209.7	111.6	213.5	142.5	95.7	0.9308	94.8
III quarter	53.4972	86.9	217.2	151.0	220.2	143.7	112.2	0.8869	95.1
IV quarter	61.5832	100.0	168.2	144.9	166.3	87.3	69.9	0.8561	95.8
2001									
I quarter	58.9987	95.8	135.8	99.1	140.1	62.9	92.3	0.9126	95.9
II quarter	59.4219	96.5	129.6	99.7	125.5	58.8	81.2	0.8729	97.3
III quarter	59.6172	96.9	111.4	100.1	116.5	52.9	76.5	0.8865	97.3
IV quarter	59.9338	97.4	97.3	100.4	110.8	66.6	72.7	0.8969	97.6
2002									
I quarter	60.0760	97.6	101.8	100.5	108.3	77.3	98.8	0.8689	98.2
II quarter	60.4773	98.2	101.8	101.1	107.7	85.8	98.3	0.9210	99.1
III quarter	60.8455	98.8	102.1	101.7	103.1	88.4	94.0	0.9834	99.2
IV quarter	61.3064	99.6	102.3	102.8	100.5	90.7	91.5	0.9954	99.7
2003									
I quarter	62.8849	102.2	104.7	103.7	101.1	93.4	102.7	1.0717	100.3
II quarter	64.6679	105.1	106.9	105.6	102.9	95.5	102.7	1.1295	100.9
III quarter	65.1449	105.8	107.1	106.6	101.9	98.9	102.4	1.1130	101.1
IV quarter	67.1996	109.2	109.6	110.5	103.7	103.2	104.3	1.1846	101.6
2004									
I quarter	69.2361	112.5	110.1	102.3	105.1	104.0	101.1	1.2382	101.9
II quarter	70.8080	115.0	109.5	105.3	106.0	103.0	101.5	1.2084	103.1
III quarter	73.4267	119.3	112.7	109.4	106.1	104.1	101.8	1.2113	103.2
IV quarter	77.0150	125.1	114.6	115.6	108.1	104.3	104.0	1.2993	103.8
2005									
I quarter	80.2421	130.4	115.9	102.7	106.4	101.2	98.2	1.3145	104.0
II quarter	81.8942	133.0	115.7	105.0	106.7	100.7	98.4	1.2606	105.2
III quarter	83.9171	136.3	114.3	107.5	105.9	99.9	97.8	1.2212	105.6
Monthly exchange rate									
2000									
January	42.7759	69.5	261.2	103.9	222.9	185.2	103.7	1.0123	93.7
February	43.1227	70.1	248.4	104.7	222.1	176.7	103.3	0.9627	94.1
March	44.4163	72.2	230.4	107.9	223.1	162.2	103.8	0.9548	94.5
April	45.5839	74.1	207.5	110.7	221.4	145.5	103.0	0.9342	94.5
May	45.9620	74.7	211.2	111.6	214.0	143.3	99.6	0.9212	94.7
June	45.9620	74.7	210.4	111.6	205.8	139.0	95.7	0.9374	95.0
July	46.7380	75.9	208.4	113.5	203.1	136.1	94.5	0.9438	94.9
August	51.5771	83.8	212.5	125.2	214.3	137.5	99.7	0.8971	95.0
September	62.1765	101.0	228.7	151.0	241.1	156.0	112.2	0.8409	95.5
October	65.2679	106.0	192.1	158.5	200.0	112.6	93.1	0.8404	95.5
November	59.8288	97.2	172.4	145.3	154.4	86.1	71.8	0.8421	95.7
December	59.6528	96.9	144.9	144.9	150.3	69.9	69.9	0.8890	96.1
2001									
January	59.1381	96.1	138.3	99.1	143.5	64.4	95.5	0.9230	95.5
February	58.7640	95.5	136.3	98.5	138.4	62.3	92.1	0.9166	95.8
March	59.0940	96.0	133.0	99.1	138.7	62.1	92.3	0.8987	96.3
April	59.3038	96.3	130.1	99.4	128.1	57.9	85.3	0.8899	97.0
May	59.4700	96.6	129.4	99.7	126.6	59.2	84.3	0.8776	97.4
June	59.4919	96.6	129.4	99.7	122.0	59.3	81.2	0.8521	97.5
July	59.4899	96.6	127.3	99.7	118.8	58.5	79.1	0.8594	97.2
August	59.6440	96.9	115.6	100.0	116.0	54.1	77.2	0.8905	97.2
September	59.7176	97.0	96.0	100.1	114.9	47.7	76.5	0.9110	97.5
October	59.8674	97.3	91.7	100.4	112.4	56.2	74.8	0.9096	97.6
November	60.0345	97.5	100.3	100.6	110.8	71.7	73.7	0.8966	97.4
December	59.8996	97.3	100.4	100.4	109.3	72.7	72.7	0.8849	97.9

Table A4.1-4. Serbia: Euro/Dinar Exchange Rate, 2000-2005**2**

	Nominal average				Real average				CPI in Euro area ⁴⁾ (Dec. 2002=100)
	Exchange rate (FX) ¹⁾	Base index (Dec. 2002=100)	y-o-y index	Cumulative index ²⁾	Real FX ³⁾ (Dec. 2002=100)	y-o-y index	Cumulative index ²⁾	USD/EUR rate	
Monthly exchange rate									
2002									
January	59.9414	97.4	101.4	100.1	108.7	75.8	99.5	0.8737	97.9
February	60.1158	97.7	102.3	100.4	108.1	78.1	98.9	0.8647	98.0
March	60.1708	97.8	101.8	100.5	108.0	77.9	98.8	0.8684	98.6
April	60.3647	98.1	101.8	100.8	107.9	84.2	98.7	0.8875	99.0
May	60.4839	98.3	101.7	101.0	107.8	85.2	98.7	0.9179	99.2
June	60.5835	98.4	101.8	101.1	107.4	88.0	98.3	0.9604	99.2
July	60.7253	98.7	102.1	101.4	103.3	86.9	94.5	0.9850	99.0
August	60.8754	98.9	102.1	101.6	103.2	89.0	94.5	0.9835	99.1
September	60.9357	99.0	102.0	101.7	102.7	89.3	94.0	0.9815	99.4
October	61.0152	99.1	101.9	101.9	101.5	90.4	92.9	0.9806	99.6
November	61.3483	99.7	102.2	102.4	100.0	90.3	91.5	0.9885	99.6
December	61.5557	100.0	102.8	102.8	100.0	91.5	91.5	1.0175	100.0
2003									
January	61.9645	100.7	103.4	100.7	99.7	91.7	99.7	1.0612	99.8
February	62.8528	102.1	104.6	102.1	100.9	93.3	100.9	1.0794	100.3
March	63.8374	103.7	106.1	103.7	102.7	95.1	102.7	1.0743	100.8
April	64.1847	104.3	106.3	104.3	102.7	95.2	102.7	1.0832	101.0
May	64.8392	105.3	107.2	105.3	103.2	95.7	103.2	1.1416	100.9
June	64.9799	105.6	107.3	105.6	102.7	95.6	102.7	1.1663	100.9
July	64.6499	105.0	106.5	105.0	101.4	98.2	101.4	1.1243	100.8
August	65.1615	105.9	107.0	105.9	101.9	98.8	101.9	1.0975	101.1
September	65.6234	106.6	107.7	106.6	102.4	99.7	102.4	1.1175	101.4
October	66.3655	107.8	108.8	107.8	103.1	101.6	103.1	1.1567	101.5
November	67.2323	109.2	109.6	109.2	103.6	103.6	103.6	1.1799	101.5
December	68.0011	110.5	110.5	110.5	104.3	104.3	104.3	1.2180	101.8
2004									
January	68.7405	111.7	110.9	101.1	104.8	105.2	100.5	1.2445	101.6
February	69.4133	112.8	110.4	102.1	105.0	104.1	100.7	1.2429	101.8
March	69.5546	113.0	109.0	102.3	105.5	102.7	101.1	1.2274	102.4
April	70.0771	113.8	109.2	103.1	105.8	102.9	101.4	1.2010	102.8
May	70.7521	114.9	109.1	104.0	106.2	102.9	101.8	1.2040	103.2
June	71.5949	116.3	110.2	105.3	105.9	103.2	101.5	1.2200	103.2
July	72.6567	118.0	112.4	106.8	105.8	104.3	101.4	1.2122	103.0
August	73.2559	119.0	112.4	107.7	106.2	104.2	101.8	1.2031	103.2
September	74.3674	120.8	113.3	109.4	106.2	103.7	101.8	1.2186	103.4
October	75.6250	122.9	114.0	111.2	107.8	104.6	103.4	1.2542	103.8
November	76.8000	124.8	114.2	112.9	108.1	104.4	103.6	1.3009	103.7
December	78.6200	127.7	115.6	115.6	108.5	104.0	104.0	1.3442	104.1
2005									
January	79.8494	129.7	116.2	101.6	106.7	101.8	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	98.2	1.3074	104.6
April	81.3236	132.1	116.0	103.4	106.8	101.0	98.5	1.2955	105.0
May	81.8419	133.0	115.7	104.1	106.6	100.4	98.2	1.2715	105.3
June	82.5172	134.1	115.3	105.0	106.7	100.7	98.4	1.2180	105.4
July	82.9982	134.8	114.2	105.6	105.1	99.4	96.9	1.2040	105.3
August	84.2574	136.9	115.0	107.2	106.5	100.3	98.2	1.2332	105.5
September	84.4958	137.3	113.6	107.5	106.1	100.0	97.8	1.2265	106.0
October	85.1413	138.3	112.6	108.3	105.6	97.9	97.3	1.2026	106.4
November	86.0770	139.8	112.1	109.5	-	-	-	1.1809	NA

Source: NBS, Eurostat (www.epp.eurostat.ec.eu.int)

1) Month average, official daily NBS mid rate.

2) Cumulative index: ratio of end of given period and December of previous year. For example, in annual indices cumulative for 2002 - December 2002 divided by December 2001; in quarterly indices cumulative for II quarter of 2003 - June 2003 divided by December 2002, etc.

3) Real fx calculation include Euro area inflation.

4) "Harmonized indices of consumer prices", annual and quarterly data - averages of monthly data.

II PRODUCTION STATISTICS

- **Gross Domestic Product in Constant Prices**
- **Index of Industrial Production**
- **Construction in Serbia**
- **Transport, Storage and Communications Services**
- **Index of Agricultural Production**

1. Gross Domestic Product in Constant Prices

- **Definitions**
- **Methodology**
- **Data Tables**
 - A4.2-2 GDP in 2002 prices: Growth Rates and Sector Shares, 2000-2005
Frequency: Annual and quarterly
 - A4.2-3 GDP in 2002 prices: Growth Rates by Activity Sector, 2000-2005
Frequency: Annual and quarterly

Definitions

Gross Domestic Products (GDP) in market prices, is measured as the sum total of value added (VA) from all economic activities in constant prices plus taxes less subsidies on products in constant prices.

Gross value added of each sector is estimated as aggregated value of GDP in constant prices calculated for corresponding divisions.

Methodology

The calculation of the Gross Domestic Product (GDP) is based on the Classification of Activities at the level of sections and divisions, applying the production approach, at constant prices (base year 2002). It is entirely based on the single extrapolation method, combining output and input indicators.

GDP valued in market prices, is measured from the production side as the gross value added by the industry i.e. as the sum total of value added from all economic activities in constant prices plus taxes less subsidies on products in constant prices.

Gross value added of each activity (section) is estimated as aggregated value of Gross Domestic Products in constant prices calculated for corresponding divisions.

At the sectors' level, the estimation was conducted by multiplying gross value added at basic prices of the base year (2002), with corresponding indices of volume changes (referred to period is 2002). This method is entirely based on the single (indirect) indicator method and represents direct GDP estimation in constant prices using input or output indicators. It is assumed that in the short term, the indicator is in direct correlation with value added movement, as well as, that input output relations do not change in a short period.

The basic indicators used in GDP estimations are data on production and turnover volume (as output indicators) and prices. Data on employment (input indicators) are mainly used for services which comprise the following sectors: government and social security, education, health and other social and personal services. List of indicators used to calculate GDP by sectors are shown in Table A5.2-19.

Table A4.2-1. Indicators for Calculation of GDP by Sectors, in constant prices 2002

	Activity	Indicator
A	01 Agriculture	- Physical Volume Index of Agricultural Production – net - Value of Sales and Purchase of Agricultural Products at current prices - Index of Producer Prices for Agricultural Products
	02 Forestry	Physical Volume Index of Forest Exploitation
	03 Water Works Supply	Index of Number of Employees
B	Fishing	Index of Number of Employees
V	Mining and Quarrying	Physical Volume Index of Production
G	Manufacturing	Physical Volume Index of Production
D	Electricity, Gas and Water Supply	Physical Volume Index of Production
Đ	Construction	Index of Working Hours
E	Wholesale and Retail Trade; Repairs	- Retail Sales Turnover Value at current prices - Index of Retail Prices (excl. electricity) - Turnover Value at current prices - Wholesale Price Index
Ž	Tourism and Catering Trade	- Value of Catering Turnover at current prices - Price Index of Catering Services - Index of Number of Tourist Overnight Stays
Z	Transport, Storage and Communications	- Physical Volume Indices of Services in Transport and PTT, calculated from the following indicators: - ton-kilometers - passenger-kilometers - M ³ -kilometers (for gas transport) - cargo handling - mail services, parcels - impulses (telephone and telegraph), paging system, data transfer - Yu-PAK network - for transport services sector 63 - Index of Number of Employees
I	Financial Intermediation	- Monthly Stock of Deposits and Credit with Commercial Banks - Number of Employees
J	Real Estate, Renting and Business Services	- Area of Newly Constructed Apartments - Number of Inhabitants - Behavior of Gross Value Added excl. sector J - Number of Employees
K	Government Administration; Compulsory Social Insurance	Index of Number of Employees
L	Education	Index of Number of Employees
LJ	Health and Social Work	Index of Number of Employees
M	Other Communal, Social and Personal Services	Index of Number of Employees
N	Private Households with Employees	Index of Number of Employees

Source: SBS

Issues

There are several weak points, which might question the representative quality of the actual development of GDP per quarters in this calculation of GDP.

First, the assumption that the fluctuation of variable used in the direct evaluation of value added in the fixed prices is in direct co-relation with the fluctuation of the value added is slightly probable. On the other hand, the assumption that the relations between the output, interstage consumption and the value added are unchanged can hardly be accepted, in the short run. A research on VA in the industry in 2001 and 2002 that was published in the *Economic Annals 2004* could be mentioned as an evidence of this claim. It showed that (due to the differences in the productivity, price control, subventions) in the processes of transition and privatisation, in particular, there was a great discrepancy between the value added and the physical scope of production. Approximation of VA by scope is a method used across the world but at this moment – before the privatisation is completed – it will provide wrong results in our country. A correction method must be established here, perhaps based on the evaluation of the change of relations between these developments in the annual results (using the annual financial statements).

Second, the question is to what extent the performed working hours are representative for the development in civil engineering, since the assumption of the productivity increase in this field could be taken as a realistic one (For details, see the section relating to civil engineering).

Third, in some production activities and in the majority of services the index of the number of employees is used as an indicator to calculate VA. Under the circumstances of the lay-off of the excess of labor, this indicator shall by all means underestimate VA development.

In the fourth place, the calculation according to the verge method (the previous year is always = 100), including the evaluation of deflators for certain categories, should have an advantage in relation to the calculation by fixed prices based on one fixed basic year. Due to rapid changes in the structure of GDP formation, in respect of both the production and the price relations, but because of the frequent change of ponders of certain subsectors (See the section relating to the industry) as well, the calculation by fixed prices might underestimate VA fluctuations and thus the very GDP, too.

Data Tables

Table A4.2-2. GDP in 2002 prices: Growth Rates and Sector Shares, 2000-2005

	GDP at market prices 2002		VA at basic prices		Shares in GDP at factor costs ⁽¹⁾ , %											
	Values (mil. din)	Growth rates (%)	Values (mil. din)	Growth Rates (%)	Agriculture, Hunting and Forestry; Fishing	Mining and Quarrying	Manufacturing	Electricity, Gas and Water Supply	Construction	Wholesale and Retail Trade; Repairs	Hotels and Restaurants	Transport, Storage and Communications	Financial Intermediation	Real Estate, Renting and Business Services	Other Services	
Annual Indices																
2000	836.920,9	5,2	11,4	741.248,1	4,8	15,6	2,2	23,8	4,3	5,1	7,6	1,3	8,0	7,0	10,1	14,9
2001	879.482,7	5,1	13,1	763.934,6	3,1	17,7	2,0	22,3	4,2	4,2	8,1	1,2	9,1	6,3	9,9	14,8
2002	919.230,3	4,5	16,1	771.492,0	1	17,0	1,9	21,5	4,1	3,9	9,2	1,2	9,2	7,0	10,0	14,9
2003	941.616,0	2,4	17,2	779.824,8	1,1	15,7	2,0	20,0	4,2	4,3	10,1	1,2	10,0	7,5	10,1	14,9
2004	1.022.635,4	8,6	17,2	846.351,5	8,5	17,2	1,9	20,0	3,9	4,1	10,2	1,1	10,6	7,6	9,5	14,0
Quarterly Indices																
2001																
I quarter	201.289,2	2,4	11,7	177.764,0	1,5	14,5	2,2	22,8	5,0	4,0	7,6	1,3	9,7	6,6	10,4	15,8
II quarter	212.550,2	-1,6	12,9	185.067,5	-2,2	15,7	1,8	22,8	4,1	4,6	8,2	1,3	9,6	6,5	10,2	15,2
III quarter	223.804,3	2,5	13,5	193.534,4	1	20,1	1,9	20,9	3,7	4,5	8,1	1,3	9,0	6,2	9,8	14,6
IV quarter	241.839,0	17,4	14,2	207.568,8	12	20,2	2,0	22,8	4,2	3,9	8,3	1,1	8,3	6,0	9,5	13,8
2002																
I quarter	204.585,6	1,6	14,8	174.338,3	-1,9	14,2	2,3	21,2	5,1	3,5	8,8	1,2	9,3	7,2	10,7	16,6
II quarter	222.820,2	4,8	15,9	187.380,4	1,2	15,5	1,8	21,9	4,1	4,2	9,3	1,4	9,3	6,8	10,3	15,4
III quarter	241.110,8	7,7	16,3	201.861,3	4,3	19,3	1,8	21,0	3,5	4,0	9,1	1,3	9,3	7,0	9,6	14,2
IV quarter	250.713,7	3,7	17,1	207.911,9	0,2	18,4	1,9	21,7	4,0	3,8	9,5	1,1	9,1	7,1	9,6	13,9
2003																
I quarter	207.359,6	1,4	15,5	175.281,0	0,5	14,2	2,0	19,1	5,3	3,5	9,6	1,2	9,9	8,1	10,6	16,5
II quarter	233.504,0	4,8	17,6	192.374,7	2,7	14,8	1,9	20,6	4,0	4,3	10,2	1,3	10,0	7,6	10,2	15,1
III quarter	244.558,9	1,4	17,6	201.422,1	-0,2	17,1	2,0	19,5	3,5	4,7	9,8	1,3	10,3	7,4	9,9	14,5
IV quarter	256.193,4	2,2	17,7	210.747,0	1,4	16,3	2,1	20,5	4,2	4,4	10,9	1,1	9,7	7,1	9,7	13,9
2004																
I quarter	221.984,0	7,1	16,5	185.342,6	5,7	13,6	2,2	20,0	5,1	3,6	9,4	1,1	10,9	8,1	10,2	15,8
II quarter	244.656,1	4,8	17,7	201.335,6	4,7	13,9	1,7	21,8	3,3	4,3	10,6	1,2	10,9	7,8	10,0	14,7
III quarter	265.981,2	8,8	17,2	220.242,6	9,3	19,5	1,8	18,8	3,5	4,4	10,0	1,2	10,8	7,4	9,2	13,4
IV quarter	290.014,0	13,2	17,4	239.430,8	13,6	20,5	1,8	19,8	3,8	3,9	10,7	0,9	10,1	7,2	8,8	12,4
2005																
I quarter	233.422,1	5,3	18,1	191.163,6	3,1	12,8	2,1	18,0	5,1	2,9	10,8	1,1	12,6	9,1	9,8	15,6
II quarter	261.372,8	6,8	18,6	212.607,3	5,6	13,4	1,7	19,9	3,4	3,7	12,1	1,1	12,6	8,5	9,5	13,9

Source: SBS

Table A4.2-3. GDP in 2002 prices: Growth Rates by Activity Sector, 2000-2005

	Agriculture, Hunting and Forestry; Fishing	Mining and Quarrying	Manufacturing	Electricity, Gas and Water Supply	Construction	Wholesale and Retail Trade; Repairs	Hotels and Restaurants	Transport, Storage and Communications	Financial Intermediation	Real Estate, Renting and Business Services	Other Services
Annual Indices											
2000	-12,4	9,8	15,6	1,4	16,8	14,3	22,9	26,6	-7,3	1,2	0,8
2001	17,4	-9,3	-3,3	0,7	-14,3	9,8	-1,8	16,7	-7,2	1,4	2,2
2002	-3,2	-0,1	-2,8	-1,6	-7,4	14,9	0,6	2,4	11,6	1,6	1,7
2003	-7	5,1	-6	3,1	10,8	11,6	-1,8	9,5	9	1,8	1,2
2004	18,9	1,4	8,9	0	3,5	9,2	-0,7	15,6	9,5	2	1,5
Quarterly Indices											
2001											
I quarter	2,3	-13,5	0,6	-8,3	-11,2	8,7	-2,2	29,7	-12,9	1,4	2,3
II quarter	7,0	-12,2	-12,9	1,7	-14,1	1,2	-1,3	21,9	-11,8	-1,4	1,8
III quarter	23,1	-13,3	-7,7	-3,3	-17,4	2,1	-9,1	9,9	-10,3	-0,6	2,0
IV quarter	32,9	2,6	8,3	15,2	-13,7	29,6	8,0	8,0	8,9	6,3	2,6
2002											
I quarter	-4,0	2,6	-8,7	-0,7	-13,9	13,2	-6,9	-6,2	5,6	0,5	2,7
II quarter	0,1	2,9	-2,4	0,3	-7,0	15,1	4,1	-1,6	5,6	1,9	2,2
III quarter	0,5	-1,7	5,0	-1,5	-5,9	16,7	1,2	6,9	16,8	2,8	1,3
IV quarter	-8,5	-3,9	-4,9	-4,1	-3,7	14,4	3,9	10,5	17,9	1,2	0,7
2003											
I quarter	0,1	-12,6	-9,4	4,9	1,5	9,6	-4,2	7,6	14,2	-0,5	0,2
II quarter	-1,9	6,9	-3,6	1,3	4,3	11,8	-2,8	11,0	15,0	1,9	0,6
III quarter	-11,9	14,1	-7,2	0,6	15,9	8,0	2,6	11,1	5,8	2,4	1,9
IV quarter	-10,4	13,4	-4,1	4,7	19,3	16,4	-3,5	8,1	2,5	3,3	2,0
2004											
I quarter	1,9	16,6	10,6	1,5	9,3	3,0	-0,1	15,9	5,7	1,5	1,3
II quarter	-1,7	-5,2	10,6	-15,1	4,2	8,8	-0,7	13,1	7,0	2,2	1,9
III quarter	24,5	-3,1	5,0	9,4	2,5	11,7	-1,3	14,7	10,0	2,0	1,4
IV quarter	42,8	-1,1	9,5	4,1	0,2	11,8	-0,4	18,6	15,0	2,3	1,1
2005											
I quarter	-2,9	-1,7	-7,0	4,4	-19,2	18,9	1,7	19,7	15,4	-0,5	2,0
II quarter	1,6	6,2	-3,5	10,0	-7,3	21,3	-5,9	22,4	16,3	1,2	0,2

Source: SBS

2. Index of Industrial Production

- **Definitions**
- **Methodology**
- **Data Tables**
 - A4.2-7. Index of Industrial Production: Base Index, 2001=100; Chain Index; Year-on-Year Index, 2001-2005
Frequency: Annual, quarterly and monthly
 - A4.2-8. Index of Industrial Production by Use: Base Index, 2001=100, 2001-2005
Frequency: Annual, quarterly and monthly
 - A4.2-9. Index of Industrial Production by Use: Year-on-Year Index, 2001-2005
Frequency: Annual, quarterly and monthly
 - A4.2-10. Index of Industrial Production by Sub-sectors: Base Index, 2001=100, 2001-2005
Frequency: Annual, quarterly and monthly
 - A4.2-11. Index of Industrial Production by Sub-sectors: Year-on-Year Index, 2001-2005
Frequency: Annual, quarterly and monthly
 - A4.2-12. Industrial Production: Sectors and Sub-sectors Weights, 2004-2005

Definitions

The Statistics Bureau of Republic of Serbia (SBS) covers industrial production with an index of volume. Indices are calculated for the current month against the average in the previous year, and the current quarter against the average in the preceding year. Indices are also calculated for the current month/year/year-to-date period compared to the same month/year/year-to-date period in the previous year:

$$I_{m-1}^m = \frac{I_{a-1}^m}{I_{a-1}^{m-1}}, \quad (\text{A5.2-1})$$

where:

I_{m-1}^m - current monthly index in relation to the same month of the previous year

I_{a-1}^m - current monthly index with the preceding year average

I_{a-1}^{m-1} - index from the same month of the preceding year with that year average

m - current month/quarter/year-to-date period

a - current year

The Classification of Activities is a general international standard according to which enterprises are put into different categories. The content of the activity is defined hierarchically.

Methodology

The SBS collects data on industrial production on annual and monthly bases. The basic set, from which enterprises receiving the questionnaire are selected, is the Registry of Classification Units maintained by the Republic of Serbia Statistics Bureau. The observation units are all the companies classified into the sector Industry according to the Classification of Activities, as well as parts of non-industrial companies performing industrial activities. A company is divided into as many observation units as there are municipalities in whose territories it performs its activity. The number of respondents depends on the type of the survey. Questionnaires are mailed from regional centers. In case a firm failed to fill in the questionnaire, a phone call is made to it. Two questionnaires are used for monthly and one for annual data collection.

Monthly data collection:

The monthly questionnaire IND-1 is sent to reporting units of 20 or more employees, which make at least 80% of the total value added for each industrial sector. This implies that, theoretically, if there are only firms with less than 20 employees in a section, the questionnaire will not be sent at all, and the entire production of that section will not be covered. This questionnaire gathers data on total quantities produced, on stock at the end of the surveyed month, on quantities sold since the start of the surveyed year and on the number of employees in production processes. The number of firms which are receiving the questionnaire is reportedly around 2800. Reportedly, 95% of the respondents fill in the questionnaire, while the rest is estimated, and thus the coverage is considered to be full (we shall get back to the issue of the relevance of this piece of information).

Since 2004, the IND-sample questionnaire for small enterprises gathers monthly data on realized revenues from sales of goods and services, on the total number of employees in a sector, and on the number of employees engaged directly in production processes. In order for the enterprises to be sampled, they need to fulfill all the following criteria:

1. Belong to the manufacturing industry;
2. Not be included in monthly and annual industry research (IND-1 and IND-21);

3. Operate for at least three years;
4. Have a unique identification number in the database of the Registry of Classification Units, with the balance that fits the balance of final accounts (from the Solvency Centre);
5. Have less than 50 employees, and
6. Have positive revenues.

The pool for the choice of the enterprise sample is part of the basic set from which 5% of the enterprises have been removed, since they have the lowest revenues from sales of goods and services in their final accounts according to the financial reports submitted to the Solvency Center. The sample is a stratified rotational simple random sample without repetition. Stratification is based on sales revenues, and then further on the sector of activity. At present, the survey covers around 350 firms (the number varied from month to month and ranged between 300 and 350). Reportedly, the degree of replies also varied from month to month and ranged between 20% and 50%. The production of firms which failed to fill in the questionnaire is not estimated.

The aim of the IND-sample questionnaire is to, based on the samples, gather data on revenues from sales of own products of those enterprises not surveyed in the monthly IND-1 research. Then, the production behavior index of that set is assessed, and the monthly index of industrial production of the manufacturing industry is adjusted. The adjustment is performed by weighting the indices obtained by means of the regular monthly research and indices obtained by means of the sample method with respective shares of enterprise in the revenues of the whole industry, generated through the sales of own products and services. That is how an adjusted index of the manufacturing industry is obtained.

Annual data collection:

The annual research serves to collect basic physical volume and value data on industry, i.e. to present changes in the structure and changes in qualitative properties (technological advancement). Data which are collected include data on production, capacities and their utilization, on the process of modernization, as well as data which enable the establishing of links between value indicators and indicators of physical volumes.

Officially, all large and medium-sized enterprises, defined as such by the Accounting and Auditing Law (FRY Official Gazette no. 71/2002, Article 4), are covered, as is a number of small-sized enterprises, which are representative of the activity they perform and which the statistics specially puts under an obligation to submit reports. The coverage is demonstrated by a directory, which constitutes a list of all the companies, and their parts, obliged to submit Annual Industry Reports. The directory is compiled on the basis of the Registry of Classification Units.

A method which is used for collecting data is the reporting method. Sources of data are accounting, human resources and other records and documentation of the reporting unit. For the conduct of the research, the Nomenclature of Industrial Products is used. The report is submitted on the IND-21 form to the competent statistical authority (regional statistical centers) in the time limit set by it (which is ten days in most of the cases).

Classification of Activities and Nomenclature of Industrial Products

The Classification of Activities is a general standard according to which enterprises are put into different categories. The content of the activity is defined hierarchically. The United Nations published in 1990 the most recent version of the International Standard Industrial Classification of All Economic Activities (ISIC, revision 3). The Classification of Activities of the European Union (NACE, revision 1) is identical to the ISIC classification up to the two-digit level, and completely comparable with it. The European classification was further elaborated to the four-digit level for the needs of the European Union.

The Single Classification of Activities (JKD), which was used in our country before 1 January 2004, was not identical to any of the international classifications, or to a classification of any other country. In JKD, the terms which were used for the levels of aggregation were sections,

branches, groups and sub-groups, but content-wise these terms are not comparable with those same terms in NACE, revision 1. It was possible to reduce the Single Classification of Activities to the two-digit level of the EU classification of activities. Yet, there were differences both in the structure, that is, in the content of individual categories, and in the classification units. Very often, it was difficult to eliminate this second difference, and that fact has also posed the main problem in the switch from JKD to a new Classification of Activities.

As of 1 January 2005, the new Classification of Activities (KD) is in use, which is based on NACE, revision 1, a classification also going to the four-digit level, and is identical to it. The classification has been further elaborated, with a view to meeting specific needs of the domestic economy, by introducing the fifth digit (where necessary). The highest level of aggregation is the level of sectors and sub-sectors. They are followed by sections, groups and sub-groups.

Table A4.2-4. Overview of the number of lines in the classifications

	Alphabetic code		Two-digit lines	Three-digit lines	Four-digit lines	Five-digit lines
	Sector	Sub-sector				
ISIC, rev. 3	17	-	60	159	292	-
NACE, rev. 1	17	16	60	222	506	-
JKD	14	-	80	189	463	-
KD	17	18	60	222	506	609

Source: Federal Bureau of Statistics

For the purposes of reconstruction of data series the so-called "correlation tables – links" were developed on the basis of which it is possible to translate the data presented according to JKD categories into KD categories. The statistics itself, however, stresses that in many cases it is not possible to implement it consistently³⁵ (more about the problems surrounding the switch from JKD to KD in the text below).

The beginning of the implementation of the Classification of Activities (KD) in the SaM statistical system gave rise to the change of other statistical standards as well. The Nomenclature of Industrial Products is one of these standards, which has been harmonized with KD, as well as with the Classification of Products by Activity (CPA), which classifies products and services into activities in which they were produced. The nomenclature has been applied since 2001 for the annual collection of data, and since 2004 for the monthly and quarterly collection. It means that there existed two nomenclatures in the meanwhile, which were quite unaligned as they differed by 960 products.

Calculation of the Industrial Production Index

The calculation of the index of industrial production is conducted in two phases.

In the **first phase**, based on the data on quantities and the Weight System, indices for sub-groups, groups and sections are obtained as ratios of the quantities of products of the current and base periods weighted and aggregated with the weight from the base period. The weights are derived as the value added per unit of measurement of each product/service from the Nomenclature. The value added per measurement unit of a product is arrived at by calculating the average value per measurement unit for each product/service, which is then reduced by material costs. The average value per measurement unit of a product is obtained on the basis of the data from the research Annual Industry Report and constitutes the quotient of total revenue for a particular product/service and its sold quantities. In the next phase, on the basis of data from the Complex Annual Report³⁶, material costs are excluded from the average value

³⁵ Methodological Materials 329, Federal Statistical Bureau, 1997.

³⁶ SBS, *Methodologies and Standards* 10: "The gross social product = invoiced sales +/- extraordinary revenue and expenditure +/- movements in inventories + sales tax; the social product = gross social product – material costs and production services". The official statistics still uses the gross social product and social product.

by multiplying it with the coefficient obtained as a ratio between the social product of a particular group and the gross social product of that group. The thus adjusted average value is a weight for the measurement unit of a product defined by the nomenclature.

In the **second phase**, based on the indices and weights for sections, the indices of physical volume of industrial production for the industry, sector, sub-sector and by type of products are calculated. The weights for sections represent the share of the value added from each section in the total value added for the industry. In that manner, the impact of incomplete coverage of production in certain sections is eliminated. The data on the value added are obtained from the national accounts statistics and constitute a ratio between the social product of a certain section and the total social product in the industry.

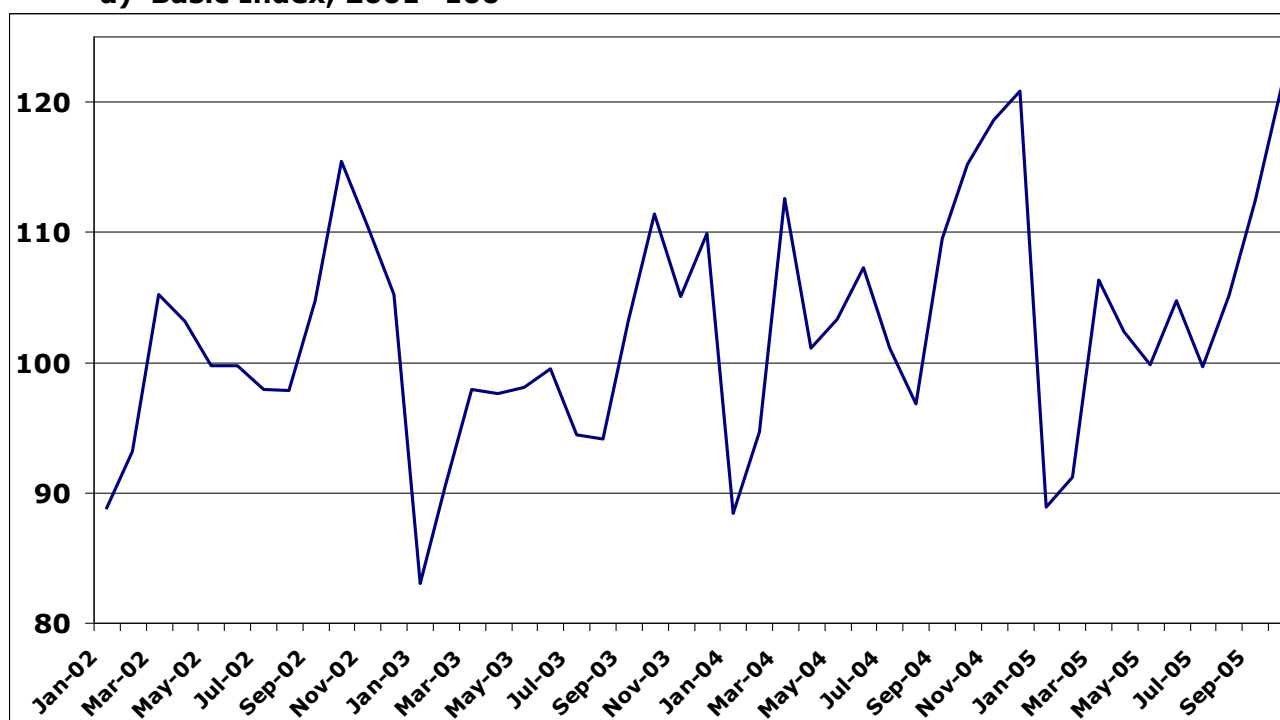
A general revision of weights is carried out every five years (the last revision was conducted in 2002). In case of specific economic shocks, this period can be longer or shorter – although it is not explicitly spelled out what it implies, thus leaving the possibility to adjust weights every year. Weights for sectors and products are also adjusted annually and that fact may lead to certain problems in the weight system, which will be discussed later.

The current monthly/quarterly/year-to-date index, in relation to the same month/quarter/year-to-date period of the preceding year, is calculated by comparing the current monthly/quarterly/year-to-date industrial production index with the preceding year average, and the index from the same month/quarter/year-to-date period of the preceding year with that year average.

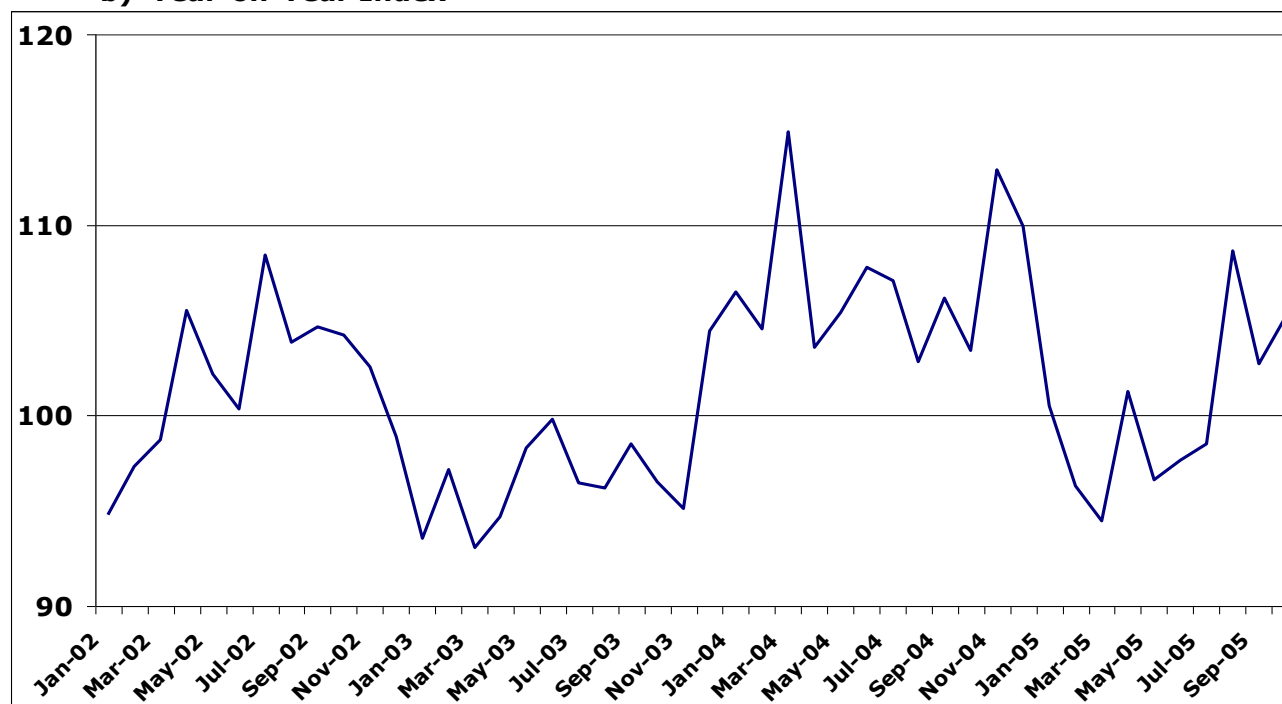
Issues

While the general direction of index of industrial production is probably correct, it is unlikely that the pattern of acceleration and deceleration of industrial production growth reflects reality (see Graph A5.2-1). The year-on-year index suddenly jumps in January 2004 and stays above the trend all through 2004, and then suddenly drops back in January 2005, and remains lower since the second half of the current year.

Graph A4.2-5. Index of Industrial Production
a) Basic Index, 2001=100



Source: SBS

b) Year-on-Year Index

Source: SBS

After a rise in industrial production over the period 2000-2002, the year 2003 saw a slight fall. The reconstruction of the country after the bombing and a low level of industrial production in the late 1990s resulted in high growth rates even after small breakthroughs in production. Yet, due to delays in the privatization process and lags in the effects of privatizations carried out in the course of 2002, production recorded a slight fall in 2003.

The positive economic trends, driven by the privatization of large state and socially owned companies in the course of 2002 (mostly cement plants) and 2003 (the tobacco industry, Sartid, Tigar), led to the production boom of the mentioned companies, while providing strong impetus for the sectors producing investment goods and intermediates through high investment. The production intended for exports increased, particularly in the second half of 2004. The sectors which were traditionally growing in the previous period, too, such as the food processing and chemical industry, continued to grow in the course of 2004. The announcement of the introduction of the VAT in January 2005 caused part of the production in early 2005 to move back into late 2004, which resulted in an evident atypical growth in the last quarter of 2004. All these facts contributed to growth in industrial production in 2004. Still, a surge in production in early 2004, followed by large oscillations in production from month to month, and eventually by a slump in early 2005, has cast a shadow over the validity of data on the level of industrial production growth over the mentioned period.

The conclusion is that in 2004 certain sectors achieved extremely high growth rates compared to the same period of the previous year.

There are several reasons for the lack of trust in official data on industrial production. We can classify them into three groups:

- Problems associated with the change in the classification of activities and nomenclature of products
- Problems associated with the weight system used for obtaining industrial production indices
- Problems associated with the coverage of economic agents

1. After the switch from JKD to KD, and in particular to the new Nomenclature of Products, it is realistic to assume that certain methodological difficulties will arise in relation to the comparability of data from different time periods. One of drastic examples is handicraft production and services. The activities of craftsmanship, according to JKD, include "manufacture and repair..." According to KD, the manufacture of products should be classified into a relevant category of manufacturing, and repairs should be classified in the Wholesale and Retail Trade and Repairs sector or in the sector Real Estate and Renting. It means that the activities of craftsmanship should be divided into the "manufacture" and "repairs". In addition, the nomenclature for monitoring the production of craftsmanship is substantially narrower than the nomenclature for reporting on industrial production, which is an additional difficulty. The situation is similar in the case of foreign trade, water management, etc.

Bearing in mind that before 2004 data were collected on the basis of the old Nomenclature of Products, in order to calculate industrial production indices for 2004 – for which data were collected pursuant to the new Nomenclature of Products – it was necessary to recalculate old indices of sectoral production in accordance with the new Nomenclature. In doing so, one proceeded from the assumption that the structure within sectors has not substantially changed over the mentioned period, although we saw that in some cases it did change. Pursuant to the Nomenclature which is consistent with KD, there are 4420 products, which is by 960 lines more than in the previous nomenclature. Some products or groups of products, which had higher/lower shares within one sector according to the previous nomenclature, could account for higher/lower shares within the production of another sector. Despite that fact, the data for 2003 and earlier years were simply corrected on the basis of the new Nomenclature of Products and thus compared with 2004, which could be the cause for a steep rise/slump in 2004.

2. The problem of the Weight System, which was mentioned at the very beginning of the paper, here comes fully into the picture. Namely, once a year weights are adjusted both for sections and for products. The weights for sections are adjusted by means of industrial production indices, by section, for the previous year. Then they are further adjusted in that they are multiplied by the adjustment coefficient for the section to which they belong. If one sector in the previous year had enormously high growth rates, in the following year that sector should be given a higher share in total output. However, if that sector had a fall, or just a slight rise, in the previous period, and indices happened to be overestimated in the previous period, the assigning of a higher weight to that sector directly results in underestimating industrial production of that sector, and thus of the whole industry. Namely, it is noticeable that some sectors, about which it is known with great certainty that their production stands at a very low level, have high weights in total industrial production (see Table A5.2-5). Their drop blurs the picture of the movements in overall industrial production, pulling indices down. A good example, to name one, is the sector of manufacture of machinery and equipment other than electrical, which had high growth rates in 2004, hence the weight for the sub-sector was adjusted from 3.80 to 5.06. However, due to the stagnant demand for products of this sector, production has steeply fallen, which further augments the fall in industrial production due to a very high weight.

Because of these frequent changes of weights, a question is raised as to which weights are currently in use? If we take, for example, data on industrial production by sub-sector from Table A5.2-10, and recalculate industrial production indices by using official weights in that we aggregate sub-sectors with relevant weights, we shall draw a conclusion that the value of indices, obtained through the aggregation, does not match the official value of indices (Table A5.2-5). Maybe weights are wrong, and if the answer is yes, then what are the weights currently in use? If the weights are right, why is there a mistake in aggregation, then? These are all questions to which, at least for the time being, we have no right answer.

Table A4.2-6. Comparison of Indices Published and Derived, Based on Published Weights

	Published		Derived	
	2004	jan-sep 2005	2004	jan-sep 2005
Industry total	107,1	99,6	-	101,3
Mining and quarrying	99,3	100,8	99,9	100,8
Manufacturing	109,7	98,2	109,1	100,1
Electricity, gas and water supply	99,9	106,4	-	106,5

Source: SBS

By way of illustration, let us weight the intra-year indices of manufacturing industry sub-sectors for 2004 with relevant weights from Table A5.2-11. The thus obtained index of manufacturing is 109.1 and it is by 0.6 percentage points lower than the official one. On the other hand, the index for the sector Mining and Quarrying tallies. The explanation is simple if one takes into account that the sector is fairly homogeneous and that the production is carried out by a small number of state owned firms. If we weight the indices for the period January – September 2005, we shall obtain the index 100.1, which is not only by 2 percentage points higher than the official index of the production of the manufacturing industry, but also shows different movements in production: while the index calculated on the basis of weights shows a slight rise in production, the official index shows a fall. So, what might be going on with these weights?

Finally, the sample which has been used since 2004 for estimating the output of the part of the manufacturing industry, which is not covered by the IND-1 survey, covers 300 enterprises on average (out of some 16,000 in the Company Registry of the SBS), with a very low degree of replies (between 20 and 50%). The thus obtained index of the manufacturing industry is almost always somewhat higher than the index obtained on the basis of the survey, which means that the output is underestimated through the neglect of these enterprises. These two indices (the index obtained on the basis of the sample and on the basis of regular monthly reporting) are weighted with the share of these enterprises in the revenue generated by the sales of the overall manufacturing industry. The result of that is an adjusted index of the manufacturing industry. Yet, the industrial production index obtained in this manner is indicated in the communiqués only as a note, while the index obtained only on the basis of the IND-01 survey continues to be used as an official piece of data.

3. As mentioned before, all the enterprises employing more than 20 people are covered by the industrial production surveys. However, we can assert with great certainty that the research does not include entrepreneurs. Of course, it should be taken into account that the percentage of entrepreneurs in industry is probably low, but that there are entrepreneurs with more than 20 employees. Such firms should be covered by the research by definition, hence one cannot talk about full coverage.

The question is also raised as to the number of firms which really provide answers in the IND-01 questionnaire. It is not very likely that the reply rate is 95 percent, as the official statistics claims. In a pilot survey, carried out over the phone, we found out that some major private firms, leader in their sectors, do not fill in the IND-01 questionnaire. Out of 27 randomly chosen firms, 16 were from the private sector, while others were public and socially owned enterprises. All the enterprises had at least 30 employees and were quite evenly geographically distributed (not more than two companies in a municipality). All public and socially owned companies (with the exception of one) filled in the IND-01 questionnaire in the previous period. Private companies filled in this questionnaire either irregularly or not at all. This group includes such companies as MB brewery and Todor, with the latter holding a significant share of the domestic textile production. The non-inclusion of its production in the index can, to a certain degree, explain the constantly low level of the textile industry index, while exports of textile products are constantly going up. Yet, this research should be taken

with caution, because the sample is too small and we could have covered the exact 5% of companies which do not complete the questionnaire. The question which remains, however, is how many firms actually fill in the questionnaire on industrial production.

It should be also mentioned that the monitoring of companies according to their size is downward biased because production in certain sectors must have moved since the beginning of transition in Serbia from large enterprises to smaller ones (e.g. the bakery plants or enterprises providing services in industry). There are companies which generate very high revenue and which in time have become leading companies in their respective sectors³⁷, and they employ less than 20 people, hence they are not covered by the survey on industrial production in line with the definition. The bias has probably changed in the previous period due to the revival of large traditional enterprises, either because of privatization or because of a surge in investment demand in 2004.

The production of firms which are not completing the questionnaire is estimated.³⁸ It can lead, in case the questionnaire has not been completed in a prolonged period, to a situation in which the output of these firms is estimated on the basis of the estimate from the previous period. If the output in the period on the basis of which an estimate is being made (the month in which that firm completed the questionnaire for the last time) was falling, all subsequent estimates will record output which has remained stagnant, although in reality it might as well be rising. *Vice versa*. Such irregularities in the calculation of the industrial production index certainly result in its underestimation/overestimation.

As of 2004, the coverage of economic agents also increased³⁹, meaning that some firms were covered in that year, which were not covered in the previous years. One can realistically assume that these are private firms which in the past were not taken into consideration in estimating industrial production. The question which is posed is whether the increase in coverage has resulted in the rising industrial production index. In other words, did one pay attention to the comparability of these data with the data from the previous period, when the coverage was lower? We are afraid that the answer is negative, and that the increase in the coverage directly resulted in production growth. If one takes into account that the level of production of certain sectors was very low, even the slightest increase on the production side may lead to very growth rates for that sector.

³⁷ Cf. Globmark Business Reputation list. Although the list was drawn up on the basis of data from the Solvency Center (meaning that all those that do not submit financial reports to the Center have been omitted), it still contains a dozen or so (private) companies from industry, which have less than 20 employees, but in terms of revenue and reputation fall among the leaders in their branch.

³⁸ SBS, *Methodologies and Standards* 10, 2005.

³⁹ SBS, *Methodologies and Standards* 10, 2005.

Data tables**A4.2-7. Index of Industrial Production: Base Index, 2001=100;
Chain Index; Year-on-Year Index, 2001-2005**

	Base Index 2001=100	Chain index	y-o-y index
Annual indices			
2001	100.0	100.1	100.1
2002	101.8	101.8	101.8
2003	98.7	97.0	97.0
2004	105.8	107.0	107.0
Quarterly indices			
2001			
I quarter	98.6	101.6	99.1
II quarter	98.2	99.6	96.2
III quarter	94.9	96.5	94.2
IV quarter	108.3	114.1	111.4
2002			
I quarter	95.7	88.5	97.1
II quarter	100.9	105.3	102.6
III quarter	100.1	99.4	105.6
IV quarter	110.3	110.1	102.0
2003			
I quarter	90.5	82.7	95.2
II quarter	98.4	108.5	98.1
III quarter	97.2	97.3	96.5
IV quarter	108.8	112.9	98.6
2004			
I quarter	98.5	90.6	108.9
II quarter	103.9	105.4	105.6
III quarter	102.4	98.5	105.4
IV quarter	118.2	115.1	108.4
2005			
I quarter	95.4	80.8	96.9
II quarter	102.3	107.2	98.5
III quarter	105.7	102.5	103.3
Monthly indices			
2004			
January	88.4	80.5	106.5
February	94.7	107.1	104.6
March	112.5	118.9	114.9
April	101.1	89.8	103.6
May	103.3	102.2	105.4
June	107.2	103.8	107.8
July	101.1	94.3	107.1
August	96.8	95.7	102.8
September	109.5	113.1	106.2
October	115.2	105.2	103.4
November	118.6	102.9	112.9
December	120.8	101.9	109.9
2005			
January	88.8	73.6	100.5
February	91.2	102.6	96.3
March	106.3	116.6	94.5
April	102.4	96.3	101.3
May	99.8	97.5	96.6
June	104.7	104.9	97.6
July	99.6	95.2	98.5
August	105.1	105.5	108.6
September	112.4	106.9	102.7
October	121.1	107.7	105.1

Source: SBS

**A4.2-8. Index of Industrial Production by Use: Base Index,
2001=100, 2001-2005**

	Energy	Intermediate goods	Capital goods	Durable consumer goods	Non-durable consumer goods
Annual indices					
2001	100.0	100.0	100.0	100.0	100.0
2002	100.5	100.4	106.2	113.0	102.1
2003	103.1	95.1	86.8	127.4	99.7
2004	105.2	110.5	102.9	131.2	101.9
Quarterly indices					
2001					
I quarter	109.0	96.4	95.6	97.2	93.7
II quarter	93.7	100.9	90.9	98.5	100.6
III quarter	87.3	101.1	102.3	95.2	92.3
IV quarter	110.0	101.6	111.3	109.0	113.5
2002					
I quarter	112.2	89.9	89.8	104.8	89.3
II quarter	92.6	102.9	111.1	112.8	101.5
III quarter	89.6	104.3	115.5	107.6	99.7
IV quarter	107.6	104.5	108.6	126.8	117.7
2003					
I quarter	116.0	82.5	71.2	114.2	83.5
II quarter	95.9	100.9	90.4	120.6	99.2
III quarter	89.3	98.9	85.3	136.3	98.1
IV quarter	111.4	98.0	100.5	138.5	117.9
2004					
I quarter	117.4	92.4	91.9	114.5	89.6
II quarter	87.7	113.7	129.7	130.8	100.2
III quarter	99.7	114.8	93.3	126.9	96.1
IV quarter	116.1	121.0	96.5	152.6	121.7
2005					
I quarter	122.1	94.5	61.5	90.7	85.3
II quarter	92.9	116.5	80.4	108.4	104.8
III quarter	100.4	121.5	82.7	126.5	102.9
Monthly indices					
2004					
January	127.1	71.7	58.0	99.1	79.1
February	112.8	91.8	78.1	114.3	86.3
March	112.3	113.7	139.6	130.2	103.4
April	91.6	114.9	103.4	128.1	95.7
May	86.4	113.1	135.8	123.9	98.7
June	85.2	113.1	150.1	140.4	106.1
July	94.8	109.8	105.6	118.0	97.0
August	100.2	110.7	78.0	109.0	88.0
September	104.1	123.9	96.2	153.7	103.3
October	109.7	121.3	94.2	158.1	118.0
November	117.4	121.4	85.4	155.9	124.7
December	121.1	120.3	110.0	143.7	122.4
2005					
January	128.3	85.5	49.7	66.1	73.0
February	116.7	87.0	65.3	98.2	81.4
March	121.1	111.0	69.4	107.9	101.6
April	101.6	118.0	76.8	98.2	98.5
May	88.1	116.5	77.6	104.6	102.3
June	88.9	115.1	86.7	122.4	113.4
July	98.0	113.0	74.7	115.7	96.6
August	100.1	119.1	91.1	112.6	101.9
September	103.0	132.5	82.4	151.2	110.3
October	115.0	136.9	84.3	163.9	121.5

Source: SBS

A4.2-9. Index of Industrial Production by Use: Year-on-Year Index, 2001-2005

	Energy	Intermediate goods	Capital goods	Durable consumer goods	Non-durable consumer goods
Annual indices					
2002	100.5	100.4	106.2	113.0	102.1
2003	102.6	94.7	81.7	112.8	97.6
2004	102.0	116.2	118.4	103.0	102.3
Quarterly indices					
2002					
I quarter	102.9	93.2	94.0	107.8	95.3
II quarter	98.8	102.0	122.3	114.5	100.9
III quarter	102.7	103.2	112.9	113.1	108.1
IV quarter	97.8	102.9	97.6	116.2	103.7
2003					
I quarter	103.4	91.8	79.3	109.0	93.5
II quarter	103.5	98.0	81.4	106.9	97.7
III quarter	99.6	94.7	73.8	126.7	98.4
IV quarter	103.6	93.8	92.6	109.3	100.1
2004					
I quarter	101.2	112.0	129.1	100.3	107.4
II quarter	91.5	112.7	143.6	108.4	101.0
III quarter	111.7	116.1	109.3	93.1	98.0
IV quarter	104.2	123.4	96.0	110.1	103.3
2005					
I quarter	103.9	102.3	66.9	79.2	95.2
II quarter	105.9	102.5	61.9	82.9	104.6
III quarter	100.7	105.9	88.7	99.7	107.1
Monthly indices					
2004					
January	109.1	99.5	109.7	91.1	106.7
February	98.8	111.7	95.7	102.7	102.0
March	95.8	121.8	176.5	106.2	112.8
April	82.2	115.6	113.2	115.5	107.7
May	95.0	111.7	150.7	103.6	94.8
June	100.0	110.9	167.3	106.8	101.5
July	110.3	113.5	119.1	100.2	101.8
August	112.1	116.9	99.9	79.9	94.9
September	112.5	117.9	107.8	99.2	97.2
October	104.3	117.7	101.8	109.3	92.4
November	109.7	135.2	94.1	119.3	105.4
December	99.2	118.8	93.0	102.4	113.7
2005					
January	100.9	119.3	85.6	66.8	92.3
February	103.5	94.8	83.7	85.9	94.3
March	107.9	97.7	49.7	82.9	98.2
April	110.9	102.7	74.3	76.6	103.0
May	101.9	103.0	57.1	84.4	103.6
June	104.4	101.8	57.8	87.2	106.9
July	103.3	102.9	70.7	98.1	99.6
August	99.9	107.6	116.9	103.2	115.7
September	99.0	107.0	85.7	98.4	106.7
October	104.9	112.8	89.5	103.7	102.9

Source: SBS

A4.2-10. Index of Industrial Production by Sub-sectors: Base Index, 2001=100, 2001-2005

1

	Mining and quarrying						Manufacturing									
	TOTAL industry	TOTAL mining and quarrying	Mining and briquetting of coal	Extraction of crude petroleum and gas	Mining of metal ores	Mining of non-metal ores and stone	Total manufacturing	Food products and beverages	Tobacco products	Textile yarns and textiles	Wearing apparel and fur	Leather, leather products and footwear	Wood and cork products, except furniture	Pulp, paper and paper products	Publishing, printing and reproduction	Coke and refined petroleum products
Annual indices																
2001	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2002	101.8	101.6	101.8	86.3	112.8	111.9	102.7	107.9	119.1	87.2	67.0	75.5	68.7	102.8	95.4	130.9
2003	98.7	102.4	110.2	82.5	81.0	111.5	97.9	105.7	113.8	62.7	39.3	59.7	49.0	89.5	92.6	130.4
2004	105.8	101.7	112.3	77.5	75.8	122.0	107.4	109.1	111.1	61.6	37.7	50.1	56.8	91.7	98.7	158.9
Quarterly indices																
2001																
I quarter	98.6	100.4	107.8	109.2	107.5	68.4	95.0	86.0	97.6	109.4	109.2	98.4	111.3	100.2	105.4	71.5
II quarter	98.2	93.8	84.3	100.7	103.3	107.7	100.0	98.3	100.0	105.0	108.2	98.1	102.1	98.1	100.3	114.9
III quarter	94.9	100.7	93.7	97.3	91.8	127.2	97.0	93.8	98.0	87.5	94.1	101.8	99.0	101.2	94.2	101.8
IV quarter	108.3	105.0	114.2	92.7	97.4	96.6	108.0	121.9	104.4	98.0	88.5	101.8	87.6	100.6	100.0	111.8
2002																
I quarter	95.7	99.9	117.5	87.1	100.6	65.6	91.3	87.8	112.5	83.6	70.7	83.5	66.8	98.8	88.3	120.5
II quarter	100.9	98.9	89.0	87.1	125.5	125.6	102.8	105.1	120.6	90.3	70.8	73.0	72.8	108.0	92.6	89.5
III quarter	100.1	102.9	92.8	85.5	132.3	135.0	104.5	106.8	118.7	82.1	66.4	64.2	66.1	101.5	96.8	160.8
IV quarter	110.3	104.5	107.7	85.3	92.9	121.3	112.1	131.7	124.7	92.7	60.3	81.3	69.3	103.0	104.0	152.7
2003																
I quarter	90.5	93.2	102.0	82.9	84.4	49.5	84.1	84.4	103.2	68.6	40.7	59.2	37.6	73.3	89.2	135.3
II quarter	98.4	99.3	99.0	82.4	84.9	130.2	99.9	104.9	114.1	58.1	39.2	60.5	56.6	100.6	94.8	122.2
III quarter	97.2	106.3	112.1	82.8	87.7	141.5	99.2	104.8	118.1	57.6	37.1	56.8	47.7	83.3	93.0	137.7
IV quarter	108.8	110.8	127.8	82.0	66.9	124.9	108.4	128.9	120.0	66.6	40.3	62.3	54.1	100.7	93.2	126.4
2004																
I quarter	98.5	101.0	123.3	78.1	62.0	64.6	93.5	90.0	136.4	54.0	36.1	51.7	41.8	74.4	93.5	149.4
II quarter	103.9	94.9	92.3	78.7	86.2	134.1	111.1	106.6	104.8	59.1	37.8	50.3	62.5	93.1	90.8	158.7
III quarter	102.4	102.5	107.7	77.6	80.6	150.1	104.8	105.3	92.5	60.6	35.0	49.4	63.4	93.7	98.7	161.3
IV quarter	118.2	108.2	125.8	75.5	74.5	139.2	120.1	134.5	110.8	72.8	41.8	48.8	59.5	105.8	111.8	166.4
2005																
I quarter	95.4	97.8	122.6	73.4	75.3	56.0	88.0	90.5	80.2	50.5	28.8	44.7	35.0	68.0	79.6	158.8
II quarter	102.3	95.7	95.9	73.8	92.3	151.6	106.5	114.5	117.1	57.7	29.6	49.9	43.9	90.1	85.1	145.1
III quarter	105.7	107.1	110.5	75.5	81.0	197.4	108.5	110.8	159.2	54.2	28.0	54.1	46.3	87.6	97.9	161.4
Monthly indices																
2004																
January	88.4	97.9	120.9	80.0	56.3	33.1	77.1	83.0	135.8	44.0	24.7	46.1	26.4	60.9	86.7	159.6
February	94.7	98.6	122.7	75.1	50.6	60.0	89.8	82.5	130.1	55.5	36.5	54.8	42.7	77.2	98.3	141.0
March	112.5	106.6	126.3	79.1	79.1	100.8	113.7	104.4	143.4	62.6	47.0	54.3	56.2	84.9	95.5	147.5
April	101.1	102.2	109.8	79.9	89.1	123.4	105.8	100.6	118.8	59.0	37.4	44.1	57.5	91.9	87.7	150.2
May	103.3	94.1	88.5	78.8	105.8	139.3	110.3	105.5	95.7	59.5	36.2	52.7	65.4	89.2	82.8	144.5
June	107.2	88.3	78.7	77.4	63.8	139.7	117.3	113.8	99.9	58.8	39.8	54.1	64.6	98.2	101.9	181.5
July	101.1	95.2	90.8	78.3	71.0	149.6	104.7	102.1	114.6	52.7	28.3	45.0	63.9	88.3	113.2	160.5
August	96.8	107.8	119.9	78.6	76.2	144.5	97.0	99.4	43.0	60.2	32.3	48.0	59.9	97.3	89.1	155.4
September	109.5	104.5	112.3	75.9	94.5	156.2	112.6	114.4	119.8	68.8	44.5	55.2	66.5	95.4	93.7	168.0
October	115.2	109.6	124.5	76.7	75.7	153.9	118.1	129.3	126.1	80.1	42.2	45.8	56.0	106.6	100.9	162.0
November	118.6	106.2	122.6	74.3	70.1	140.3	120.3	141.1	108.0	74.4	42.0	46.5	56.5	101.6	110.5	166.9
December	120.8	108.8	130.3	75.4	77.8	123.5	121.9	133.2	98.4	63.9	41.1	54.1	66.0	109.2	124.0	170.2
2005																
January	88.8	101.8	129.0	76.8	87.0	47.2	77.7	81.4	41.5	41.2	24.6	37.7	38.6	41.6	68.1	182.5
February	91.2	87.2	109.6	68.2	65.8	34.5	83.8	82.7	70.6	51.3	28.7	48.7	26.2	67.8	80.5	137.3
March	106.3	104.5	129.3	75.1	72.9	86.4	102.5	107.4	128.6	58.9	33.0	47.8	40.2	94.5	90.3	156.6
April	102.4	103.2	117.0	73.2	78.9	138.7	103.8	107.0	124.2	51.0	28.8	50.3	41.9	89.6	81.1	152.7
May	99.8	94.6	91.9	75.6	100.4	146.8	104.0	114.7	108.8	61.2	27.7	49.4	43.5	90.1	81.5	117.5
June	104.7	89.4	78.7	72.5	97.6	169.2	111.7	121.7	118.4	60.9	32.2	50.2	46.4	90.7	92.8	165.0
July	99.6	99.1	94.3	76.5	93.0	180.0	101.9	103.7	182.5	48.4	22.4	50.4	42.6	82.7	84.1	177.4
August	105.1	106.1	104.4	77.7	84.7	202.2	108.1	112.6	147.5	50.6	26.9	46.5	47.3	86.0	103.5	172.8
September	112.4	116.2	132.8	72.4	65.1	210.1	115.5	116.1	147.6	63.5	34.8	65.4	49.1	93.9	106.0	134.1
October	121.1	115.9	128.2	76.8	72.4	202.4	123.4	135.4	167.5	61.3	33.2	57.7	50.5	87.8	101.3	151.9

A4.2-10. Index of Industrial Production by Sub-sectors: Base Index, 2001=100, 2001-2005

2

Industry													Electricity, gas and water supply		
Manufacturing															
Chemicals and chemical products	Rubber and plastic products	Non-metal mineral products	Basic metals	Metal products, except machinery	Machinery and equipment, except electrics	Electrical machinery and apparatus	Radio, television and communication equipment	Precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Furniture and related products	Recycling	TOTAL electricity, gas and water supply	Electricity, gas and hot water supply	Water purification and distribution
Annual indices															
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
100.8	108.1	100.6	107.6	101.7	101.8	107.5	171.8	98.0	114.7	105.5	93.9	97.4	98.3	98.3	98.3
114.7	107.6	87.0	109.3	98.5	91.7	100.7	131.4	71.3	104.6	92.3	92.5	85.9	100.6	100.6	100.6
135.3	112.7	89.4	155.0	110.3	130.7	116.7	64.0	79.4	104.3	82.0	85.2	107.9	100.5	100.5	100.5
Quarterly indices															
97.7	93.3	88.3	106.8	98.0	99.8	96.8	84.7	98.6	91.6	78.8	102.4	80.0	112.4	112.4	112.4
97.3	100.4	104.2	109.8	102.3	93.6	91.5	93.5	88.9	86.9	85.7	104.1	96.0	92.6	92.6	92.6
101.7	94.7	109.0	86.5	96.2	97.5	97.8	92.6	99.6	107.8	116.2	92.3	105.0	84.9	84.9	84.9
103.2	111.6	98.5	96.9	103.5	109.1	113.9	129.1	112.9	113.7	119.3	101.1	119.0	110.1	110.1	110.1
100.2	95.1	79.8	91.8	89.1	93.3	96.7	109.4	100.0	99.2	100.9	86.8	77.6	111.7	111.7	111.7
104.3	103.6	107.6	104.7	110.5	108.6	103.3	151.9	110.1	123.4	109.3	92.9	99.1	93.4	93.4	93.4
93.9	112.1	116.3	120.5	105.6	99.7	110.9	263.3	91.9	115.7	103.8	90.2	106.7	83.3	83.3	83.3
104.9	121.7	98.5	113.4	101.5	105.5	119.0	162.6	89.9	120.6	108.1	105.8	106.2	104.5	104.5	104.5
103.7	90.5	62.2	101.8	87.1	74.1	86.4	112.7	68.6	81.8	97.3	84.3	81.3	115.4	117.1	117.1
126.2	113.4	96.6	109.6	96.4	100.4	86.0	127.8	71.4	102.3	95.3	88.6	97.8	94.3	93.6	93.6
109.3	106.5	102.3	124.2	100.9	94.1	105.7	143.0	74.4	105.8	86.7	92.1	74.7	84.3	82.5	82.5
119.7	120.1	86.8	101.6	109.4	98.1	124.8	142.2	71.0	128.6	89.8	105.0	89.6	108.4	109.3	109.3
128.8	99.1	58.1	128.7	99.0	119.5	100.7	53.4	57.4	77.3	133.6	80.9	63.2	117.7	119.9	119.9
145.1	111.3	97.7	154.8	111.7	191.0	111.1	76.7	75.9	104.9	89.1	85.0	103.2	77.9	75.5	75.5
123.2	112.8	108.3	158.4	109.6	108.8	109.8	46.1	86.3	103.4	56.9	81.2	127.2	92.8	91.4	91.4
144.2	127.6	93.6	178.2	120.9	103.6	145.5	79.7	97.8	131.5	48.4	93.7	138.1	113.5	115.1	115.1
128.6	111.8	46.1	173.0	84.0	65.4	102.5	60.5	47.1	75.3	65.0	64.5	50.0	124.1	127.5	127.5
148.4	123.3	95.5	177.5	112.2	83.1	110.2	59.9	66.2	133.2	72.9	70.9	81.5	87.5	86.4	86.4
132.1	125.2	109.5	177.5	124.2	85.6	136.4	53.7	70.3	140.3	83.5	80.8	77.6	93.6	92.9	92.9
Monthly indices															
97.8	71.9	40.1	102.5	79.0	69.6	85.8	7.7	31.4	51.4	129.7	69.6	37.8	130.5	133.9	133.9
132.5	103.1	52.0	128.7	98.4	77.1	99.8	78.6	79.0	84.5	128.3	79.6	80.1	112.7	114.7	114.7
156.2	122.4	82.3	155.0	119.6	211.8	116.4	74.0	61.8	96.1	142.9	93.6	71.7	109.9	111.0	111.0
152.5	108.8	93.0	153.6	116.7	115.8	107.1	77.3	78.6	102.3	134.5	83.1	132.8	81.7	80.0	80.0
149.0	109.1	100.3	146.7	115.7	222.6	102.2	65.4	79.3	100.4	59.2	81.4	80.2	78.5	76.1	76.1
133.8	115.9	99.9	164.0	102.8	234.5	124.0	87.3	69.9	112.0	73.5	90.4	96.5	73.4	70.3	70.3
124.5	110.0	106.0	164.5	91.3	124.9	98.6	41.3	111.7	107.8	62.3	86.6	112.0	88.3	85.9	85.9
117.2	99.8	110.4	147.8	107.3	98.3	99.9	33.3	51.8	97.3	56.2	66.6	140.0	92.1	90.6	90.6
128.0	128.5	108.6	163.1	130.2	103.1	130.8	63.9	95.4	105.0	52.1	90.6	129.7	97.9	97.5	97.5
142.8	123.2	113.5	153.0	124.0	107.3	146.2	66.5	90.0	101.7	57.1	94.2	137.1	104.8	105.2	105.2
142.5	126.2	87.6	193.3	122.0	95.0	136.4	94.7	94.4	119.5	43.3	90.8	140.7	115.9	118.0	118.0
147.2	133.4	79.6	188.2	116.7	108.5	153.9	78.0	109.0	173.3	44.9	96.2	136.5	119.6	122.1	122.1
109.5	96.7	42.8	174.7	69.1	46.7	82.9	58.6	35.9	65.5	54.2	53.3	41.7	128.5	132.3	132.3
123.4	110.8	34.1	160.6	82.8	66.8	110.7	66.9	46.5	68.4	94.3	71.0	52.9	122.3	125.8	125.8
153.0	128.0	61.3	183.7	100.2	82.8	113.9	55.9	59.0	92.1	46.5	69.3	55.6	121.7	124.3	124.3
154.9	115.8	89.9	187.8	105.4	77.5	103.9	62.2	59.7	132.3	63.1	65.0	90.8	95.9	96.1	96.1
145.1	123.9	97.9	167.9	110.8	86.3	105.5	61.6	60.6	118.1	59.2	71.8	82.3	84.6	83.1	83.1
145.1	130.3	98.8	176.7	120.5	85.5	121.3	56.0	78.4	149.0	96.5	75.8	71.3	82.0	80.1	80.1
120.8	131.2	101.2	156.3	107.0	71.0	132.7	51.6	70.1	131.5	95.8	75.6	71.2	90.3	89.0	89.0
125.4	110.1	110.4	175.5	127.5	92.6	140.8	72.1	75.2	143.6	87.0	70.8	52.9	92.3	91.2	91.2
150.1	134.4	117.0	200.6	138.0	93.3	135.5	37.3	65.4	145.9	67.8	96.0	108.7	98.3	98.4	98.4
152.4	133.4	120.9	219.2	140.2	89.0	131.7	22.5	64.8	178.0	64.7	103.9	136.2	113.3	115.0	115.0

Source: SBS

A4.2-11. Index of Industrial Production by Sub-sectors: Year-on-Year Index, 2001-2005

1

	Industry															
	Mining and quarrying						Manufacturing									
TOTAL industry	TOTAL mining and quarrying	Mining and briquetting of coal	Extraction of crude petroleum and gas	Mining of metal ores	Mining of non-metal ores and stone	Total manufacturing	Food products and beverages	Tobacco products	Textile yarns and textiles	Wearing apparel and fur	Leather, leather products and footwear	Wood and cork products, except furniture	Pulp, paper and paper products	Publishing, printing and reproduction	Coke and refined petroleum products	
Annual indices																
2002	101.8	101.6	101.8	86.3	112.8	111.9	102.7	107.9	119.1	87.2	67.0	75.5	68.7	102.8	95.4	130.9
2003	97.0	100.8	108.3	95.7	71.8	99.7	95.4	98.0	95.6	72.0	58.7	79.1	71.3	87.0	97.0	99.6
2004	107.1	99.3	101.9	93.9	93.6	109.4	109.7	103.2	97.6	98.2	95.8	83.8	115.9	102.5	106.6	121.9
Quarterly indices																
2002																
I quarter	97.0	99.5	109.0	79.8	93.6	95.9	96.1	102.1	115.3	76.4	64.8	84.9	60.0	98.7	83.7	168.4
II quarter	102.7	105.4	105.6	86.4	121.6	116.6	102.8	107.0	120.6	86.0	65.4	74.4	71.3	110.2	92.3	77.9
III quarter	105.6	102.2	99.1	87.8	144.1	106.1	107.7	113.9	121.1	93.9	70.5	63.0	66.7	100.3	102.8	158.0
IV quarter	101.9	99.5	94.3	92.0	95.4	125.5	103.8	108.0	119.5	94.5	68.1	79.9	79.1	102.4	104.0	136.6
2003																
I quarter	94.5	93.3	86.8	95.1	83.9	75.3	92.2	96.0	91.8	82.0	57.6	70.9	56.3	74.1	101.0	112.3
II quarter	97.6	100.4	111.3	94.6	67.6	103.7	97.2	99.8	94.6	64.4	55.4	77.8	73.1	93.1	102.4	136.6
III quarter	97.1	103.2	120.8	96.8	66.3	104.8	94.9	98.1	99.5	70.1	55.9	88.5	72.1	82.1	96.1	85.6
IV quarter	98.6	106.0	118.6	96.1	72.0	103.0	96.7	97.9	96.2	71.9	66.8	76.6	78.1	97.7	89.6	82.7
2004																
I quarter	108.9	108.4	120.9	94.2	73.5	130.7	111.2	106.7	132.2	78.8	88.6	87.4	111.1	101.5	104.9	110.4
II quarter	105.6	95.6	93.2	95.5	101.5	103.0	111.2	101.7	91.9	101.6	96.4	83.1	110.4	92.6	95.8	129.9
III quarter	105.4	96.5	96.1	93.8	91.8	106.1	105.6	100.5	78.3	105.2	94.4	87.0	133.0	112.4	106.0	117.2
IV quarter	108.7	97.6	98.4	92.1	111.4	111.4	110.8	104.3	92.4	109.3	103.7	78.3	110.0	105.1	119.9	131.7
2005																
I quarter	96.9	96.8	99.4	94.0	121.4	86.7	94.1	100.6	58.8	93.4	79.7	86.5	83.7	91.4	85.2	106.3
II quarter	98.5	100.9	103.8	93.7	107.1	113.0	95.9	107.3	111.8	97.7	78.2	99.3	70.3	96.8	93.7	91.4
III quarter	103.2	104.5	102.6	97.3	100.5	131.5	103.6	105.2	172.2	89.5	80.0	109.5	73.1	93.5	99.2	100.1
Monthly indices																
2004																
January	106.5	102.9	112.5	93.1	68.7	113.4	104.7	108.7	200.0	75.0	67.7	83.3	83.0	97.9	102.7	131.2
February	104.6	115.9	132.0	96.7	70.2	167.3	105.3	100.1	100.4	74.2	95.1	87.4	123.3	93.1	111.2	97.5
March	114.9	107.3	119.7	92.9	79.8	120.9	121.7	110.8	127.8	86.6	99.4	91.3	121.3	113.8	100.9	105.7
April	103.6	100.4	101.5	98.9	89.1	103.3	110.5	107.8	124.3	97.5	84.0	70.8	101.5	120.0	92.4	98.3
May	105.4	95.3	91.5	94.3	136.9	105.8	110.1	96.8	88.3	101.5	102.6	85.8	112.0	82.5	87.7	186.7
June	107.8	90.8	85.4	93.5	82.3	100.1	112.9	101.4	72.2	106.4	105.2	93.3	118.0	83.9	107.2	132.9
July	107.1	90.7	84.4	94.0	86.6	100.8	108.7	106.4	92.0	86.4	77.0	74.6	149.4	117.7	117.9	124.8
August	102.8	103.1	111.3	93.7	79.4	107.1	101.8	96.8	39.7	125.4	99.8	79.7	127.3	118.4	97.2	104.8
September	106.2	95.6	92.9	93.6	110.9	110.7	106.2	99.0	98.7	108.1	105.5	111.1	124.9	102.9	102.5	123.3
October	103.4	97.5	99.1	91.6	122.8	107.3	104.5	94.0	97.8	119.3	110.0	66.1	90.8	104.4	104.9	145.4
November	112.9	96.0	95.6	93.0	108.3	106.4	115.1	104.6	98.3	115.9	104.0	74.7	111.5	98.5	127.4	139.8
December	109.9	99.4	100.6	91.6	104.7	124.0	113.2	116.5	81.2	93.3	97.8	97.7	132.1	112.9	128.2	114.8
2005																
January	100.5	103.9	106.7	96.0	154.5	142.8	100.8	98.0	30.5	93.7	99.7	81.8	146.0	68.4	78.6	114.3
February	96.3	88.5	89.3	90.9	130.1	57.5	93.3	100.3	54.2	92.3	78.7	88.9	61.3	87.8	81.9	97.4
March	94.5	98.0	102.3	95.0	92.2	85.7	90.2	102.8	89.7	94.1	70.1	88.0	71.5	111.2	94.5	106.1
April	101.3	101.0	106.5	91.6	88.6	112.5	98.2	106.4	104.6	86.5	77.1	113.8	72.8	97.5	92.5	101.7
May	96.6	100.5	103.8	96.0	94.9	105.3	94.4	108.7	113.7	102.9	76.5	93.8	66.5	101.0	98.5	81.3
June	97.6	101.2	100.0	93.7	153.0	121.1	95.2	106.9	118.5	103.6	80.8	92.8	71.8	92.3	91.0	90.9
July	98.5	104.1	103.8	97.6	130.9	120.3	97.3	101.5	159.3	91.7	79.1	111.8	66.7	93.7	74.3	110.5
August	108.6	98.5	87.1	98.8	111.1	139.9	111.5	113.3	342.9	84.1	83.2	96.9	78.9	88.4	116.2	111.1
September	102.7	111.2	118.3	95.4	68.9	134.5	102.6	101.5	123.2	92.4	78.3	118.5	73.9	98.5	113.2	79.8
October	105.1	105.8	103.0	100.2	95.7	131.6	104.5	104.7	132.8	76.5	78.7	126.0	90.2	82.4	100.4	93.8

A4.2-11. Index of Industrial Production by Sub-sectors: Year-on-Year Index, 2001-2005

2

Industry													Electricity, gas and water supply		
Manufacturing															
Chemicals and chemical products	Rubber and plastic products	Non-metal mineral products	Basic metals	Metal products, except machinery	Machinery and equipment, except electrics	Electrical machinery and apparatus	Radio, television and communication equipment	Precision and optical instruments	Motor vehicles and trailers	Other transport equipment	Furniture and related products	Recycling	TOTAL electricity, gas and water supply	Electricity, gas and hot water supply	Water collection, purification and distribution
Annual indices															
100.8	108.1	100.6	107.6	101.7	101.8	107.5	171.8	98.0	114.7	105.5	93.9	97.4	98.3	98.3	
113.8	99.6	86.5	101.6	96.8	90.1	93.7	76.5	72.8	91.2	87.5	98.5	88.2	102.4	102.4	
118.0	104.7	102.8	141.9	112.0	142.6	115.9	48.7	111.3	99.7	88.9	92.1	125.7	99.9	99.9	
Quarterly indices															
102.5	101.9	90.4	86.0	90.9	93.4	99.9	129.1	101.4	108.3	128.1	84.8	96.9	99.4	99.4	
107.2	103.1	103.3	95.3	108.0	116.1	112.9	162.5	123.9	142.0	127.5	89.2	103.3	100.9	100.9	
92.3	118.4	106.7	139.2	109.8	102.2	113.4	284.3	92.3	107.3	89.3	97.7	101.6	98.1	98.1	
101.6	109.0	100.0	117.0	98.1	96.8	104.4	125.9	79.6	106.0	90.6	104.6	89.2	95.0	95.0	
103.5	95.2	78.0	110.9	97.8	79.5	89.3	103.1	68.6	82.4	96.5	97.1	104.9	103.3	104.8	
120.9	109.4	89.8	104.7	87.3	92.5	83.2	84.1	64.8	82.9	87.2	95.4	98.7	100.9	100.2	
116.5	95.0	88.0	103.1	95.5	94.4	95.3	54.3	80.9	91.5	83.5	102.1	70.0	101.2	99.0	
114.2	98.7	88.1	89.6	107.8	92.9	104.9	87.4	79.0	106.7	83.1	99.2	84.4	103.7	104.5	
124.2	109.5	93.4	126.5	113.6	161.2	116.5	47.4	83.7	94.6	137.3	96.0	77.7	102.0	102.4	
115.0	98.2	101.1	141.2	115.9	190.2	129.2	60.0	106.4	102.6	93.5	95.9	105.4	82.6	80.6	
112.7	105.9	105.9	127.6	108.6	115.6	103.9	32.3	116.0	97.7	65.6	88.2	170.3	110.1	110.8	
120.4	106.2	107.8	175.4	110.5	105.6	116.6	56.1	137.8	102.2	54.0	89.3	154.1	104.7	105.3	
99.9	112.8	79.3	134.4	84.9	54.7	101.8	113.2	82.1	97.4	48.6	79.7	79.2	105.5	106.3	
102.2	110.8	97.7	114.7	100.4	43.5	99.3	78.2	87.2	126.9	81.9	83.5	79.0	112.4	114.5	
107.2	111.1	101.1	112.0	113.3	78.7	124.2	116.3	81.4	135.7	146.9	99.4	61.0	100.9	101.6	
Monthly indices															
101.3	95.5	84.2	109.6	118.7	115.4	116.3	7.0	58.0	95.9	152.8	81.4	51.4	112.2	113.4	
122.5	114.1	87.3	141.6	101.7	102.1	119.7	75.3	113.1	78.6	125.2	98.5	103.5	98.9	99.3	
146.8	115.5	103.5	128.2	121.9	244.7	114.1	59.6	75.7	114.1	136.6	108.2	76.9	94.8	94.4	
119.6	102.9	102.6	136.7	128.2	128.8	129.9	50.5	145.1	101.6	121.9	100.4	134.5	75.3	73.2	
110.5	97.9	99.6	140.8	120.2	209.5	122.0	55.8	101.6	102.9	62.9	94.3	75.5	84.8	83.1	
115.1	94.4	101.4	146.1	101.0	223.1	135.1	77.3	85.4	103.3	90.2	93.5	108.9	89.7	88.1	
113.0	96.1	102.3	132.3	99.9	139.8	102.7	50.1	136.6	94.1	66.2	93.4	126.3	108.3	108.0	
120.4	116.4	104.9	120.2	106.6	114.8	94.3	17.8	87.5	96.0	79.6	79.4	226.7	109.7	110.3	
106.2	107.6	110.7	130.2	117.8	96.0	113.8	40.1	116.1	103.5	54.6	90.7	176.0	112.3	113.8	
109.1	94.5	110.6	149.1	106.8	100.7	125.1	67.6	124.2	93.1	57.5	89.3	177.1	102.0	102.1	
141.2	103.5	103.8	251.4	122.5	109.0	106.2	60.8	119.7	114.3	58.0	92.0	154.7	111.5	113.0	
115.6	123.5	108.5	150.2	103.6	107.9	119.2	45.2	176.7	100.7	47.2	86.9	135.7	101.1	101.4	
111.9	134.5	106.9	170.5	87.4	67.1	96.6	763.3	114.1	127.4	41.8	76.6	110.3	98.5	98.8	
93.2	107.4	65.5	124.8	84.2	86.6	110.9	85.1	58.9	81.0	73.5	89.2	66.0	108.5	109.6	
98.0	104.6	74.6	118.5	83.8	39.1	97.9	75.6	95.4	95.8	32.5	74.0	77.6	110.7	111.9	
101.6	106.4	96.6	122.2	90.3	66.9	97.1	80.5	75.9	129.4	46.9	78.3	68.3	117.5	120.2	
97.4	113.6	97.6	114.5	95.7	38.8	103.3	94.2	76.5	117.7	100.0	88.3	102.7	107.8	109.1	
108.4	112.3	98.9	107.8	117.2	36.5	97.8	64.1	112.1	133.1	131.4	83.9	73.9	111.6	113.9	
97.1	119.3	95.5	95.0	117.1	56.9	134.6	125.0	62.8	122.0	153.7	87.3	63.6	102.3	103.6	
107.0	110.3	100.0	118.8	118.8	94.1	140.9	216.7	145.2	147.6	154.9	106.4	37.8	100.2	100.7	
117.2	104.6	107.7	123.0	106.0	90.5	103.7	58.4	68.6	138.9	130.2	105.9	83.8	100.3	100.8	
106.7	108.3	106.5	143.3	113.1	82.9	90.1	33.9	72.0	175.1	113.4	110.2	99.4	108.1	109.4	

Source: SBS

A4.2-12. Industrial Production: Sectors and Sub-sectors Weights, 2004-2005

	2004	2005
Industry total	100	100
Mining and quarrying	6,8	6,32
Mining and briquetting of coal	3,2	3,05
Extraction of crude petroleum and gas	2,8	2,46
Mining of metal ores	0,1	0,09
Mining of non-metal ores and stone	0,7	0,72
Manufacturing	74,3	76,06
Manufacture of food products and beverages	22,5	21,68
Manufacture of tobacco products	1,9	1,73
Manufacture of textile yarns and textiles	1,9	1,74
Manufacture of wearing apparel and fur	2,2	1,97
Manufacture of leather, leather products and footwear	1,1	0,86
Manufacture of wood and cork products, except furniture	0,9	0,98
Manufacture of pulp, paper and paper products	2,0	1,92
Publishing, printing and reproduction	2,8	2,79
Manufacture of coke and refined petroleum products	3,3	3,76
Manufacture of chemicals and chemical products	8,3	9,15
Manufacture of rubber and plastic products	3,2	3,13
Non-metal mineral products	4,3	4,13
Manufacture of basic metals	4,6	6,1
Manufacture of metal products, except machinery	2,2	2,3
Manufacture of machinery and equipment, except electrics	3,8	5,06
Manufacture of office machinery and computers	0,7	0,84
Manufacture of electrical machinery and apparatus	2,0	2,17
Manufacture of radio, television and communication equip.	0,7	0,32
Manufacture of precision and optical instruments	0,9	0,93
Manufacture of motor vehicles and trailers	2,1	1,96
Manufacture of other transport equipment	0,6	0,5
Manufacture of furniture and related products	2,1	1,81
Recycling	0,2	0,23
Electricity, gas and water supply	18,9	17,62
Electricity, gas and hot water supply	17,0	15,85
Water collection, purification and distribution	1,9	1,77

Source: SBS

3. Construction in Serbia

- **Construction Definitions**
- **Construction Methodology, including text tables**
- **Construction Issues**
- **Data Tables:**
 - Table A4.2-15.Indices of construction indicators at the territory of the Republic of SerbiaØ2004=100
Frequency: annual, semi-annual, quarterly
Table A4.2-19 Value of Construction Works Done
Frequency: annual
 - Table A4.2-20 Housing Construction - Dwellings Completed
Frequency: annual
 - Table A4.2-21 Housing Construction - Non-Completed Dwellings, situation at the end of year
Frequency: annual

Construction Definitions

A *construction* comprise constructions connected with the ground, any underground and over ground construction, as well as hydrotechnical structure (water-works), for which constructional works are performed, made of construction material, building-in finished products and parts.

New construction is construction of the new building on land where no building was before or the building existed, but was removed.

Dwelling is any residential construction unit intended for habitation, consisting of one or more rooms with necessary auxiliary spaces (such as: kitchen, bathroom, lobby, pantry, toilet, etc.) or without auxiliary spaces and with one or more separate entries.

Data on the value of performed construction works represent the estimated value of work completed, and not the construction costs incurred to date.

Index of the value of performed construction works is calculated using nominal prices.

Data on working hours on sites represents the total number of hours that workers have spent on the building sites in regular and overtime work, independently of whether they are paid by the hour, norm or agreement. This number does not include the hours worked by engineers and technicians.

Data on number of workers on sites refer to the average number of workers employed in the quarter to which the data are related. This information does not include workers in the administrative, engineering or technical sector.

Construction Methodology

The Statistical Office of the Republic of Serbia conducts a survey on construction at an annual, semi-annual and quarterly level. Reports are given by construction enterprises, classified as construction activities. Reports are also given by the enterprises that are not classified in this way but which in their structure have units that conduct construction works. Furthermore, municipalities give reports for the survey on construction works organized by individual owners.

Table A4.2-13.

Designation	Report	Periodicity	Coverage	Reporting units
GR11	Annual report on construction works	Annual	Complete	Construction enterprises and enterprises performing construction activities
GR11a	Annual report on dwellings built in organization of individual owners	Annual	Complete	Municipalities
GR12	Annual report on construction works (control report)	Annual	Complete	Construction enterprises and enterprises performing construction activities
GR12a	Annual report on dwellings built in organization of individual owners (control report)	Annual	Complete	Municipalities
GR13	Annual report on expenditure of construction material and energy	Annual	Complete	Construction enterprises and enterprises performing construction activities
GR31	Three-monthly construction report	Quarterly	Incomplete	Large construction enterprises and enterprises performing construction activities
GR33	Annual report on works performed abroad	Annual	Complete	Construction enterprises and enterprises performing construction activities
GR41	Semi-annual report on the prices of newly built dwellings	Semi-annual	Incomplete	Large construction enterprises and enterprises performing construction activities
GR71	Annual report on demolished dwellings	Annual		

Reporting units fill in the reports designated with GR11 and GR11a for each built objects separately, while the forms GR12 and GR12a (control report) are filled in cumulatively for all built objects.

Annual reports are gathered on the principle of full coverage for enterprises (for the year 2004, the Statistical Office of the Republic of Serbia sent the forms GR11 and GR12 to the addresses of 1248 enterprises) and all municipalities in Serbia⁴⁰. In the case of enterprises, there is a small number of reporting units that have not responded to the questionnaire and by doing that, they are not counted in the total value of construction works. Through its regional statistical offices and most often through a telephone call, the Statistical Office of the Republic of Serbia checks if an

⁴⁰ Data from the Solvency center indicate that there are over 4000 construction companies in Serbia. Although large majority of them are small companies with only several workers, it is clear that full coverage is not reached. That is why even annual data must be taken with some reservations.

enterprise that did not respond to the questionnaire really had not perform construction works during the previous year. In the year of 2004, around 1200 enterprises filled in and sent the reports GR11 and GR12. The list of the enterprises to deliver the forms to is made from the enterprises address book of the Statistical Office of the Republic of Serbia and does not include private entrepreneurs. The forms GR11a and GR12a are filled in by municipalities and they involve the value assessment of construction works organized by individual owners.

Three-monthly reports are filled in only by larger construction enterprises and enterprises performing construction activity. These reports are first and foremost used to form the indices and follow the trends. The indices are formed on the same sample each time, i.e. all changes in the number of enterprises that respond to quarterly survey are eliminated. In a case when an enterprise has ceased to exist or that it does not deliver the data to the Statistical Office of the Republic of Serbia, during forming of the indices the data on this specific enterprise will be deleted for the previous year also. In the case of an enterprise that is newly introduced in the database of enterprises surveyed quarterly, it will be monitored for the first year, but this data will not be used for indices. It will be included in the indices for the following year.

As reporting units, the municipalities are accountable for monitoring the construction works organized by individual owners at an annual level. Since majority of the total number of new dwellings in Serbia is organized by individual owners or built by "smaller" enterprises that are not surveyed quarterly, the quarterly housing construction statistics is not reliable and is impossible to keep track of without annual reports.

Generally, due to decreased coverage by which some large market participants are not included in the quarterly survey, the construction statistics is more complete at an annual level.

Collecting the construction data is decentralized and left to regional statistical offices (9 in Central Serbia, 5 in Vojvodina and 1 in Belgrade). Collected data are published in communications of a statistical office, as well as in monthly and annual publications⁴¹:

Table A4.2-14.

Communication	Bulletin	Complex publications	Municipal statistical documentation
<ul style="list-style-type: none"> • GR10 Constructed dwellings in the Republic of Serbia; quarterly • GR11 Construction activity in the Republic of Serbia; quarterly • GR20 Prices of newly built dwellings; semi-annual • GR21 Prices of newly built dwellings; annual • GR50 Activity of the construction enterprises of the Republic of Serbia performed abroad; annual 	<ul style="list-style-type: none"> • Construction activity in the Republic of Serbia; annual • Housing stock in the Republic of Serbia; annual • Expenditure of construction and fuel material; annual 	<ul style="list-style-type: none"> • Statistical Yearbook of Serbia; annual • Municipalities in Serbia; annual • Monthly survey; monthly • Socio-economic trends; annual 	<ul style="list-style-type: none"> • Construction activity in Serbia; annual

Apart from these communications and publications that are directly connected to the construction sector, the construction data is used also for national accounts. The data on the construction works value is used for the investment statistics, while the data on the hours of work on the construction sites is used for quarterly calculation of gross domestic product.

⁴¹ The data on dwellings in the Republic of Serbia are also published in the census results books.

Indices of most construction parameters are also monitored quarterly. Quarterly parameters of housing construction have a very low level of reliability because they include an insignificant part of total built dwellings, so it is recommendable to monitor them annually.

Quarterly indices of the other construction parameters are formed based on the report of around 500 most significant construction enterprises in Serbia.

Construction Issues

Since 2003, construction in Serbia has recorded a significant growth. Positive trends are abruptly stopped in the first quarter of 2005 due to the decrease which by its intensity overshadows all previously recorder ones. What are the causes of such tumultuous dynamics in construction in the past three years?

**Table A4.2-15. Indices of construction indicators at the territory of the Republic of Serbia
Ø2004=100**

	Value of performed construction works	Number of workers on sites	Working hours on sites	Cement production	Number of finished dwellings	Prices of newly built dwellings	Business income of construction enterprises
2002	62.9	84.3	72.6	107.0	65.5	63.1	51.4
2003	73.7	95.2	95.1	92.6	84.9	85.9	67.5
2004	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2003 1. quarter	38.9	76.9	70.8	36.7	50.5		
2. quarter	58.2	95.5	94.3	120.2	38.0	83.3	
3. quarter	93.7	103.3	108.3	134.9	74.1		
4. quarter	94.3	105.0	106.7	78.7	181.6	88.6	
2004 1. quarter	47.8	87.5	78.2	43.6	28.2		
2. quarter	86.9	100.1	99.7	129.0	51.1	99.0	
3. quarter	128.1	107.9	113.6	132.8	60.3		
4. quarter	137.1	104.6	108.4	94.6	260.3	101.0	
2005 1. quarter	38.3	71.0	62.5	28.8	27.6		
2. quarter	94.6	86.8	92.5	135.5	27.7	113.9	

Notes: Index of construction parameters from the comparable base at a quarterly level is introduced in 2003. Before that, the total value from the monthly incomplete coverage was published, so they should not be used for the indices.

Data on cement production is from manufacturing statistics

Analyzing the data from the table, we see the sudden fall of all parameters in the first quarter of 2005. The explanation for this phenomenon lies firstly in an extremely long winter which disabled performance of many construction works. Also, we should not forget the effect of introducing the value added tax in January 2005, which increased the purchase costs of a newly built dwelling. This is why an increased construction activity took place in the second half of 2004, especially in the sector of housing construction in which extreme values of all indices are noted. As it was already stressed in the previous part of the text, the indices of construction parameters are very unreliable at a quarterly level, but it is indicative that the number of completed dwellings in the last quarter in 2004 is almost 5 times bigger than in the previous one. Furthermore, there has been a significant decrease in the number of non-completed dwellings. "The stock" of non-completed dwellings decreased only in this one quarter for 30% in comparison to the previous quarter and conditioned the increase in income of construction enterprises above the growth of other parameters.

Currently it is impossible to conclude if all the changes in construction in the first two quarters in 2005 can be explained solely with external influences or there are maybe also deeper reasons for the decreased activity. Also, in the conditions of high participation of grey area in construction, a very justifiable question occurs whether the official statistics is able to provide the data that truly reflect the real situation. Apart from the grey area, an additional problem is a big number of enterprises that have not registered construction activities as their basic, and yet perform construction works.

Can we rely on the official construction data?

It was already said that the quarterly construction indices are formed from constantly comparable basis consisting of some 500 larger construction enterprises in Serbia. Yet, there is no methodology of making samples that would show if the dynamics of the observed enterprises is representative for construction as a whole sector. It is obvious that a problem can occur in the case of more intense changes in the structure of contractors. If the larger part of construction activity in the observed quarter would be directed to other, "less significant" construction enterprises, the official construction indices would be inaccurate. Another scenario is possible, too, the case that 500 observed enterprises base their growth on taking the market participation from smaller enterprises and entrepreneurs, i.e. that we have consolidation in the entire construction industry. Then, the official growth indices of construction will be overrated. Moreover, the constantly comparable basis with the same number of enterprises is insensitive to the change in the total number of enterprises i.e. it is impossible to identify the real growth which brings the increase in the total number of enterprises or the real fall caused by the decrease in the total number of enterprises in construction. Or what happens with the number of working hours on the construction sites used to calculate the quarterly gross domestic product in case of either increased or decreased construction efficiency. Much faster growth of indices of the construction works value in 2004 in comparison to the indices of working hours on the construction sites could be attributed to increased efficiency.

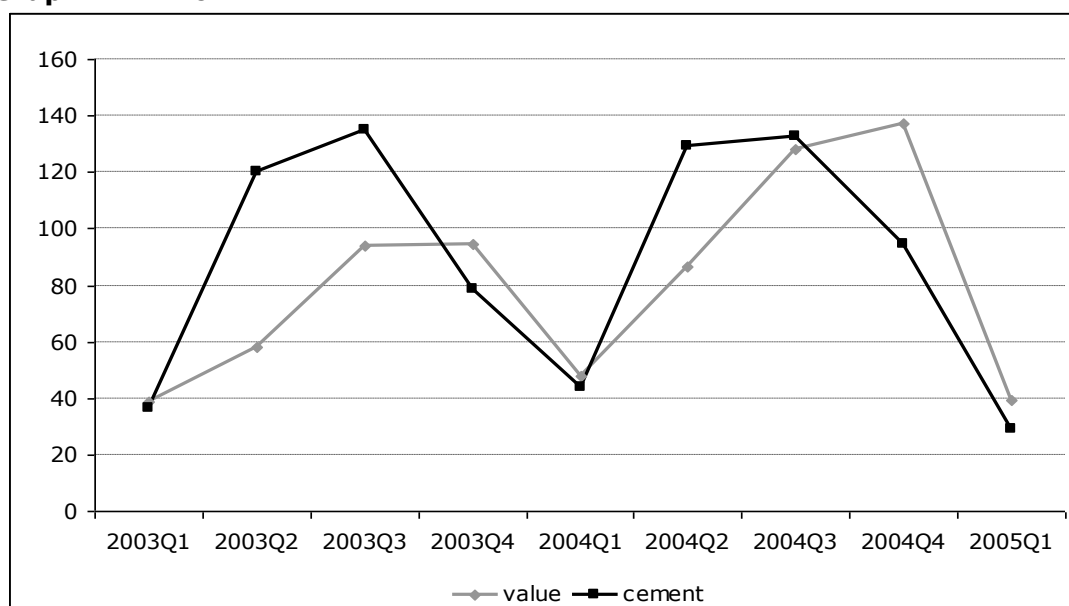
Therefore, the credibility of the published indices is firstly influenced by qualitative changes in the structure of a contractor, which are followed by the change of market participation of the monitored sample of enterprises. How realistic is it, even for Serbia, to have important qualitative changes happening at a quarterly or annual level and to influence significantly the reliability of published indices?

To answer this question we need a new parameter independent from all the qualitative characteristics of construction. By comparing such a parameter with the already existing ones, we will be able to assess the reliability of the official data.

Cement is a material used in all sectors of construction (residential construction, non-residential construction, civil engineering), it is produced in only three factories in Serbia and due to a significant impact of transportation prices on the overall price, cement is not suitable for transportation by road on bigger distances. All in all, the production of cement is relatively easy to monitor in a reliable way, external trade has no bigger impact on the consumption, and it reflects the trends in the overall construction industry and not only in one individual segment.

Let us observe the quarterly indices of cement production⁴² from industry statistics as regard to the value of performed construction works.

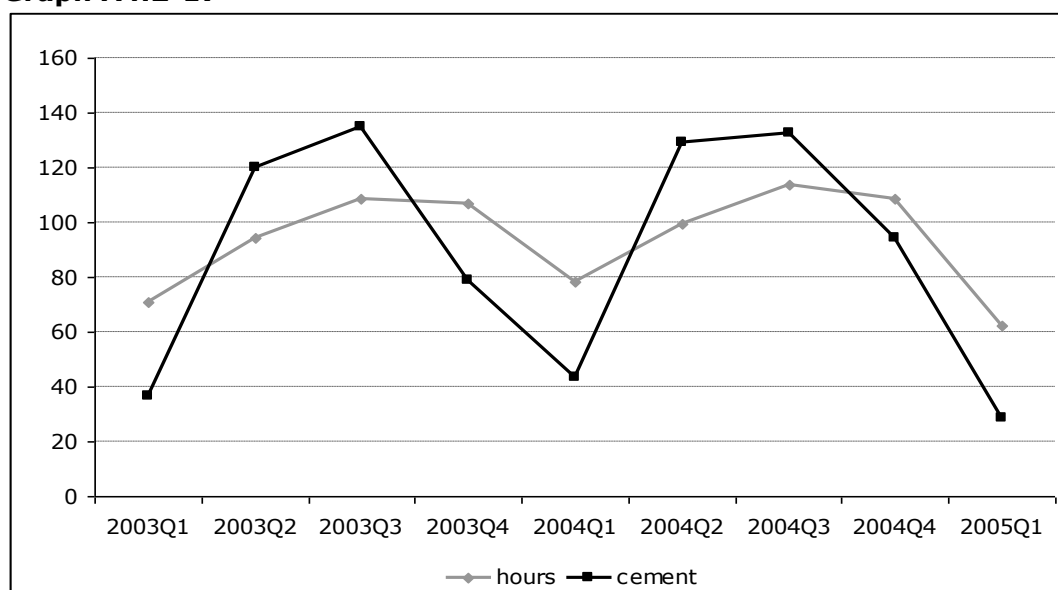
⁴² It would be ideal to use the indices of the total cement expenditure in order to avoid the effects of stock production. This data is currently unavailable at a quarterly level.

Graph A4.2-16.

Ø2004=100

We notice an extremely high degree of correlation and a natural movement of the two trends. Namely, the movement of the cement production index per definition precedes the movement of the index of construction works value. The correlation is very high even in the very dynamic 2004, which could influence a faster change in the qualitative structure of construction. It is also noticeable that the value index in 2003 is significantly under the cement production index. The problem lies in the comparability of these two parameters because the value index was based on the nominal value of dinar, directly affected by inflation, while the cement production index is not directly affected by it.

In order to eliminate the effects of inflation, we will compare the cement production index with the working hour's index which is insensitive to the inflationary changes, but not to the changes in the labor force efficiency:

Graph A4.2-17

Ø2004=100

We again see a very high degree of correlation in the chart, a natural movement of the two trends but also a bigger elasticity of working hours index in the quarterly changes in construction. Basically, there are relatively fast changes in the labor force efficiency in the conditions of increased or decreased construction activity.

Like the denominated index of construction works value marks growth in 2004 and the cement production index grows faster than the working hour's index on the construction sites, it is obvious that there was an increase in the labor force efficiency during 2004.

As regard to the cement production index as a parameter, it is too imprecise so that it could be adopted as a completely reliable indicator of changes in construction industry. For 2002, this index has a surprising value of 107.0, which is not in accordance with all other parameters for this year. The cement production index is especially sensitive during the stock production. As a change indicator in construction, it is possible to follow it independently only with a comparative quarterly analysis of cement production industry in Serbia.

Although a bigger number of specificities of observed indices are discovered, there is a high level of adjustments and logical relations. Actually, for a large number of cases we can claim the reliability of the indices of construction industry parameters monitored and published by the Statistical Office of the Republic of Serbia, collected through a survey of 500 bigger contractors in Serbia. The quarterly indices of housing construction that can be followed only at an annual level should not be included into reliable indices.

If we can say that the parameters indices in construction are mainly reliable enough, can we claim the same for the total value performed at an annual level. The answer would be that it is impossible to claim that with the current state of construction in Serbia. The participation of the grey area in construction, imprecise registrations of enterprises, and most certainly the lack of enforcement of legal framework that would bind enterprises to bigger discipline in cooperation with statistical offices, make this study practically unfeasible. The efforts made by the Statistical Office of the Republic of Serbia result in getting the official data more and more closer to the actual data. Starting from January 2006, there will be coordination with the data on contractors from construction permits which will significantly improve the quality of enterprises database which are being surveyed both quarterly and annually.

The best way we can use to describe the current situation is to compare the annual consumption of cement in construction which is published by the Statistical Office of the Republic of Serbia based on collected GR13 reports, and in comparison to the data on the annual consumption of cement in Serbia from the Association of Cement Producers. The cement consumption published by the Statistical Office is much lower. A part of the discrepancy comes from works organized by individual owners where it is impossible to assess material expenditure, and a part from using cement for smaller works noted as expenditure and not as construction activity. However, a big discrepancy is indicative between the data from cement sale and the data from the expenditure of construction material in enterprises.

Table A4.2-18.

The data source	Cement consumption, 2003	Cement consumption, 2004
Stat.Office; The expenditure of construction and fuel material in Serbia (mil of tons)	0.283	0.300
Association of Cement Producers (mil of tons)	1.892	2.077

It is obvious that the construction statistics does not include a large part of expenditure of the construction material.

It is not wrong to say that there are difficulties in monitoring construction in Serbia, as well as that the majority of those difficulties are a consequence of objective circumstances that one

cannot affect. Reaching the full coverage under these circumstances is impossible, so the published data made on the principle of full coverage, have to be taken with reserve. In the following period, there is a big challenge for the official statistics to enhance the control over monitoring the construction trends.

Finally, it is important to stress that construction is influenced by weather conditions. Quarterly construction trends show extreme seasonality. It is enough to have a longer or a late winter, and all the parameters describing construction in that period will change significantly.

Yet, it is encouraging that construction undoubtedly marks growth every year. The swing of investment activities of “new economy” in Serbia, as well as serious activities on the reconstruction of traffic infrastructure, initiate enhanced construction activity and faster recovery of construction in Serbia.

The causes of tumultuous dynamics in construction, as shown by the official statistics, should firstly be searched in a faster development and greater influence of external factors (seasonality and, one-off, VAT). Only after that we can go to a plausible impreciseness and unreliability of the official indices. Compared with connected parameters from independent sources, two very dynamic years have passed, with published indices. It is realistic to expect the official statistics to monitor successfully the construction trends in the future too. However, there is still much space for improvement of the reliability of total values published by the Statistical Office of the Republic of Serbia, and which are currently underestimated due to difficulties in reaching a full coverage.

Data Tables***Table A4.2-15. Indices of construction indicators at the territory of the Republic of SerbiaØ2004=100¹⁾**

	Value of performed construction works	Number of workers on sites	Working hours on sites	*Cement production	Number of finished dwellings	Prices of newly built dwellings	Business income of construction enterprises
2002	62.9	84.3	72.6	107	65.5	63.1	51.4
2003	73.7	95.2	95.1	92.6	84.9	85.9	67.5
2004	100	100	100	100	100	100	100
2003							
1. quarter	38.9	76.9	70.8	36.7	50.5	...	...
2. quarter	58.2	95.5	94.3	120.2	38	83.3	...
3. quarter	93.7	103.3	108.3	134.9	74.1	...	...
4. quarter	94.3	105	106.7	78.7	181.6	88.6	...
2004							
1. quarter	47.8	87.5	78.2	43.6	28.2	...	...
2. quarter	86.9	100.1	99.7	129	51.1	99	...
3. quarter	128.1	107.9	113.6	132.8	60.3	...	...
4. quarter	137.1	104.6	108.4	94.6	260.3	101	...
2005							
1. quarter	38.3	71	62.5	28.8	27.6	...	...
2. quarter	94.6	86.8	92.5	135.5	27.7	113.9	...

Source: SBS

* Table repeated from text.

1) Index of construction parameters from the comparable base at a quarterly level is introduced in 2003. Before that, the total value from the monthly incomplete coverage was published, so they should not be used for the indices.

Table A4.2-19. Value of Construction Works Performed (mil of dinars)

	Total	Buildings	Residential Buildings	Non-Residential Buildings	Civil Engineering Works
2001	33,320	...	...	...	...
2002	57,719	...	...	...	...
2003	70,668	38,073	25,575	12,498	32,594
2004	98,258	51,626	31,571	20,055	46,632

Source: SBS

Table A4.2-20. Housing Construction - Dwellings Completed

	Number of completed dwellings					Floor space of compl. dwellings, thous. m2				
	Total	One-room dwellings, studios and separate rooms	Two-room dwellings	Three-room and more-room dwellings	Four-room and more-room dwellings	Total	One-room dwellings, studios and separate rooms	Two-room dwellings	Three-room dwellings	Four-room and more-room dwellings
2000	10,372	1,685	3,250	2,724	2,713	809	65	196	217	332
2001	10,496	1,779	3,292	2,864	2,561	822	70	199	237	316
2002	10,713	1,827	3,360	2,817	2,709	838	64	198	230	346
2003	13,883	2,579	4,089	3,685	3,530	1,124	96	242	301	485
2004	16,351	3,862	5,410	4,052	3,027	1,218	139	312	332	435
o/w: Private sector of ownership										
2000	7,739	894	2,180	2,221	2,444	646	33	132	179	302
2001	7,378	865	2,047	2,117	2,349	621	32	121	174	293
2002	8,896	1,348	2,589	2,391	2,568	724	46	153	196	330
2003	11,215	1,761	2,795	3,201	3,458	976	67	167	263	479
2004	11,766	2,211	3,646	3,251	2,640	951	81	212	270	388

Source: SBS

Table A4.2-21. Housing Construction - Non-Completed Dwellings, situation at the end of year

	Total		Private sector ownership	
	Number of dwellings	Floor space, thous. m2	Number of dwellings	Floor space, thous. m2
2000	39,490	3,296	25,454	2,359
2001	37,783	3,165	24,773	2,304
2002	39,809	3,310	26,455	2,452
2003	36,390	3,026	22,631	2,139
2004	33,967	2,740	21,373	1,946

Source: SBS

4. Transport, Storage and Communications Services

- **Definitions**
- **Methodology**
- **Data Tables**
 - A4.2-24. Index of Transport, Storage and Communications: Base Index 2001=100, 2001-2005
Frequency: Annual and quarterly

Definitions

One passenger kilometer (pkm) represents one person transport over the distance of one kilometer. One ton kilometer (tkm) represents one ton of goods transported over a distance of one kilometer.

Synthesized pkm and tkm present aggregates obtained by multiplying passenger kilometers and ton kilometers with appropriate coefficients.

Index of transport services is the ratio of total passenger kilometers and ton kilometers in time.

Methodology

For the analysis of the transport sector, storage and communications services, The Republic of Serbia Statistics Bureau calculates the physical volume index of transport and postal services.

Basic data are obtained from monthly, quarterly and annual statistical reports collected from transport organizations. Inland waterway transport data have been obtained by processing the Yugoslav Register of Vessels data (registered floating crafts in inland waterway) of number of passenger and volume of cargo. RZS receives all the data relating to railway transport from the Belgrade Railway Transport Enterprise, and all the data relating to postal and telecommunications activities from the Public Enterprise PTT Serbia, "Telecom" Serbia AD⁴³ and "Mobtel".

According to the official methodology, the data on passengers and goods transportation by inland waterway, air and road transport refer to the transport realized by transport organizations registered for transport activities, regardless of whether the transport was performed within or outside the national boundaries and whether at the expense of a domestic or foreign user. In the last years, as company vehicles' road transport has grown in importance, its activity is shown separately. However, CEVES has not yet been able obtain more detailed information on actual coverage. This is an issue discussed below.

The railway transport operations, expressed in passenger-kilometers and ton-kilometers, refer only to the transport carried out within the territory of Serbia. Data on postal-telegraph-telephone traffic activities refer only to postal, telegraph and telephone (PTT) enterprises, as well as to enterprises from the telecommunications sector.

Domestic river transport of goods covers all traffic in river ports, including also traffic performed in other loading/unloading locations out of ports, by vessels under the Serbian or a foreign flag.

The physical transport volume services index is computed by the method of synthesized passenger and ton kilometers, converted into 1 ton kilometer in railway transport.

The unit of measure in passengers transport is 1 passenger kilometer (pkm), representing one person transport over the distance of one kilometer. The unit of measure in goods transport is 1 ton kilometer (tkm), representing one ton transport over a distance of one kilometer.

Work in each field of transport, expressed in passenger and ton kilometers, is differently weighted depending on applied technological and economic criteria. Conversion coefficients used to calculate the passenger or ton kilometers in passenger and goods transport are presented in Table A5.2-16:

⁴³ Joint stock company

Table A4.2-22. Conversion Coefficients in Passenger and Goods Transport

	Passenger Transport	Goods Transport
Railway Transport	0,981	1,000
Road Transport	1,377	1,965
City Transport	6,804	-
Pipeline Transport	-	1,034
Inland Waterway Transport	-	0,264
Air Transport	8,193	14,977

Source: SBS

Note: The cited coefficients cannot be used in physical volume index calculation for smaller areas (e.g. town, district, etc.)

By multiplying passenger kilometers and ton kilometers with appropriate coefficients we obtained aggregates that present synthesized passenger and ton kilometers (pkm and tkm). Synthesized passenger and ton kilometers are converted into 1 tkm in railway transport. The ratio of total passenger kilometers and ton kilometers in time gives physical volume indices of transport services.

Indices of physical volume of PTT services are calculated on the basis of weighted letter mail and parcel services, payment operations services, telegraphic services, telephone services of fixed and mobile telephone networks, "Yu-PAK" network, and paging system. Physical volume indices of postal services and telecommunications are presented in the following coefficients:

Table A4.2-23. Coefficients in Postal Services and Telecommunications

Type of Services	Annual Coefficients
Mail Services	13,0988
Parcel Services	157,4754
Payment Operations	34,5747
Telegraphic Impulses	20,1591
Telephony: Fixed Telephony (impulse)	1,0000
Mobile Telephony (minute)	114,8129
Paging System	6,1279
Yu-PAK Network	0,0277

Source: Republic of Serbia Statistics Bureau

Note: In letter mail services and parcel services, transit is not included. In telecommunications, a unit of work in fixed telephony is an impulse and in mobile telephony a minute. Operations of the paging system are shown in the number of sent messages, and services of the "Yu-PAK" network in kilo segments.

Issues

Very high and variable growth of this sector deserve a closer look. Index of road transport reports great decline in 2002-2004. However, this decline cannot be credible. Due to the removal of significant part of road transport services from large social enterprises to new private enterprises (statistically probably not covered very well), services are probably underestimated in this sector. SBS is also aware of the coverage problem in road transport statistics and is planning to overhaul the methodology in near future.

Within the period from 2000 to 2004 telecommunications also had an ascending growth schedule, including high jumps in 2003 and 2004. This data is not unexpected taking into account a high growth of the number of mobile telephone users in this period, but the growth of intensity of the use of telecommunications in general. The problem is a large number of small companies in the field of telecommunications (Internet providers, for example) whose growth was very dynamic in the previous month. There is doubt that the scope of their services is not covered in an adequate way.

Data Tables**Table A4.2-24. Index of Transport, Storage and Communications:
Base Index 2001=100, 2001-2005**

	Transport - Total								Postal Activities and Telecommunications		
	Total	Land Transport					Inland Waterway Transport	Air Transport	Total	Postal Activities	Telecommuni- cations
		Total	Railway	Road	City	Pipeline					
Annual Indices											
2001	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2002	106.7	100.6	105.8	96.2	100.9	115.5	109.9	119.0	91.3	55.2	100.1
2003	112.2	99.6	112.1	91.5	99.5	122.4	84.8	139.8	119.9	89.6	130.3
2004	117.6	101.1	131.4	82.5	102.1	137.4	109.4	153.2	151.9	116.6	164.9
Quarterly Indices											
2001											
IV quarter	104.9	118.1	97.1	129.0	110.4	154.1	116.7	77.1	94.9	104.4	91.7
2002											
I quarter	93.6	101.7	79.9	107.8	99.8	145.4	72.8	77.2	93.6	101.6	90.9
II quarter	108.8	110.3	113.9	116.2	104.6	82.5	118.2	105.6	100.9	103.2	100.2
III quarter	135.7	109.7	117.9	122.9	90.7	91.9	123.2	191.0	107.8	103.0	109.3
IV quarter	114.4	118.2	111.7	125.8	108.6	142.7	126.0	106.4	111.2	103.7	113.7
2003											
I quarter	91.8	92.2	98.0	77.3	95.6	172.3	111.3	89.3	102.2	87.6	110.4
II quarter	107.9	102.4	119.5	94.6	102.8	98.9	77.6	120.2	118.3	87.5	128.7
III quarter	139.9	97.3	119.2	97.6	87.6	85.1	73.5	234.6	129.2	87.1	140.9
IV quarter	109.3	106.6	111.7	96.3	112.1	133.2	76.7	115.3	129.7	96.0	141.0
2004											
I quarter	96.5	94.7	106.9	76.3	98.9	174.4	89.7	99.5	132.0	112.3	142.5
II quarter	111.3	100.6	128.8	83.9	105.1	101.5	127.0	133.2	146.9	116.0	159.2
III quarter	150.7	99.6	146.1	85.4	91.4	106.3	117.0	262.8	159.8	111.8	174.0
IV quarter	112.2	109.8	144.3	84.7	113.0	167.1	103.9	116.8	168.9	126.7	183.4
2005											
I quarter	99.4	105.6	121.0	96.1	99.2	176.6	97.8	85.0	172.4	116.2	188.0
II quarter	113.9	114.1	143.3	112.7	102.6	96.3	132.4	111.9	195.7	120.9	213.9
III quarter	152.6	116.5	143.5	127.9	91.5	105.8	122.9	232.0	216.0	118.6	237.4

Source: SBS

5. Index of Agricultural Production

- **Definitions**
- **Methodology**
- **Data Tables**
 - A4.2-20 Index of Agricultural Production: Year-on-Year Index, 2000-2004
Frequency: Annual

Definitions

An index of physical volume of agricultural production is the statistical indicator with which the volume changes of agricultural production have been measured. For the index calculation, data from regular agricultural statistical surveys referring to crop volume and livestock production as well as agricultural producers' average prices data at the level of Republic of Serbia are needed. A list of products includes all economically important agricultural products.

Methodology

Until 2003 the list included 65 products. A weighted three-year moving average of producers' prices at the State level of Serbia and Montenegro was used. Chain and basic indices were calculated with the bases 1954-1963=100 and 1957- 1963=100. Since 2003, some changes have been implemented in the calculation method of agricultural production physical volume index, and, for the sake of comparison, have been applied to the entire annual series presented.

From the list of products for the index calculation, products that have very small economic influence in the last few years are excluded, and products that have a bigger influence on the volume of agricultural production, are included in the list (raspberry, strawberry, garlic and cucumber). So, the new list includes 56 economically important agricultural products. A weighted three-year moving average of producers' prices at the level of the Republic of Serbia was used. 1995 has been established as the base year for basic indices.

For agriculture as a whole, gross and net indices have been calculated. For the calculation of the gross index number, the agricultural production of all 56 products from the list has been taken into account, but for the calculation of the net index number, in order to avoid double counting, fodder was excluded.

The data on agricultural organizations (agricultural enterprises and cooperatives) are collected via regular annual reports, based on the data taken from accounting and other records. For private agricultural holdings, data on areas are estimates based on the data taken from cadastral records.

The data on number of livestock and livestock turnover, as well as the data on production of milk, eggs, honey and wool have been collected from regular annual reports of agricultural organizations (enterprises and agricultural cooperatives) and annual surveys for private agricultural holdings and households.

Estimates of the contribution of agriculture to GDP are based on the following indicators:

- Physical Volume Index of Agricultural Production
- Value of Sales and Purchase of Agricultural Products at current prices
- Index of Producer Prices for Agricultural Products

The Statistics Bureau of Serbia (SBS) uses the Index of Agricultural Production to approximate the agricultural sector in annual GDP estimates.

The quarterly estimates of the contribution of agriculture to GDP are based on the Index on Value of Sales and Purchase of Agricultural Products at current prices. The methodology of data collection for this index is the following. Data are collected by two monthly surveys: agricultural enterprises and cooperatives sales and purchase of agricultural products (PO-TRG -33) and sales and purchase of agricultural products by households (TRG-31). Delivered products values are calculated at selling prices, and redemption value at redemption prices. Constant price Index is evaluated by deflating by certain agricultural product price Index.

Issues

There is much need for caution when accepting the methods described above as accurate indicators of the participation of agriculture in GDP. There are numerous issues which can question the reliability of collected data in privately owned farms, especially when it comes to data on animal farming which are collected on a sample rather than the entire population. Also cadastral records and household surveys are questionable as reliable sources of data on private farms. These issues are documented from personal interviews with SBS and Ministry of Agriculture staff and are addressed in the appendix below.

The SBS is supposed to use the Value of Sales and Purchase of Agricultural Products at current prices to estimate the contribution of agriculture to the quarterly GDP. If we look at the table below, where some indices from the SBS quarterly GDP estimates are compared with the indices of Value of Agricultural Sales, we can see that these data are not compatible at all. For example, in the first quarter of 2005, the value of agricultural sales grew for 45.9 percentage points, whereas the contribution of agriculture to the GDP in the same quarter dropped 2.8 percentage points. If the Value of Sales and Purchase of Agricultural Products Index is used to estimate GDP, as SBS claims it to be so, how can there be such wide discrepancies between these two indices, so that one would increase while the other is decreasing? Small differences in these indices can happen, but it is unlikely that they would go in totally different directions. Such incompatibility between numbers should be a good reason to oblige the SBS to make the actual methodologies they use more transparent.

Table A4.2-19 Comparison of two Indices

	Value of Agricultural Sales Index	GDP Growth Index - Agriculture
2004 Q4	144.4	142.8
2005 Q1	145.9	97.2

Source: SBS

Moreover, the value of sales would not be a good indicator to use for estimating GDP as sales of products produced in the previous year can occur in the first quarter of the following year, and in that way sales volume would not be a good indicator of the production taking place in that year, and especially not in that quarter, when estimating quarterly GDP. Therefore, the SBS must incorporate other data when estimating the GDP.

Data Tables**Table 4.2-20 Index of Agricultural Production: Year-on-Year Index, 2000-2004**

Y-o-Y Indices	2000	2001	2002	2003	2004
Agriculture	87,2	118,6	96,6	92,8	119,5
Plant Production	72,9	150,0	95,8	83,2	143,9
Crop Production	65,5	160,7	95,3	74,2	156,2
<i>Cereals</i>	59,1	173,9	92,5	66,2	179,4
<i>Industrial Crops</i>	61,5	144,4	105,3	94,9	138,4
<i>Vegetables</i>	82,3	40,3	97,5	81,8	126,0
<i>Fodder Crops</i>	64,4	150,5	98,0	82,1	135,7
Fruit Production	100,1	107,0	95,2	164,7	102,8
Vineyard Production	178,6	116,6	103,7	114,0	94,3
Animal Farming	94,7	98,6	101,8	98,1	99,6
Cattle Farming	94,5	101,2	100,1	98,8	99,7
Pig Farming	94,7	97,2	103,6	94,7	96,7
Sheep Farming	97,9	96,3	103,7	120,3	98,1
Poultry Farming	94,0	96,4	100,2	96,6	109,1
Bee Farming	116,3	87,2	111,0	127,1	110,4

Source: SBS

III WAGES AND REGISTERED EMPLOYMENT⁴⁴

- **Definitions**
- **Methodology**
- **Issues**
- **Data Tables**
 - Table A4.3-1. IAD Data
Frequency: annual
 - Table A4.3-2. Number of employed in Serbia, Various Sources: 2001-August 2005 (in 000*)
Frequency: annual, monthly
 - Table A4.3-3. Employees in Serbia, indices
Frequency: annual, monthly
 - Table A4.3-4. Wages in Serbia, in dinars
Frequency: annual, monthly
 - Table A4.3-5. Wages in Serbia, indices
Frequency: annual, monthly

⁴⁴ Wages and Employment data production methodologies are discussed together because they share many primary sources and problems.

Definitions

Term “**employees**” include all persons that have *formal employment contract* with employer⁴⁵; term “**employed**” additionally include sole proprietors (SP) and persons performing independent activity-occupation.

Gross wage consists of earnings of the employee for the time spent at work and other incomes (except: local public transportation bonus and time spent on business trip in the country and abroad, pension indemnity, solidarity in help, jubilee premium and help in case of death of employee or member of his/her family).

Net wage is gross wage without income tax (14%) and the part of contributions paid by employee (17.9%).

Methodology

No central office seems to have been registering and publishing data on formal employment and wages so far. Hence, data are estimated by SBS, based on three sources: Semiannual Report filled by enterprises (RAD—1) and supplemented with Survey that covers small enterprises (less than 50 employees not covered by RAD-1), and data on sole proprietorships and their employees from Health insurance fund (Report RAD-15).

Since 2003 Tax administration has started processing Individual Annual Declarations (IAD) and some preliminary data are already available.

Annual data

Data on annual average of employed are calculated as the average of number of employed on 31st of March and 30th of September.

Data on employees working in enterprises, institutions and organizations (i.e. in legal entities) are obtained by regular **Semiannual Report on employees and their wages RAD-1** (*Table A5.3-2, Column 10*)⁴⁶.

These data are supplemented with a **Supplementary Survey to Semiannual Report RAD-1**⁴⁷. Data are obtained as estimates from the stratified sample that consists some 400 small enterprises (with less than 50 employees) which have not been reporting Semiannual RAD-1 regularly (have not send last two reports)⁴⁸.

These two sources together give number on employees in enterprises, organizations and institutions (*Table A5.3-2, Column 2*).

Data on Sole proprietorship (owners of small shops, persons performing independent activity-occupation and their employees) are collected by SBS on the basis of **Semiannual Report RAD-15** provided by Health Insurance of Employees (*Table A5.3-2, Column 3*)⁴⁹.

⁴⁵ Persons that work according to the work contract or contract on performing of temporary work are not considered to be employed and employees which employment stands still for one or more years.

⁴⁶ Data on number of employees working in enterprises, collected by semiannual RAD-1, are not published as such. The number is taken from the Communication ZP12

⁴⁷ These numbers are not published.

⁴⁸ Enterprises that have filled in financial statement but have not send at least two Semiannual Reports (RAD-1)

⁴⁹ SP that are registered at the Republic Office for Health Insurance of Employees

These data altogether - total employed (*Table A5.3-2, Column 1*) - do not include employees in military service and active members of the armed forces and civilians employed in the army, as well as employees in institutions of internal affairs and our working units abroad⁵⁰.

Annual wage data are obtained by averaging monthly data explained below.

Monthly data

Data on monthly number of employees are obtained by regular **Monthly report on employees and their wages (salaries) in the form (RAD-1)**, done on the basis of the sample (*Table A5.3-2, Column 7*)

For other data on employees (that are compiled in March and September) monthly estimates are based on interpolations and extrapolations.

Data on wages are (only) from the Monthly report RAD-1. Average wage per employee is drawn from the total wage bill of enterprises reporting RAD-1, divided by the total number of formally employed (those with the contract and employment record), no matter whether they received wage or not.

Issues

- Official number of total formally employed in Serbia for 2004 is around 2,050 thousands (including entrepreneurs and owners of small shops). This is a number of formally employed, no matter whether they receive wage or not (around 200,000 was not regularly paid – see *Table A5.3-2, Column 9 and 11*)⁵¹.
- Total number of employed (for example 2.050 million in 2004 - 1.84 employees and 209 thousands entrepreneurs) does not include employees in military service and active members of the armed forces and civilians employed in the army (as well as employees in institutions of internal affairs and our working units abroad)⁵². Some estimates and cross-reference with the data from Tax administration (*see Table A5.3-1*) suggest that there is at least 100,000 more persons formally employed – number of formal employees of more than 1.932 million in 2004 according to Tax administration (IAD forms) is almost 100,000 higher than equivalent number from SBS (1.841 million). Furthermore, most probably employees in military service are also not covered by Tax administration data, making total around 150,000 people more in comparison to Official Statistics. So the estimate is that there was around **2.150-2.2 million formally employed persons in 2004**⁵³, or around **2 million employees** (formal).
- However, out of that number, more than 200,000 people earned less than 20% of average wage in Serbia, and more than 400,000 less than 40% of average wage, which is considered a minimal wage according to Labor Law (Tax administration data, *see Table A5.3-1*). This is also supported by Statistics` Reports showing that each month there was somewhat 180,000-200,000 persons that were not paid at all (*see Table A5.3-2, Column 9*)⁵⁴. People that are not

⁵⁰ Our citizens employed in representative offices of some foreign country on the territory of our country
foreign citizens employed in our country.

⁵¹ On the other side, it does not include those working in gray economy

⁵² No survey covers these categories-

⁵³ Around 1.9 million employees (Tax administration), plus more than 200,000 entrepreneurs and shop-owners, plus those employed in the army.

⁵⁴ This does not mean that every month same people were not paid at all. Tax administration data shows that "only" 11,000 received zero wages, while more than 200,000 were paid more than 0 but less than 50,000 CSD for the whole year; and around 400,000 were paid between 0 and 90,000 CSD in 2004. This implies that there is a large number of employees being paid only from time to time.

Appendix IV – Wages and Registered Employment paid are still counted i.e. used as numerator when calculating average wage (gross average of 20,555 CSD in 2004 according to RSO or 19,913 equivalent from Tax administration). When people with zero wages are not taken into account, wage figures are higher (see *Table A5.3-4, Column 3*).

- So it may be more appropriate to say that actual average wage in Serbia is actually underestimated by RSO figures, but then if we do not count around 180,000-200,000 people, number of employees is overestimated. However, since the official number of formal employment (SBS) is already underestimated, the above stated arguments stand primarily for wages.
- It can be concluded that those really employed (regularly paid) in Serbia, actually earn more than Official statistics is stating, while the number of employees really is around 1,8 million (more than 2 million employed).

Developments

- Sample RAD-1 is biased toward enterprises that are or used to be in state and social ownership and were overstaffed in the previous period
 - Number of employees in the “sample” that SBS uses for monthly wage statistics is currently around 1,2 million formally employed (including those that are not paid - do not receive wage). In 2001 this sample covered around 74% of total employees in Serbia, while only around 65% in 2004 (*Table A5.3-2, Column 7/Column 6*). So the number of employees in the sample has been decreasing faster since 2001 than the total number of employees in the economy – number of employees in the sample is 15% lower in 2004 in comparison to 2001, while the total number of employees in the economy decreased only for 5% in the same period.
 - Consequently, a part of the increase in average salary is due to decrease in number of employees in the sample. The total nominal index of the average gross wage growth in the observed period (August 2005/January 2001) of 440 can be decomposed into the effect of **wage bill growth (index 334.4)** and the effect **of decrease of the number of formal employees in the sample of (index 131.6** i.e. the inversed 0.759). Decrease in the number of formal employees in the sample in the observed period August 2005/January 2001 (nominal index 131.6) can be further decomposed into the effect of decrease in the number of employees who were paid (i.e. receiving the salary) – nominal index 125.3 – and those not receiving salaries (index 105).
- Wages in 2002 compared to 2001 have significantly increased (both average wage and wage bill). The explanation can be tax reform Jun 2001.
 - Gross wage (base for contributions and income tax calculation) since June 2001 started to include meal allowance, holiday allowance and business-trip allowance. This had widened base for on average 25% for income tax (this estimate can be supported by ZOP data, Official Gazettes etc.). Part of the growth in both gross and net wages is due to the wider base.
 - For higher income earners tax base has not widened significantly. For example, those earning 15,000 CSD less than 10%. That time, most of the enterprises were still socially and stated-owned, so they did not have the incentive to decrease labor cost, instead fiscal burden relief was translated into wage growth.
 - Since May 2003 some contributions paid for authorship fee and service contract ⇒ incentive for this type of earnings to translate into wages

Data Tables**Table A4.3-1. IAD Data**

	Number of people	Gross Wage Bill	Average monthly wage equivalent
Total employees	1,932,417	461,769,497,927	19,913
Wage >0	1,920,656		20,035
Wage and pension contributions >0	1,905,116		
Annual wage = 0	11,761		
Annual wage < 10,000	56,000		
Annual wage < 50,000	233,725		22,387
Annual wage < 100,000	405,869		24,243

Source: Tax Administration - Individual Annual Declarations

* Minimum wage (and contribution base) is 40% of average wage, for 2004 this is 98,664 CSD

Table A4.3-2. Number of employed in Serbia, Various Sources: 2001-August 2005 (in 000*)

	Sole proprietorship (RAD-15)					Sample (monthly RAD-1)				Semiannual Report (RAD-1)		
	Total employed 1=2+3	Employees (enterprises) 2	Total 3	Entrepreneurs 4	Employees 5	Total employees (enterprises + small shops) 6=2+5	Formal employees 7	Paid out employees 8	No wage paid 9	Total 10	Have not received salary 11	LFS employees 12
Registered employment - annual												
2000	2,097	1,786	311	170	141	1,927	..	..	..
2001	2,102	1,752	349	182	167	1,919	1,420,375	..	..	
2002	2,067	1,677	390	190	200	1,876	1,333,993	1,149,622	184,371			
2003	2,041	1,612	430	200	230	1,842	1,268,010	1,068,094	199,916			
2004	2,050	1,580	471	209	262	1,841	1,200,504	1,021,584	178,920			
Registered employment - monthly												
2001												
January	2,088	1,770	318	173	145	1,915	1,440,979	1,218,260	222,719	..	..	..
February	2,086	1,768	318	173	145	1,913	1,437,968	1,199,604	238,364	..	..	..
March	2,109	1,768	341	181	160	1,928	1,435,784	1,215,262	220,522	..	..	..
April	2,107	1,766	341	181	160	1,926	1,435,008	1,198,284	236,724	..	..	..
May	2,105	1,764	341	181	160	1,924	1,432,777	1,185,514	247,263	..	..	..
June	2,096	1,755	341	181	160	1,915	1,424,973	..	..	..	..	..
July	2,088	1,747	341	181	160	1,907	1,417,669	..	..	..	..	..
August	2,085	1,744	341	181	160	1,904	1,413,534	..	..	..	..	..
September	2,098	1,740	358	184	174	1,914	1,409,799	..	..	..	..	..
October	2,095	1,737	358	184	174	1,911	1,403,008	..	..	..	..	..
November	2,095	1,737	358	184	174	1,911	1,399,488	..	..	..	..	..
December	2,091	1,733	358	184	174	1,907	1,393,513	..	..	..	..	..
2002												
January	2,084	1,726	358	184	174	1,900	1,383,483	1,175,746	207,737	..	..	..
February	2,079	1,721	358	184	174	1,895	1,375,904	1,166,699	209,205	..	..	..
March	2,087	1,709	378	186	192	1,901	1,360,844	1,167,073	193,771	..	..	..
April	2,082	1,704	378	186	192	1,896	1,356,492	1,172,645	183,847	..	..	..
May	2,073	1,695	378	186	192	1,887	1,349,493	1,159,407	190,086	..	..	..
June	2,060	1,682	378	186	192	1,874	1,339,392	1,152,902	186,490	..	..	..
July	2,047	1,669	378	186	192	1,861	1,328,075	1,157,027	171,048	..	..	..
August	2,034	1,656	378	186	192	1,848	1,317,374	1,156,621	160,753	..	..	..
September	2,046	1,645	401	195	206	1,851	1,308,058	1,132,554	175,504	..	..	..
October	2,042	1,641	401	195	206	1,847	1,302,127	1,130,512	171,615	..	..	1,929,859
November	2,037	1,636	401	195	206	1,842	1,294,442	1,107,652	186,790	..	..	..
December	2,037	1,636	401	195	206	1,842	1,292,237	1,116,626	175,611	..	..	..

Table A4.3-2. Number of employed in Serbia, Various Sources: 2001-August 2005 (in 000*)

	Sole proprietorship (RAD-15)					Sample (monthly RAD-1)			Semiannual Report (RAD-1)			
	Total employed	Employees (enterprises)	Total	Entrepreneurs	Employees	Total employees (enterprises + small shops)	Formal employees	Paid out employees	No wage paid	Total	Have not received salary	LFS employees
	1=2+3	2	3	4	5	6=2+5	7	8	9	10	11	12
Registered employment - monthly												
2003												
January	2,031	1,630	401	195	206	1,836	1,299,479	1,043,950	255,529	..	..	..
February	2,043	1,641	401	195	206	1,847	1,295,357	1,077,609	217,748	..	..	..
March	2,046	1,628	418	198	220	1,848	1,282,733	1,067,717	215,016	..	..	..
April	2,046	1,627	419	198	220	1,847	1,282,049	1,090,910	191,139	..	..	..
May	2,040	1,622	418	198	220	1,842	1,276,550	1,071,894	204,656	..	..	..
June	2,035	1,617	418	198	220	1,837	1,271,848	1,066,311	205,537	..	..	..
July	2,030	1,611	419	198	220	1,831	1,266,752	1,079,836	186,916	..	..	..
August	2,027	1,608	418	198	220	1,828	1,263,881	1,076,564	187,317	..	..	..
September	2,036	1,595	441	202	239	1,834	1,251,477	1,056,349	195,128	..	..	..
October	2,033	1,592	441	202	239	1,831	1,248,140	1,072,468	175,672	..	..	1,839,148
November	2,027	1,586	441	202	239	1,825	1,242,408	1,054,805	187,603	..	..	..
December	2,020	1,579	441	202	239	1,818	1,235,449	1,058,713	176,736	..	..	..
2004												
January	2,008	1,567	441	202	239	1,806	1,223,924	1,020,269	203,655	..	..	..
February	2,001	1,560	441	202	239	1,799	1,217,415	1,015,055	202,360	..	..	..
March	2,065	1,601	464	208	255	1,856	1,213,483	1,027,697	185,786	1,327,213	..	..
April	2,063	1,598	464	208	255	1,853	1,211,244	1,037,329	173,915	..	..	..
May	2,057	1,593	464	208	255	1,848	1,205,887	1,022,239	183,648	..	..	..
June	2,053	1,589	464	208	255	1,844	1,202,616	1,024,461	178,155	..	..	..
July	2,051	1,587	464	208	255	1,842	1,200,343	1,032,365	167,978	..	..	..
August	2,046	1,582	464	208	255	1,837	1,195,392	1,019,843	175,549	..	..	..
September	2,037	1,560	477	210	267	1,827	1,189,589	1,005,202	184,387	1,300,448	199,768	..
October	2,034	1,557	477	210	267	1,824	1,186,696	1,023,329	163,367	..	..	2,059,417
November	2,028	1,551	477	210	267	1,818	1,181,366	1,006,281	175,085	..	..	..
December	2,026	1,548	478	210	267	1,815	1,178,098	1,024,941	153,157	..	..	..
2005												
January	2,017	1,539	478	210	267	1,806	1,138,577	951,530	187,047	..	..	..
February	2,010	1,532	478	210	267	1,799	1,132,979	956,951	176,028	..	..	..
March	2,070	1,557	513	228	285	1,842	1,125,456	960,077	165,379	1,287,529	190,656	..
April	2,064	1,551	513	228	285	1,836	1,119,926	973,566	146,360	..	..	..
May	2,056	1,543	513	228	285	1,828	1,112,524	962,743	149,781	..	..	..
June	2,051	1,538	513	228	285	1,823	1,108,001	964,051	143,950	..	..	..
July	2,045	1,532	513	228	285	1,817	1,102,610	969,198	133,412	..	..	..
August	2,037	1,523	514	228	285	1,808	1,094,516	971,889	122,627	..	..	..

* Except for sample (RAD-1) data

1) Total (registered) employed in Serbia - employees within legal entities (enterprises, organizations, institutions), employees within sole proprietorship (small shops and handicrafts) and sole proprietors (shop owners, entrepreneurs). Employees in military service and active members of the armed forces and civilians employed in the army, as well as employees in institutions of internal affairs and our working units abroad are not included.

SOURCES: Semiannual (Monthly) Report on employees and their wages RAD-1; Supplementary Survey to Semiannual Report RAD-1; Semiannual Report RAD-15

2) Employees in enterprises, organizations and institutions (i.e. legal entities)

SOURCES: Semiannual and Monthly Report on employees and their wages RAD-1 and Survey (Inquiry) supplementing the Semiannual Report RAD-1

3) Entrepreneurs, self-employed and their employees, i.e. sector of so called physical entities.

SOURCE: Semiannual Report RAD-15

4) Entrepreneurs (including small-shop owners) and self employed.

SOURCE: Semiannual Report RAD-15

5) Employees working for entrepreneurs (i.e. in small shops and craftsman).

SOURCE: Semiannual Report RAD-15

6) Total employees - both in legal and physical entities (enterprises, organizations, institutions as well as in small shops and within enterprises). Entrepreneurs (shop owners and self-employed) are not included.

SOURCES: Semiannual and Monthly Report on employees and their wages RAD-1 and Survey (Inquiry) supplementing the Semiannual Report RAD-1, Semiannual Report RAD-15

Table A4.3-3. Employees in Serbia, indices

	Sole proprietorship (RAD-15)					Sample (monthly RAD-1)			
	Total employed	Employees (enterprises)	Total	Entrepreneurs	Employees	Total employees (enterprises + small shops)	Formal employees	Paid out employees	No wage paid
	1=2+3	2	3	4	5	6=2+5	7	8	9
Registered employment - annual (average 2001=100)									
2001	100.0	100.0	100.0	100.0	100.0	100.0	100.0	..	..
2002	100.2	98.1	112.2	107.1	118.4	99.6	93.9	..	..
2003	98.5	93.9	125.4	111.8	141.8	97.3	89.3	92.9	108.4
2004	97.3	90.2	138.3	117.6	163.1	95.6	84.5	88.9	89.5
Registered employment - monthly (January 2001=100)									
2001									
January	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
February	99.9	99.9	100.0	100.0	100.0	99.9	99.8	98.5	107.0
March	101.0	99.9	107.2	104.6	110.3	100.7	99.6	99.8	99.0
April	100.9	99.8	107.2	104.6	110.3	100.6	99.6	98.4	106.3
May	100.8	99.7	107.2	104.6	110.3	100.5	99.4	97.3	111.0
June	100.4	99.2	107.2	104.6	110.3	100.0	98.9	..	..
July	100.0	98.7	107.2	104.6	110.3	99.6	98.4	..	..
August	99.8	98.5	107.2	104.6	110.3	99.4	98.1	..	..
September	100.5	98.3	112.6	106.4	120.0	99.9	97.8	..	..
October	100.3	98.1	112.6	106.4	120.0	99.8	97.4	..	..
November	100.4	98.2	112.6	106.4	120.0	99.8	97.1	..	..
December	100.2	97.9	112.6	106.4	120.0	99.6	96.7	..	..
2002									
January	99.8	97.5	112.6	106.4	120.0	99.2	96.0	96.5	93.3
February	99.6	97.2	112.6	106.4	120.0	99.0	95.5	95.8	93.9
March	100.0	96.6	118.9	107.5	132.4	99.3	94.4	95.8	87.0
April	99.7	96.3	118.9	107.5	132.4	99.0	94.1	96.3	82.5
May	99.3	95.8	118.9	107.5	132.4	98.6	93.7	95.2	85.3
June	98.6	95.0	118.9	107.5	132.4	97.8	93.0	94.6	83.7
July	98.0	94.3	118.9	107.5	132.4	97.2	92.2	95.0	76.8
August	97.4	93.6	118.9	107.5	132.4	96.5	91.4	94.9	72.2
September	98.0	92.9	126.1	112.7	142.1	96.7	90.8	93.0	78.8
October	97.8	92.7	126.1	112.7	142.1	96.5	90.4	92.8	77.1
November	97.6	92.4	126.1	112.7	142.1	96.2	89.8	90.9	83.9
December	97.6	92.4	126.1	112.7	142.1	96.2	89.7	91.7	78.8
2003									
January	97.3	92.1	126.1	112.7	142.1	95.9	90.2	85.7	114.7
February	97.9	92.7	126.1	112.7	142.1	96.5	89.9	88.5	97.8
March	98.0	92.0	131.4	114.5	151.7	96.5	89.0	87.6	96.5
April	98.0	91.9	131.8	114.5	151.7	96.5	89.0	89.5	85.8
May	97.7	91.6	131.4	114.5	151.7	96.2	88.6	88.0	91.9
June	97.5	91.4	131.4	114.5	151.7	95.9	88.3	87.5	92.3
July	97.2	91.0	131.8	114.5	151.7	95.6	87.9	88.6	83.9
August	97.1	90.9	131.4	114.5	151.7	95.5	87.7	88.4	84.1
September	97.5	90.1	138.7	116.8	164.8	95.8	86.8	86.7	87.6
October	97.4	90.0	138.7	116.8	164.8	95.6	86.6	88.0	78.9
November	97.1	89.6	138.7	116.8	164.8	95.3	86.2	86.6	84.2
December	96.8	89.2	138.7	116.8	164.8	94.9	85.7	86.9	79.4
2004									
January	96.2	88.5	138.6	116.8	164.8	94.3	84.9	83.7	91.4
February	95.8	88.1	138.6	116.8	164.8	94.0	84.5	83.3	90.9
March	98.9	90.5	145.9	120.2	175.9	96.9	84.2	84.4	83.4
April	98.8	90.3	145.9	120.2	175.9	96.8	84.1	85.1	78.1
May	98.5	90.0	145.9	120.2	175.9	96.5	83.7	83.9	82.5
June	98.4	89.8	146.0	120.2	175.9	96.3	83.5	84.1	80.0
July	98.2	89.7	146.0	120.2	175.9	96.2	83.3	84.7	75.4
August	98.0	89.4	145.8	120.2	175.9	95.9	83.0	83.7	78.8
September	97.6	88.1	149.9	121.4	184.1	95.4	82.6	82.5	82.8
October	97.4	88.0	150.0	121.4	184.1	95.3	82.4	84.0	73.4
November	97.1	87.6	150.1	121.4	184.1	94.9	82.0	82.6	78.6
December	97.0	87.5	150.3	121.4	184.1	94.8	81.8	84.1	68.8
2005									
January	96.6	87.0	150.2	121.4	184.1	94.3	79.0	78.1	84.0
February	96.3	86.6	150.2	121.4	184.1	94.0	78.6	78.6	79.0
March	99.1	88.0	161.3	131.8	196.6	96.2	78.1	78.8	74.3
April	98.9	87.6	161.3	131.8	196.6	95.9	77.7	79.9	65.7
May	98.5	87.2	161.3	131.8	196.6	95.5	77.2	79.0	67.3
June	98.2	86.9	161.3	131.8	196.6	95.2	76.9	79.1	64.6
July	97.9	86.6	161.3	131.8	196.6	94.9	76.5	79.6	59.9
August	97.6	86.1	161.6	131.8	196.6	94.4	76.0	79.8	55.1

Source: Table A4.3-2

Table A4.3-4. Wages in Serbia, in dinars

	Sample (monthly RAD-1)						Average wage: Semiannual Report (RAD-1)
	Published data		Paid-out		Published/ paid-out	(Gross) Wage bill	
	Gross wages	Net wages	Gross wages	Net wages			
1	2	3	4	5=2/4	6	8	
Annual wages							
2000	3,806	2,389	..	..	..	..
2001	8,739	5,375	..	..	..	148,129,180	
2002	13,260	9,208	15,419	10,705	0.86	212,318,417	
2003	16,612	11,500	19,724	13,654	0.84	252,773,573	
2004	20,555	14,108	24,156	16,579	0.85	296,117,263	19,884
Monthly wages							
2001							
January	6,091	3,821	7,727	4,519	0.85	8,777,003	
February	6,546	4,087	8,187	4,899	0.83	9,412,939	
March	6,840	4,262	8,568	5,035	0.85	9,820,763	
April	7,256	4,531	8,638	5,426	0.84	10,412,418	
May	7,224	4,497	9,559	5,435	0.83	10,350,381	
June	7,953	4,976	..	..	..	11,332,810	
July	9,003	5,427	..	..	..	12,763,274	
August	9,799	6,091	..	..	..	13,851,220	
September	9,940	6,210	..	..	..	14,013,402	
October	10,647	6,553	..	..	..	14,937,826	
November	11,101	6,869	..	..	..	15,535,716	
December	12,143	7,398	..	..	..	16,921,428	
2002							
January	10,719	7,435	12,613	8,749	0.85	14,829,554	
February	11,410	7,924	13,456	9,345	0.85	15,699,065	
March	11,845	8,204	13,812	9,566	0.86	16,119,197	
April	12,590	8,739	14,564	10,109	0.86	17,078,234	
May	12,429	8,635	14,467	10,050	0.86	16,772,848	
June	12,952	8,893	15,047	10,447	0.85	17,347,805	
July	13,452	9,342	15,441	10,724	0.87	17,865,265	
August	14,319	9,944	16,309	11,326	0.88	18,863,478	
September	13,931	9,674	16,090	11,174	0.87	18,222,556	
October	14,463	10,044	16,659	11,569	0.87	18,832,663	
November	14,822	10,293	17,322	12,028	0.86	19,186,219	
December	16,639	11,555	19,256	13,373	0.86	21,501,531	
2003							
January	13,659	9,468	17,002	11,785	0.80	17,749,584	
February	14,925	10,367	17,941	12,462	0.83	19,333,203	
March	14,579	10,126	17,515	12,165	0.83	18,700,964	
April	16,018	11,148	18,825	13,101	0.85	20,535,861	
May	15,973	11,043	19,023	13,152	0.84	20,390,333	
June	16,425	11,346	19,591	13,533	0.84	20,890,103	
July	17,167	11,865	20,139	13,918	0.85	21,746,332	
August	16,932	11,680	19,878	13,712	0.85	21,400,033	
September	17,277	11,953	20,468	14,160	0.84	21,621,768	17,258
October	17,986	12,432	20,932	14,469	0.86	22,449,046	..
November	17,742	12,254	20,898	14,433	0.85	22,042,803	..
December	20,975	14,528	24,476	16,953	0.86	25,913,543	..
2004							
January	17,498	12,078	20,991	14,489	0.83	21,416,222	..
February	18,414	12,713	22,085	15,248	0.83	22,417,480	..
March	18,681	12,911	22,058	15,246	0.85	22,669,076	18,683
April	20,807	14,395	24,295	16,809	0.86	25,202,354	..
May	19,451	13,455	22,945	15,872	0.85	23,455,708	..
June	19,700	13,617	23,126	15,985	0.85	23,691,535	..
July	21,495	14,630	24,992	17,011	0.86	25,801,373	..
August	20,823	14,182	24,407	16,624	0.85	24,891,648	..
September	21,130	14,444	25,006	17,093	0.85	25,136,016	21,085
October	21,472	14,639	24,900	16,976	0.86	25,480,737	..
November	22,043	15,042	25,878	17,659	0.85	26,040,851	..
December	25,392	17,346	29,186	19,937	0.87	29,914,264	..
2005							
January	20,898	14,263	25,006	17,066	0.84	23,793,982	..
February	22,402	15,295	26,523	18,109	0.84	25,380,996	..
March	23,198	15,863	27,194	18,596	0.85	26,108,328	23,142
April	25,153	17,193	28,934	19,777	0.87	28,169,499	..
May	24,449	16,731	28,253	19,334	0.87	27,200,099	..
June	25,503	17,441	29,311	20,046	0.87	28,257,350	..
July	25,769	17,634	29,316	20,061	0.88	28,413,157	..
August	26,818	17,928	30,202	20,191	0.89	29,352,730	..

Source: SBS, monthly RAD 1

Table A4.3-5. Wages in Serbia, indices

	Sample (monthly RAD-1)				
	Published data		Paid-out		Wage bill (gross)
	Gross wages	Net wages	Gross wages	Net wages	
1	2	3	4	5	
Annual wages (average 2001=100)					
2001	100.0	100.0	..	..	100.0
2002	151.7	171.3	..	..	143.3
2003	125.3	124.9	..	..	119.1
2004	123.7	122.7	..	..	117.1
Monthly wages (January 2001=100)					
2001					
January	100.0	100.0	100.0	100.0	100.0
February	107.5	107.0	106.0	108.4	107.2
March	101.0	111.5	110.9	111.4	111.9
April	119.1	118.6	111.8	120.0	118.6
May	102.0	117.7	123.7	120.3	117.9
June	130.6	130.2	..	..	129.1
July	103.0	142.0	..	..	145.4
August	160.9	159.4	..	..	157.8
September	104.0	162.5	..	..	159.7
October	174.8	171.5	..	..	170.2
November	105.0	179.8	..	..	177.0
December	199.4	193.6	..	..	192.8
2002					
January	176.0	194.6	163.2	193.6	169.0
February	187.3	207.4	174.2	206.8	178.9
March	194.5	214.7	178.8	211.7	183.7
April	206.7	228.7	188.5	223.7	194.6
May	204.1	226.0	187.2	222.4	191.1
June	212.6	232.7	194.7	231.2	197.7
July	220.9	244.5	199.8	237.3	203.5
August	235.1	260.2	211.1	250.6	214.9
September	228.7	253.2	208.2	247.2	207.6
October	237.4	262.9	215.6	256.0	214.6
November	243.3	269.4	224.2	266.1	218.6
December	273.2	302.4	249.2	295.9	245.0
2003					
January	224.2	247.8	220.1	260.8	202.2
February	245.0	271.3	232.2	275.7	220.3
March	239.4	265.0	226.7	269.2	213.1
April	263.0	291.8	243.6	289.9	234.0
May	262.2	289.0	246.2	291.0	232.3
June	269.7	296.9	253.6	299.4	238.0
July	281.8	310.5	260.6	308.0	247.8
August	278.0	305.7	257.3	303.4	243.8
September	283.6	312.8	264.9	313.3	246.3
October	295.3	325.4	270.9	320.1	255.8
November	291.3	320.7	270.5	319.4	251.1
December	344.4	380.2	316.8	375.1	295.2
2004					
January	287.3	316.1	271.7	320.6	244.0
February	302.3	332.7	285.8	337.4	255.4
March	306.7	337.9	285.5	337.3	258.3
April	341.6	376.7	314.4	371.9	287.1
May	319.3	352.1	297.0	351.2	267.2
June	323.4	356.4	299.3	353.7	269.9
July	352.9	382.9	323.5	376.4	294.0
August	341.9	371.2	315.9	367.8	283.6
September	346.9	378.0	323.6	378.2	286.4
October	352.5	383.1	322.3	375.6	290.3
November	361.9	393.7	334.9	390.7	296.7
December	416.9	454.0	377.7	441.1	340.8
2005					
January	343.1	373.3	323.6	377.6	271.1
February	367.8	400.3	343.3	400.7	289.2
March	380.9	415.2	352.0	411.5	297.5
April	413.0	450.0	374.5	437.6	320.9
May	401.4	437.9	365.7	427.8	309.9
June	418.7	456.5	379.4	443.5	321.9
July	423.1	461.5	379.4	443.9	323.7
August	440.3	469.2	390.9	446.7	334.4

Source: Table A4.3-4

* Statistics register gross wages since June 2001. Net wages started to include meal allowance, holiday allowance and business-trip allowance since January 2002, thus different growth rates for net and gross wages in 2002 compared to 2001

IV EXTERNAL SECTOR: BALANCE OF PAYMENTS

- **Definitions**
- **Methodology**
- **Issues**
 - **Issues – Annex: Foreign Trade Misreporting**
- **Data tables**
 - Table P-4. Serbia: Balance of Payments, 2001-2005
Frequency: annual, quarterly, monthly
 - Table A-5.2 Serbia: Foreign Trade, 2001-2005
Frequency: annual, quarterly, monthly
 - Table A-5.2 Serbia: Foreign Trade, 2001-2005
Frequency: annual

Definitions

Serbia's Balance of Payments (BoP) is assembled on a monthly basis by the National Bank of Serbia (NBS) from the following sources:

1. Statistics of foreign exchange transactions, provided to NBS by commercial banks and exchange bureaus. Transactions are coded according to International Transactions Reporting System (ITRS).
2. Monthly statistics of foreign trade, compiled by Serbian Bureau of Statistics (SBS) using the customs data on merchandise trade. Issued on monthly basis in SBS bulletin reports ST 11 through 16.
3. Statistics on foreign direct investment, compiled by the NBS from Foreign Exchange Department of NBS, from SBS, from Ministry of International Economic Relation, from reports and balance sheets from banks and firms with foreign participation, from Belgrade Stock Exchange and from Privatization Agency.
4. Daily statistics of foreign exchange market, compiled by NBS's Foreign Exchange Department.
5. Data on external grants and loans, are obtained from the Ministry of International Economic Relations, from NBS Payments Department, and from balance sheets of commercial banks.
6. Monthly statistics of oil and gas imports, provided by the Serbian Oil Industry.

Although NBS methodology is very close to the one used by IMF, the standards of BPM 5 (Balance of Payments Manual, Fifth edition, 1993) are not observed. The NBS still uses some definitions that are economy-specific and hence do not appear in the IMF Manual. Major discrepancies arise because of the need to record foreign exchange cash flows in and out of the formal financial system. The euroized cash economy in Serbia is of considerable size and net purchases of forex cash by the NBS exchange offices were about 1,5 million in 2004. In addition, an adequate documentation and classification of ITRS transfers are still developing.

The IMF statistical mission in 2003 provided technical assistance to NBS in dealing with most of inconsistencies, but some differences still remain. The objective of NBS is to gradually reduce these differences, but the necessary provision is a correct assessment of some items for which the data reporting is not fully standardized yet. Revisions of data posted on NBS web site are infrequent and lagged (if any). Statistical data published in NBS statistical bulletin are better source of updated data. Other characteristics that must be considered in using Serbian BoP data are:

- 1) Substantial overrecording of imports and underrecording of exports
- 2) Different BoP methodologies used by NBS and Montenegrin authorities making comparison between nth NBS data on Serbian BoP and the IMF data on BoP of the State Union is difficult, if not impossible to compare.
- 3) No reliable statistics on Kosovo before 2004
- 4) Unreliable time series, due to the frequent changes in methodology and infrequent updates.

Methodology

Current Account

1. Goods and Services – Include exports and imports of goods and services.
 - 1.1. Goods
 - 1.1.1. General merchandise and goods for processing (source: SBS monthly statistics on foreign trade). Most of the foreign trade is included in this line. From 2005 exports and imports in BoP are reported on basis of parity free on board (f.o.b.) standard.
 - 1.1.2. Repairs on goods (source: ITRS NBS).
 - 1.1.3. Goods produced in ports by carriers (source: SBS questionnaire).
 - 1.1.4. Nonmonetary gold (source: unknown). So far, this component was not included.
 - 1.1.5. Excluded from the BoP are the following types of tradable goods: test samples, goods sold to passengers, returned goods, and international fair compensations.
 - 1.2. Services
 - 1.2.1. Transportation (passenger, freight, other) – Includes: sea, air, road, railway, river, and other forms of transport (source: ITRS NBS).
 - 1.2.2. Travel – Business or personal (source: ITRS NBS).
 - 1.2.3. Other – Includes: communication services, construction services, insurance services, financial services, computer and information services, royalties and license fees, other business services, personal, cultural and recreational services, advance payments for services, and government services that are not included elsewhere (source: ITRS NBS).
 - 1.3. Unregistered – Includes the NBS estimations of overrecorded and underrecorded transactions (net) in both goods and services (source: NBS estimations).
 - 1.4. Balance with Kosovo and Montenegro
 - 1.4.1. Goods (source: SBS statistics of trade with Kosovo and Montenegro). Until official data are made public, NBS estimates this item using the payment statistics from ITRS. The evidence on trade with Kosovo and Montenegro has been compiled starting from April 2003. So far, instead of being included in 'Goods and Services' it was ascribed to 'Current Transfers' (Inflow under the Law on Payment operations).
 - 1.4.2. Services (source: ITRS NBS). Income and payments for services with Kosovo and Montenegro are treated as transactions with non-residents.

Note: By the methodology of foreign trade statistics adopted by the SBS, imports are reported including the costs of insurance and freight (c.i.f.), whereas the BoP standards require for free-on-board (f.o.b.) parity adjustment. So far, these standards are not met, and imports are thus reported according to the c.i.f. parity.
2. Factor Income – Interest paid on credits and deposits of non-residents through commercial banks or NBS (source: ITRS NBS). In the future, this item will also include compensation of employees (wages to non-resident workers, e.g. border or seasonal) and income from reinvested gain and portfolio investments.
3. Current Transfers – Include all the transfers that are not transfers of capital. In particular:
 - 3.1. Private remittances – Inflow includes foreign assets transferred to the residents from workers abroad, or deposited in new foreign exchange accounts. Outflow is cash withdrawn from new foreign exchange accounts (source: ITRS NBS).
 - 3.2. F/X accounts of non-residents – All bank deposits by non-residents, except the ones whose purpose are either FDI or acquisition of shares from the government or retail shareholders; these are included in Direct investment (source: ITRS NBS).

Note: Various transactions that are conducted through foreign exchange accounts of non-residents should actually be a part of 'Financial Account', and will be included there in the

future. Current transfers to non-government organizations, diplomatic missions and other representatives will be incorporated in 'Current transfers'.

- 3.3. F/X purchases, net – Foreign assets sold through exchange bureaus and banks (net of foreign assets purchased). Also includes the amounts paid for acquisition of shares from retail shareholders (source: Statistics of NBS Foreign Exchange Department).

Note: Foreign assets purchased from non-residents will be in the future considered as income from tourism (see 'Services: Travel').

- 3.4. Inflow under the Law on Payment Operations – Includes the net balance of payments with Kosovo and Montenegro (source: unknown).
- 3.5. Inflow under the Decision 74/100 – Inflow according to the government decision on holding foreign assets, which ceased to exist in June 2002 (Source: NBS statistics).

4. Official Grants – Transactions between residents and non-residents, which are not on a quid-pro-quo basis (source: ITRS NBS). It is a sum of donations and grants in financial instruments or goods. In the future, it will be registered as a single entry in the BoP (i.e., either in 'Goods' or in 'Financial Account').

Capital and Financial Account

1. Capital Account – So far, there were no entries in the Capital Account. In the future, in accordance with the BPM 5, the NBS will tend to report this line, which consists of Capital transfers and Acquisition/disposal of nonproduced and nonfinancial assets. Possible sources of data are unknown to date.
 - 1.1. Capital transfers will include debt forgiveness and other government transfers, as well as migrants' transfers, debt forgiveness and other transfers by non-government sectors.
 - 1.2. Acquisition/disposal of nonproduced, nonfinancial assets will include inflows and outflows in assets such as land and subsoil, patents, copyrights, trademarks, franchises, leases, etc.
2. Financial Account – It contains all the transactions that are result of a change in financial assets or liabilities between residents and non-residents.
 - 2.1. Direct investment is any investment of a (non-)resident in a firm or bank at home (abroad) that results in acquisition of more than 10% of shares (i.e., guarantees control rights). Includes also: reinvested gain, net acquisition/sale of capital share, changes in inter-company accounts, and changes in mutual indebtedness between mother/daughter company. It consists of three lines:
 - 2.1.1. Direct investment in money (source: ITRS NBS)
 - 2.1.2. Takeover from resident retail shareholders (source: Daily reports of commercial banks – Turnover of banking sector on Foreign exchange market)
 - 2.1.3. Direct investment in goods (source: SBS monthly reports on foreign trade).

Note: Alternatively, double-checking is achieved by comparing the ITRS data with the monthly reports of the Serbian Privatization Agency (tenders, auctions, capital market...). Estimates of reinvested gain are made by using FDI data from the year before, which are officially stated in DI-1 and DI-2 yearly reports issued by NBS BoP Department. These reports should eventually become the unique source for the whole FDI statistics. The current sources will be used to estimate the monthly flows.

Note: All the transfers through FOREIGN EXCHANGE accounts of non-residents used for direct investment are not included in the corresponding line of 'Current Transfers'. The decrease in non-residential FOREIGN EXCHANGE deposits due to any takeover from residential retail shareholders is balanced by an increase in the FOREIGN EXCHANGE purchases.

2.2. Portfolio investment can be in a form of:

- 2.2.1. Equity – An investment of a (non-)resident in a firm or bank at home (abroad), which results in acquisition of less than 10% of shares (i.e., without control rights). (Source: ITRS NBS)
- 2.2.2. Debt – Investment in bonds, bills, or CDs, mostly the ones issued by the Treasury, banks, and other financial institutions (source: ITRS NBS and data on daily changes in reserve assets).

Note: Portfolio investments do not include transactions with foreign-denominated securities issued by residents (such as liabilities in old foreign exchange savings). Currently, these transactions are quoted in 'Other assets and liabilities', in order to be distinguished from new foreign exchange deposits and foreign exchange purchases. In the future, they will not be included in the BoP, except if they are traded with non-residents.

2.3. Other investment includes:

- 2.3.1. Short-term trade credits – So far they are part of "Errors and Omissions". As soon as the data becomes available they will be included in Other investment (sources: ITRS NBS, SBS monthly data on foreign trade, and monthly tables of NBS Department of Credit Relations). For accurate estimations it is necessary to assess the motives for reporting higher imports and lower exports than actual.
- 2.3.2. Unpaid imports of oil and gas – The difference between imports and actual payments for a given period (source: Monthly reports of Serbian Oil Industry). In the future, this item will be included under 'Short-term trade credits'.
- 2.3.3. Medium- and long-term loans – Consists of disbursement and amortization of loans with maturity of more than a year, given by residents to non-residents (source: ITRS NBS). Once the announced changes in Law on Foreign Assets are made, this item will also include cross-border leasing, which is now a part of the 'Current Account'.
- 2.3.4. Short-term loans – All the credits and deposits that are not included under 'Medium- and long-term loans' due to a different statistics of short-lived securities (source: NBS statistics on banks' bookkeeping; alternatively: ITRS NBS).
- 2.3.5. Other assets and liabilities – Various items from the 'Financial Account' or the rest of the 'Current Account' that were not included there due to the specific nature of its statistics. In particular:
 - 2.3.5.1. Advance payments – Goods paid in advance in a given period (source: ITRS NBS). In the future they will be included under 'Short-term trade credits'.
 - 2.3.5.2. Loro checks – Deposits for temporary payments of labor (source: ITRS NBS). In the future, they will be included under 'Credits and deposits of commercial banks'.
 - 2.3.5.3. Net gain – Net inflow from direct, portfolio or other investment (source: ITRS NBS). In the future, they will be included under 'Factor income'.
 - 2.3.5.4. New foreign exchange deposits – Net increase in new foreign exchange accounts of both residents and non-residents (source: NBS monthly reports of commercial banks' new foreign exchange deposits). In the future, this item will be excluded, with the exception of deposits made by non-residents, which will be included under 'Credits and deposits of commercial banks'.
 - 2.3.5.5. Exchange operations – Foreign assets that came to the foreign exchange market through household savings (source: NBS estimations).
 - 2.3.5.6. Liabilities in old foreign exchange accounts – Repurchases of Treasury bonds issued in 2000 to represent government liabilities in old foreign exchange savings and loans (source: NBS Foreign Exchange Department statistics of old foreign exchange savings and loans). Since these liabilities cannot, in fact, be classified as BoP transactions, they will be excluded from the BoP in the future. The only exception will be purchases of these bonds by non-residents.

Appendix IV – External Sector: Balance of Payments

Note: In the future, 'Other assets and liabilities' will consist only of net participation of households in life insurance and pension funds, and government membership fees in international organizations and funds.

2.3.6. Credits and deposits of commercial banks – Net changes in foreign assets of commercial banks, with convention that an increase in this item is given a negative sign. Changes in liabilities due to transactions with non-residents are included elsewhere in the BoP. Part of the assets that represent obligatory foreign exchange deposits in the central bank is included under 'Reserve assets'. (Source: NBS Foreign Exchange Department statistics of Commercial banks' foreign assets)

Note: Commercial banks are the only residential subjects authorized to have foreign exchange accounts abroad.

Reserve assets

Foreign assets in control of monetary authorities (NBS) that can be used for financing of foreign exchange deficit, open market operations, or other economic purposes. Includes: monetary gold, special drawing rights, reserve position in the IMF, foreign assets, and other claims (source: NBS Foreign Exchange Department statistics).

Errors and Omissions

The difference between inflows and outflows. In particular: the difference between the value of imports or exports and their actual payments, exchange rate errors, and usual inadequate evaluations or omissions of certain transactions.

Although NBS methodology is very close to the one used by IMF, the standards of BPM 5 (Balance of Payments Manual, Fifth edition, 1993) are not observed. The NBS still uses some definitions that are economy-specific and hence do not appear in the IMF Manual. The IMF BoP mission in 2003 provided technical assistance to NBS in dealing with most of the inconsistencies, but some differences still remain. The objective of NBS is to gradually reduce these differences, but the necessary proviso is a correct assessment of some items for which the data reporting is not fully standardized yet.

Issues

Serbian BoP time series shows inconsistencies. Serbian administration, including SBS and NBS relatively recently started the process of modernization and harmonization with international standards; thus it is understandable that frequent changes in methodology and definitions applied in BoP occur. These changes make BoP time series inconsistent, as backward corrections are not made on regular basis. These characteristics complicate the careful analysis of dynamics of Serbian external sector. Although recently NBS declared it is working on consistent and comparable time series from 1997, it has not been issued yet. Changes in methodology applied by NBS (for example the shift in 2005 from c.i.f. to f.o.b. treatment of imports) are further complicated by continuous changes in methodology and quality of data provided by other state agencies (especially Customs administration and SBS). Furthermore, changes applied to the BoP methodology and definition are not fully disclosed, which leads to confusion about the significance of provided data.

Foreign trade statistic provided by SBS is corrected in BoP. After consultations with IMF mission in 2000 and in concordance with suggestions from Serbian Customs administration, NBS started to apply corrections to the exports data received from SBS. This correction is applied to offset the impact of the practice of exports underinvoicing, broadly observed in Serbian foreign trade. This correction was not constant and varied from 13,1% in 1999 to 2,1% in 2005. As this information was not disclosed in the BoP methodology until autumn 2005, the difference between data provided by SBS and NBS further complicated the interpretation of foreign trade data. On the other hand, no correction was applied to the imports data, although it is well known that the practice of import invoice overreporting should not be underestimated. In 2005 NBS started providing imports under f.o.b. standard, in contrast to c.i.f. imports provided by SBS and used in BoP until 2005. IMF BoP manual suggest that conversion from one to the another standard must be corresponded with correction in transportation section in service balance. NBS had not stated if such correction has been made.

The source data used in BoP should be validated. The collection and further processing of data shows certain flaws. This is especially true for the interpretation of ITRS data. Often, these flaws are observed ex-post and corrected, but often without disclosure about correction made. On the other hand due to the continuous corrections of foreign trade data provided by SBS, information in current year BoP should be taken with reserve.

Issues - Annex

Foreign Trade Misreporting

Practice of overinvoicing imports documents and underinvoicing exports documents

It was common for companies in SFRY to hold capital in bank accounts of connected legal entities abroad. This became particularly apparent when, in 1990, after the Ante Marković's reformist government sharply tightened monetary policy, all observers were surprised by the size of foreign exchange reserves which the National Bank of Yugoslavia (NBY) accumulated. Companies seeking dinars used their foreign currency holdings from these foreign bank accounts to purchase dinars in short supply. Thereafter, the practice of holding capital abroad and operating with it was considerably „refined“ during the 1990s. Serbia's economy had to find a way to conduct international business operations under economic and political isolation. Economic subjects were finding loopholes in the international economic system, particularly tax havens. The capital was partly drained abroad, and partly it circulated back and forth. In other words, during the 1990s Serbia's economy developed semi-legal business practices as well as the infrastructure needed to support such practices, despite an international trade embargo.

We consider the network of companies - international intermediaries-- created in this period as an infrastructure which is probably still used today, at least to some extent. An enterprise which wants to conduct business with connected international intermediaries must "invest" in learning about the legislation of a particular country, and it must also create a sufficient number of confidential links through which it will conduct business in that country. This requires resources and money, but once established, these links are not too costly to "maintain". Maybe today's incentives are not sufficient to prompt the investments into the creation of such a network, but, since the network already exists, we can assume that it is still used today. This makes it possible to conduct more indirect, semi-legal business than it would be the case with some other economy with a similar economic and regulatory structure to Serbia's, but without the network inherited from the past.

Taking capital out of the country either with the intention to keep it abroad, or to freely make payments with it abroad and return it to the country afterwards, is one of the two main motives for overinvoicing of imports, that is, underinvoicing of exports. As we explain in further text, under the conditions where capital transactions from the country are sharply restricted, the easiest way to take capital out of the country, besides payment of fictitious imports, is by overinvoicing of imports and underinvoicing of exports. Another motive is tax evasion. Namely, depending on tax structure, overinvoiced imports and underinvoiced exports can reduce tax payments.

Before closer consideration of these motives, let us consider an example of the kind of transaction that we are referring to. Suppose that these are import transactions. A domestic legal entity registered for dealing with foreign trade will first establish a company abroad, for instance in Cyprus. This company may be, but does not need to be, formally connected to the domestic legal entity, which will, of course, make every effort to have complete formal and informal control over the foreign company. Then, when goods are imported, for instance from Russia, the company from Cyprus will be an exporter which sells these goods to our buyer. The country of the goods' origin is Russia, but the payment is made to Cyprus. The company from Cyprus will charge the goods at a higher price, even a considerably higher price, compared to the price at which the goods were purchased. When such an overvalued invoice is paid to the company from Cyprus, and when the company from Cyprus settles its debt to the Russian exporters, the difference remains in the Cypriot company's bank account, controlled, of course, by the domestic legal entity.

1. There are several reasons why a domestic company would be interested in taking capital out of the country:

1.1. Embezzlement of public /state property

This criminal motive is mentioned first not because we think that it is the most important one, but because it is the most present in the public consciousness. In this case, an individual in charge of a public/socially-owned⁵⁵ company can decrease its profit or increase its losses by paying a higher than actual price, in line with the practice described above. A connected enterprise located abroad is most probably his personal secret, and the foreign account is probably under his personal control, rather than under the control of the public/state-owned company which pays for the invoice. Without venturing into an assessment of the extent of this practice in the past, suffice it to say that as public/social property is being phased out, this motive is becoming less important.

1.2. Avoidance of restrictions in handling foreign and domestic cash currency and of restrictions in international capital flows.

⁵⁵ Social ownership is a heritage of former Yugoslavia's self-management. It is really public ownership in which the state shares key property rights with the employees of the company, and some rights are not clearly assigned to anyone.

We consider this to have been the dominant reason for taking capital out of the country in SFRY, and still today, despite the considerable trade and capital liberalization of the past several years. A legal entity which earns foreign currency (from exports) can keep its proceeds in foreign currency in a domestic bank account, but payments or investments cannot be made from this account, except for imports of goods, investment in real estate and repayment of foreign debt⁵⁶. Therefore, a legal entity that needs to make a payment in foreign currency, will usually obtain the currency by claiming to need to pay for imports, even in cases when the real purpose is rather different. This problem actually does not concern only foreign currency. For each payment transaction from a gyro account and into a gyro account – the legal entity conducting it must submit detailed documentation, while certain transactions are simply banned. Even if the goal is not to conceal business operations or evade taxes, a legal entity which finds a way to take capital abroad will be motivated to do it, because it will dispose with it more freely.

1.3. More confidence in foreign than the domestic financial system, and more confidence in the stability of foreign currency.

A domestic legal entity which generates income will want to invest it in a "safe place", which often means a foreign country and foreign currency. However, there are extensive restrictions, even prohibitions, on the purchase of shares in foreign capital markets, purchase of real estate abroad, and possession of foreign bank accounts for residents – legal entities. Hence, the investor may take his/her capital out through false reporting of export proceeds or import payments.

2. Overinvoicing imports can be a way to avoid or reduce tax payments.

2.1. Evasion of corporate tax

Customs duties for a majority of capital goods range from 1 to 10%, which is lower than corporate tax which, until last year, amounted to 14%. It is currently reduced to 10%. If a domestic legal entity comes to a conclusion that it is gaining profit, this profit can be concealed by increasing invoices on capital goods, for which custom duties are lower. Capital goods are suitable for such practice not only because of lower customs duties, but also because it is difficult for the Customs to assess their real value, so they can easily be considerably overvalued. If, in doing so, the importer can prove that equipment imports are a part of a foreign investment, or that it is paid from capital investment of a foreign investor, equipment imports will be fully exempt from customs. Later on, the capital which was taken out of the country in this way can be used for additional capitalization of the domestic enterprise. It is even easier to conceal profit by underinvoicing exports. Exports documentation is simply reduced by the amount of profit which needs to be concealed. In this case the money stays abroad. Nevertheless, motives for such actions have become weaker lately, since the corporate tax was reduced, and, the need to report profit is increasing because of credit rating. However, this motive has been intensified recently in the light of dividend payments and profit to foreign shareholders.⁵⁷ Namely, if a foreign shareholder comes from the territories with which Serbia has not signed the Double Tax Agreement, the profit share of such a shareholder is taxed additionally by the so-called "tax after deduction".

2.2. Evasion of other dues

Suppose that a domestic legal entity wants to pay part of its employees' wages in cash, in order to avoid payment of high labor dues. Overinvoicing imports or underinvoicing exports are the ways in which the domestic legal entity will "sneak out" the money from

⁵⁶ Please see Law of Foreign Exchange Operations.

⁵⁷ Please see Addendum to Law on Corporate Tax, adopted on 23. 7. 2004, where various rates of tax after deduction for residents and non-residents are defined.

Appendix IV – External Sector: Balance of Payments
the strictly controlled system of payments, and then return it to the country for the purpose of illegal payment of wages to its employees⁵⁸.

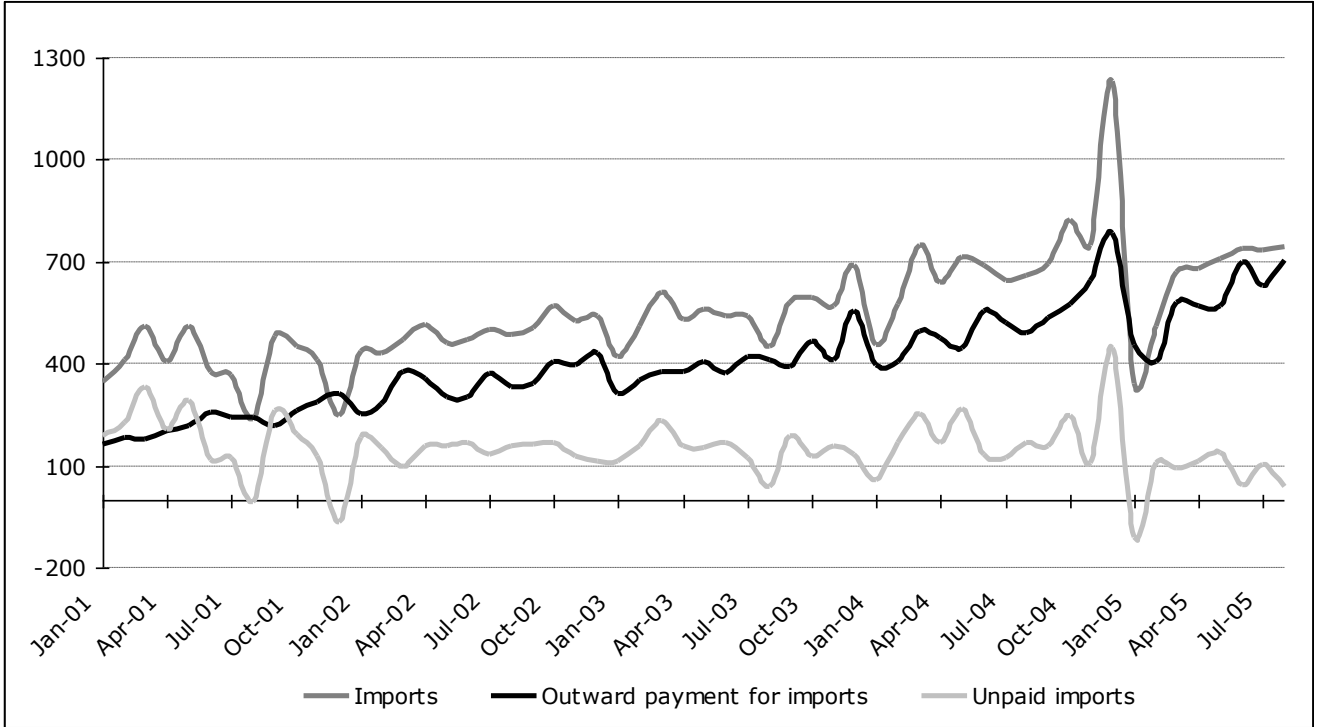
⁵⁸ In this case the capital might not actually circulate from the country abroad and back, but the capital can be secured locally, through multiple squaring of accounts with someone who needs capital abroad.

Payments of imports and exports

The comparison of Serbian imports and exports and the payments realized / received for foreign trade are surprising. Although it would be normal that the imports and exports of goods have its counterpart in the payments received or realized for these traded goods, in Serbian economy this is not the case. If the data from 2001 to 2004 are observed, 30% of total imports are not paid from within the country. Donations received in goods can, in part, explain the difference between imports and payments realized from within the country on this concept. But, even after the correction for donations has been made, the unpaid amount remains large (24%). Similarly, by official statistics, 24% of the expected payments for Serbian exports are not received, which is particularly surprising, as it is well known that NBS and Tax office rigorously control payments form foreign trade.

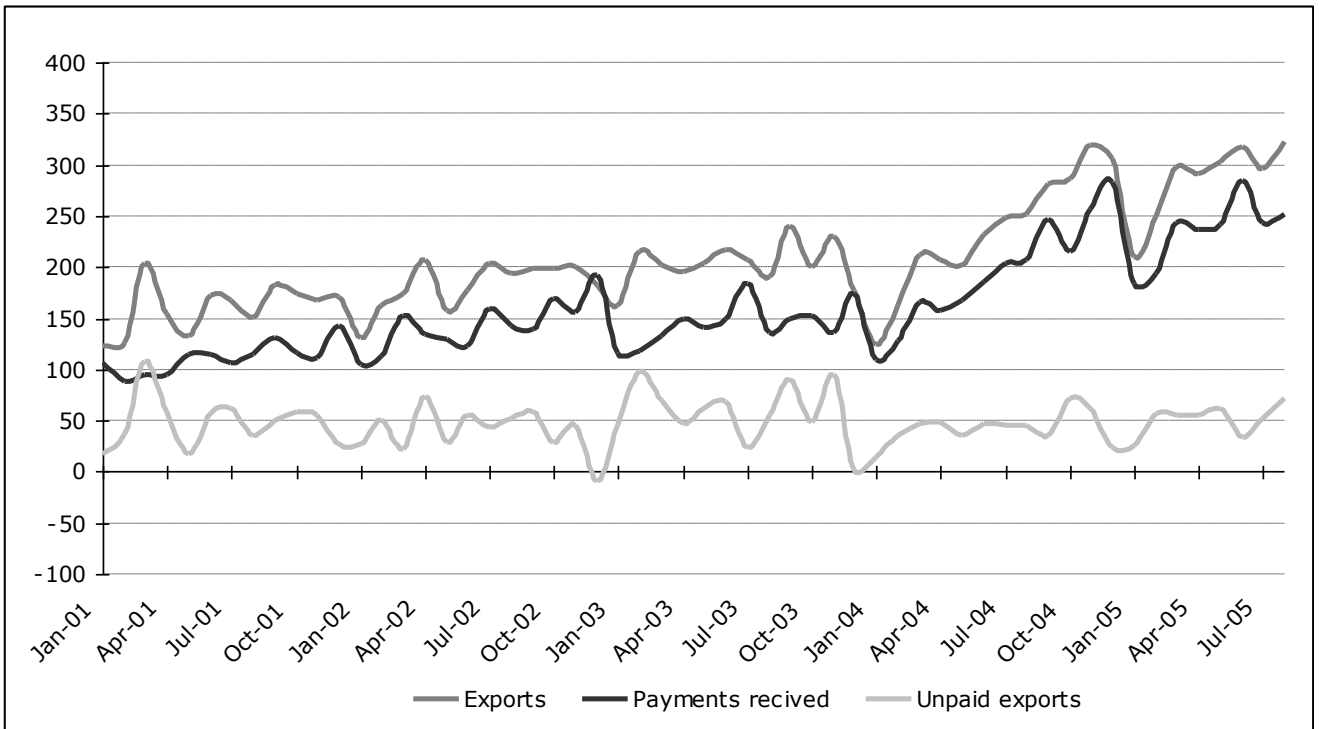
The absolute amount of unpaid foreign trade shows significant stability over the observed period, as can be seen on the following graphs. This stability suggests that this practice is realized by one particular part of the economy that is not expanding.

Graph A4.4-1. Imports and Outward payments for imports

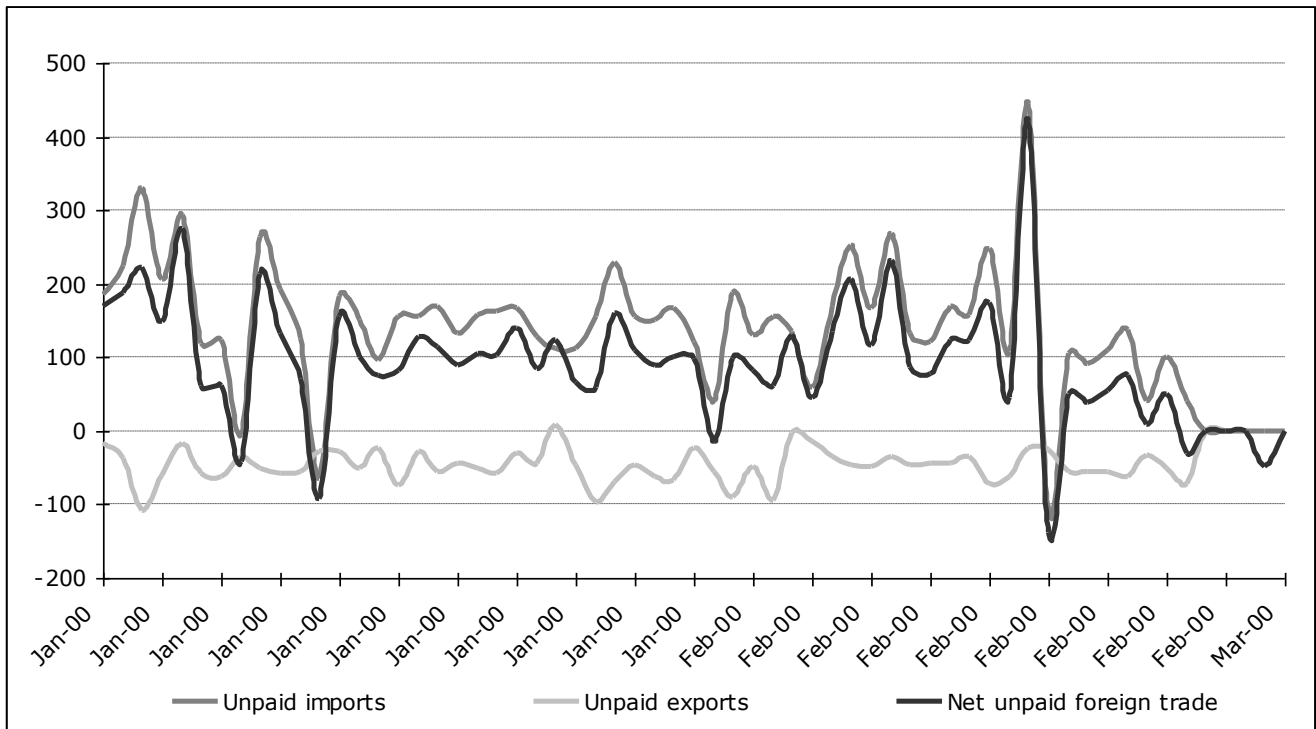


Source: NBS, SBS

Graph A4.4-2. Exports and Inward Payments for Exports



Source: NBS, SBS

Graph A4.4-3. Net Unpaid Foreign Trade (Capital Inflow)

Source: NBS, SBS

That leads us to the conclusion that about one quarter of foreign trade operation is either paid in cash, or from (to) foreign bank accounts. As owning foreign bank account or making payments in forex cash is prohibited by Serbian law, and considering tight controls of foreign trade transactions, the size of foreign trade underpayment seems surprisingly large. Notion of this characteristic of underpaying Serbian foreign trade and especially the volume of this underpayment can help us determine the scope of invoice misrepresentation and consequently permit us determine the size of overestimation of Serbian foreign trade deficit. A model that estimates the foreign deficit is developed below (see "Steady State Model"). On the other hand it seems that the VAT implementation reduced the scope of this practice, as the net amount of foreign trade underpayment is diminishing in 2005.

Analysis of foreign trade misreporting: Steady state model

To understand the scope of practice of over / underinvoicing foreign trade we should link foreign trade with forex cash economy. Serbian economy is highly euroized. This is particularly true for the informal economy. This informal cash economy is intimately linked with forex cash inflows and outflows. The stylized picture of the forex cash circulation can be seen in integrated manner (for simplicity reasons we excluded private unrecorded remittances):

Forex cash flows:

Scheme A4.4-4.

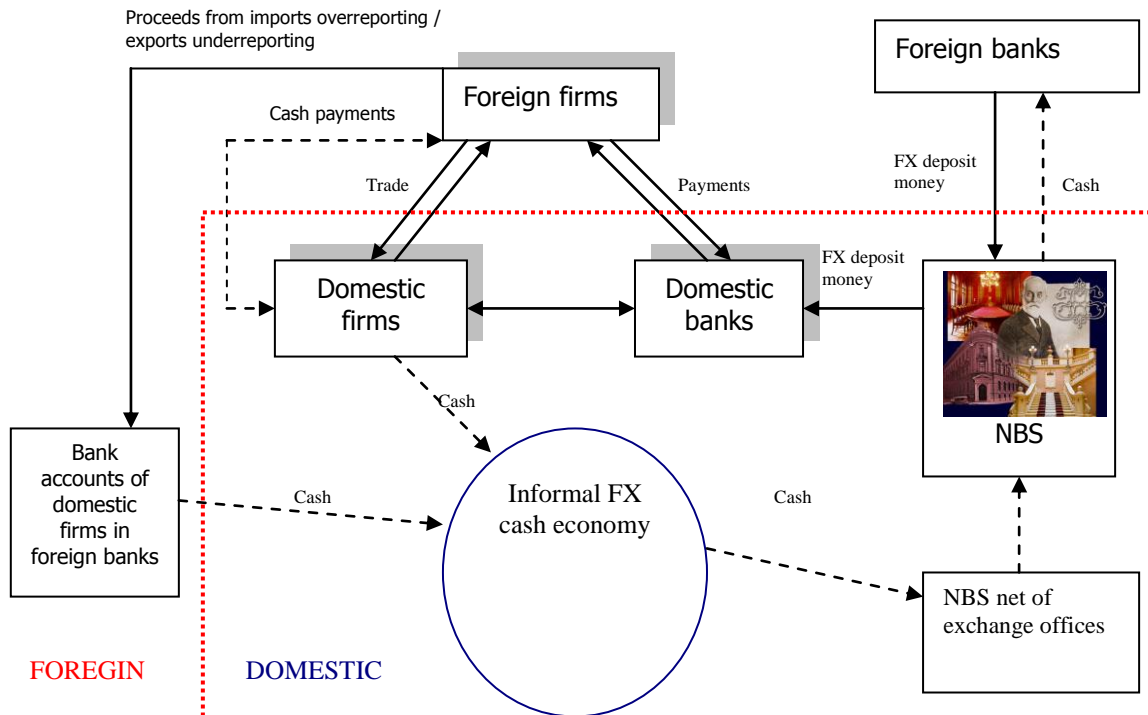
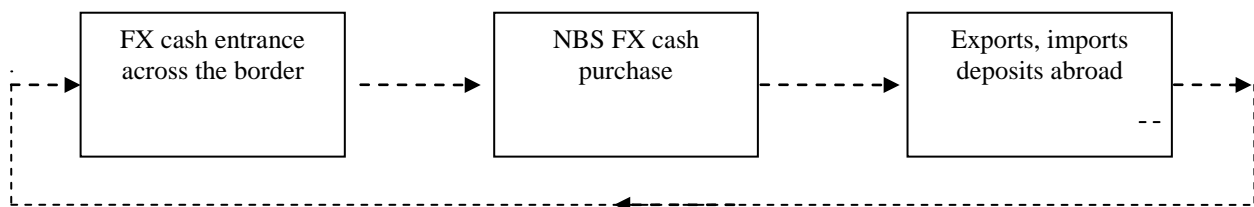


Table A4.4-5.

Capital exits from the formal system	Capital entries to the formal system
1) Overreporting imports	1) Imports underpayment
2) Underreporting exports	2) NBS exchange office net forex inflow
3) Exports underpayment	

Scheme A4.4-6



Stylized forex cash flow in Serbia can be described as this: by underreporting and underpaying foreign trade, a portion of Serbian exporters increase their foreign bank account balances which are converted into the cash by diverting a part of the payments for their exports on foreign account, instead to the domestic one; or they directly receive cash for officially unpaid portion of their invoices. This cash is then returning to the country and after passing through Serbian grey economy is eventually exchanged to dinars in NBS exchanged offices. NBS deposit this cash in foreign banks, obtaining foreign deposit money. Here the cash circle ends, to begin again in misreported foreign trade.

Appendix IV – External Sector: Balance of Payments

In this analysis it helps considerably that the only entry point of forex cash in the legal flows is the net purchase of forex by NBS. Commercial banks also have exchange offices, but in this analysis we do not consider their forex purchase/ sales, as the net value of these operations is approximately zero. On the other hand, the exit point of cash from the legal economy is the periodic depositing of forex cash in foreign banks done by NBS.

A model can be developed that approximates the size of overestimation of Serbian foreign trade deficit. Model combines several characteristics of Serbian foreign sector. Yet this approximation needs a few assumptions to be imposed:

1. Steady state;
2. The foreign bank balances of Serbian companies are remaining constant. All capital that was subtracted from Serbian economy (by imports invoice overreporting, exports underreporting or by exports underpayments) is returning to the country in form of cash, and by several mechanisms returning to legal system (for example topping the employees salaries in forex cash, which are converted in dinars in NBS exchange offices)

The observed phenomena are:

I_m – amount of import invoices overinvoicing (capital outflow)

I_x - amount of export invoices underreporting (capital outflow)

ΔX -unpaid exports: difference between declared exports and the payments made from the country (capital inflow)

ΔM – unpaid imports: difference between declared imports and payments received on that concept (capital outflow)

FX cash – net purchase of forex cash by NBS network of exchange offices, corrected for estimated private unrecorded cash remittance, and truism. (capital inflow)

$(M - X)$ – foreign trade deficit

$\Delta(M - X)$ – the overestimation of Serbian trade deficit

Unregistered capital outflow will return to the country in the form of cash, and will be exchanged to domestic currency in the net of NBS exchange offices, and thus registered

As we are in steady state, outflows equal inflows:

$$\text{FX cash} + \Delta X = I_m + I_x + \Delta M$$

Also, we can state that the misrepresentation of trade deficit lies in the foreign trade invoices misreporting (inflating imports invoices, and underreporting exports)

$$\Delta(M - X) = I_m + I_x$$

Combining these two equations, we can estimate the correction that should be made to the foreign trade deficit

$$\Delta(M - X) = \text{FX cash} + \Delta X - \Delta M$$

The amount purchased by NBS forex offices should be corrected for the estimated amount of private forex cash remittances unrecorded by the official statistics, and for increase of spending of private, unrecorded non bank savings. The preliminary calculations made can be found in table A-4.3. It can be roughly concluded that overstatement of Serbian trade deficit is about one billion euros a year.

The lower boundary of imports invoice inflation

This overestimation of Serbian foreign trade is coming from both imports and exports side. On the export side, it is common practice to underreport the export prices. This reality was recognized by custom administration and NBS, and supported by IMF statistical missions in 2000 and in 2003. The IMF mission recommended 15% correction of recorded exports, especially for the exports of chemicals, iron and steel and sugar. Yet the correction was not constant and varied from year to year. This practice was used until 2005, when, after vat tax implementation, the coefficient lowered to about 2,1%.

On the other hand NBS does not make a correction for recorded imports. Still, the practice of import overinvoicing is known to exist, and we already explained the motifs above. But, the estimation of the size of this practice is difficult, if not impossible task. One, yet limited approximation, allow us to determine the the lower boundary of imports underinvoicing, and thus the reduction of inflated Serbian trade deficit. We can estimate the lower boundary of practice by analyzing the imports before and after the VAT implementation.

The time series of imports indicates an abrupt rise in December 2004, caused by the "accumulation" of imports prior to the introduction of VAT, and a fall in January and February 2005. We also tried to find out how much imports really decreased in the first half of 2005. In order to answer this question we estimated the model which explains the behavior of imports in the period January 2000 - November 2004, and then we compared the real figures with the estimate provided by the model for the period December 2004 – August 2005.

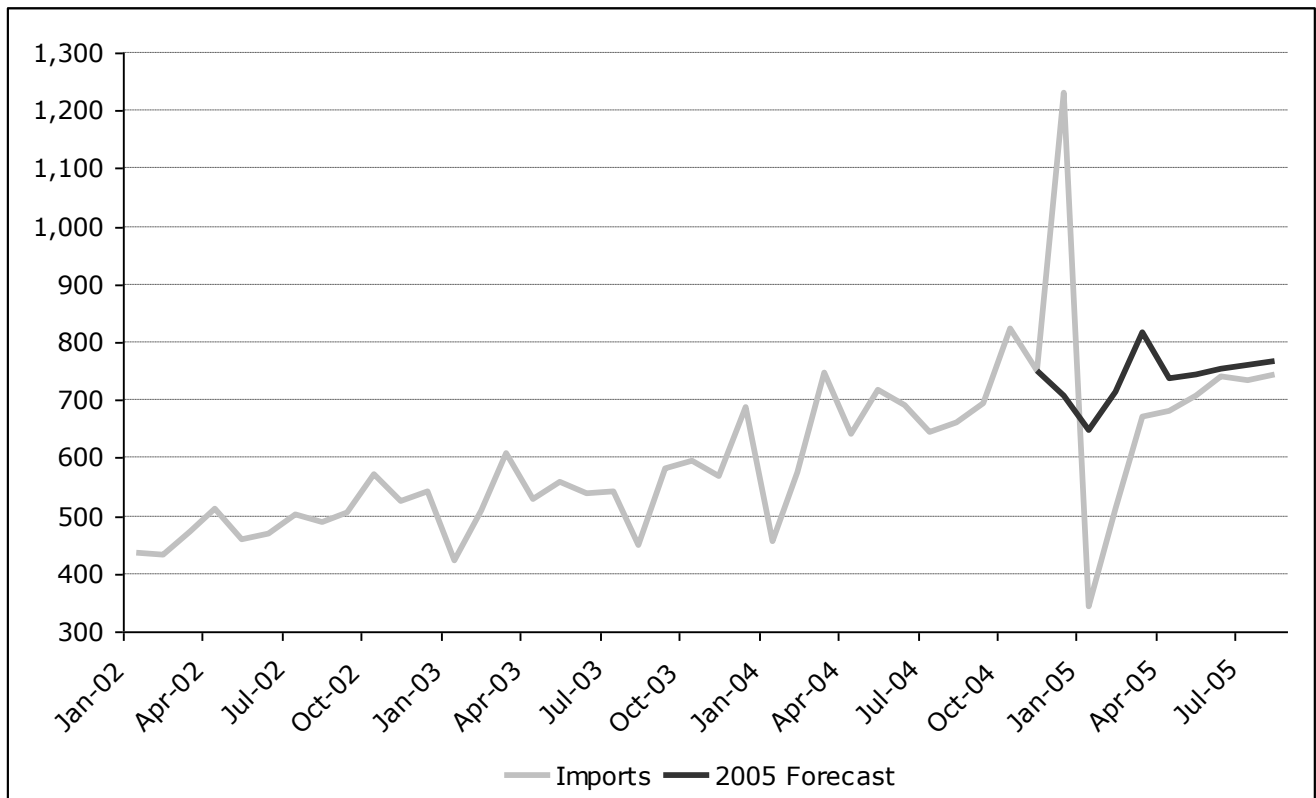
We defined the model in the following way:

$$U_t = a_0 + a_1 t + a_2 * (\text{dummy_jan}) + a_3 * (\text{dummy_feb}) + a_4 * \text{dummy_march} + \varepsilon_t$$

Where dummy_jan/feb/march – are dummy variables which model seasonality in these three months (e.g. dummy_jan has the value 1 for January, and 0 in other cases)

Using OLS we estimated the following parameters ($R^2=0,81$):

$$\hat{U}_t = 273.78 + 7.71 * t - 67.25 * \text{dummy_jan} - 8.06 * \text{dummy_feb} + 86.54 * \text{dummy_march}$$

Graph A4.4-7. 2005 - Imports Forecast

Source: SBS

Graph A5-2. shows that imports in 2005 are still below the level which the model forecasts, but it is clearly seen that they slowly come closer to their long-term trend. If we omit December, January and February from the analysis, since the values are really atypical, we can calculate the average decrease of imports for the period March - August. The difference between the forecast of the model and real data is 6,6 % on the average. Consequently, we can conclude that, in the period March - August the level of import was by 6.6% below the expected level, but we should bear in mind that this decrease did not have a permanent character.

We can conclude that, as VAT made the practice of invoice inflation dearer, the certain part of importers ceased to overreport imports. On the other hand, as imports are levied by VAT, VAT implementation made imports more expensive, with consequent rent and substitution effects which led to drop in total imports level. It can be discussed which one of these two effects (reduction of imports invoice overreporting and the drop in real imports) influenced more the imports statistics in 2005. Whatever is the answer, one part of imports drop must be accounted to the reduction of overreporting practice. This does not mean that after VAT implementation this practice is extinguished, but the scope of this practice is reduced.

Table A4.4-8. Serbia: Balance of Payments, 2001-2005 ¹⁾

1

	Yearly				Quarterly											
					2001				2002				2003			
	2001	2002	2003	2004	Mar.	Jun	Sep.	Dec.	Mar.	Jun	Sep.	Dec.	Mar.	Jun	Sep.	Dec.
	cumulative, in euro millions															
CURRENT ACCOUNT	-284	-1208	-1752	-3,519	-128	-311	-216	-284	-238	-443	-775	-1,208	-512	-960	-1125	-1752
Goods	-2064	-3060	-4879	-8,277	-586	-1123	-1528	-2064	-611	-1307	-2,095	-3,060	-1010	-2196	-3254	-4879
Exports	1624	2099	3310	4,640	385	752	1165	1624	380	868	1,482	2,099	710	1552	2402	3310
Exports f.o.b.	1535	1969	3107	4,388	364	711	1101	1535	356	814	1,390	1,969	667	1457	2255	3107
Unregistered	89	130	203	313	21	41	64	89	23	54	92	130	43	95	146	203
Correction for coverage	0	0	0	-61	0	0	0	0	0	0	0	0	0	0	0	0
Imports f.o.b.	-3688	-5160	-8188	-12,917	-971	-1876	-2693	-3688	-991	-2175	-3,577	-5,160	-1720	-3747	-5656	-8188
Imports c.i.f.	-3148	-5324	-8450	-13,330	-844	-1630	-2321	-3148	-1023	-2245	-3,692	-5,324	-1775	-3868	-5838	-8450
Registered	-3806	-5324	-8450	-13,424	0	0	0	0	0	0	0	0	-1775	-3868	-5838	-8450
Intermediate goods	-2549	-3221	-4789	-7,539	-712	-1327	-1888	-2549	-658	-1405	-2,293	-3,221	-1075	-2256	-3358	-4789
Capital goods	-599	-1078	-1645	-2,805	-132	-303	-433	-599	-189	-433	-722	-1,078	-317	-741	-1133	-1645
Consumer goods	-658	-1026	-2016	-3,080	-158	-305	-459	-658	-176	-407	-676	-1,026	-382	-871	-1347	-2016
Correction for coverage	0	0	0	93	0	0	0	0	0	0	0	0	0	0	0	0
Services	218	125	237	231	71	116	187	218	22	53	48	125	61	127	180	237
Receipts	548	713	1158	1,810	147	270	423	548	133	282	480	713	236	517	793	1158
Travel	38	76	183	273	7	15	27	38	10	26	52	76	25	69	125	183
Transportation (passenger, freight, other)	123	179	267	388	21	44	85	123	30	67	123	179	42	109	189	267
Other services	88	65	80	170	40	54	67	88	10	26	45	65	18	38	56	80
Construction services	48	63	103	185	9	25	37	48	9	20	37	63	25	46	68	103
Other	139	174	321	441	33	69	109	139	30	66	119	174	80	163	234	321
Unregistered	111	155	204	353	36	63	98	111	43	76	106	155	46	93	120	204
Expenditures	-330	-588	-921	-1,579	-76	-153	-236	-330	-111	-229	-433	-588	-175	-390	-612	-921
Transportation (passenger, freight, other)	-113	-172	-295	-515	-25	-48	-77	-113	-36	-74	-121	-172	-64	-132	-202	-295
Transportation ITRS	-66	-106	-190	-350	-12	-24	-43	-66	-23	-46	-76	-106	-42	-84	-129	-190
Transportation from importation	-47	-66	-105	-165	-13	-24	-35	-47	-13	-28	-45	-66	-23	-49	-73	-105
Communications	-7	-21	-24	-50	-3	-5	-6	-7	-3	-6	-14	-21	-4	-9	-16	-24
Travel	-64	-86	-163	-258	-15	-30	-46	-64	-17	-34	-60	-86	-24	-58	-109	-163
Other services	-145	-308	-439	-757	-34	-70	-106	-145	-54	-115	-237	-308	-83	-191	-286	-439
Balance of goods and services	-1846	-2936	-4642	-8,046	-515	-1007	-1341	-1846	-589	-1255	-2,047	-2,936	-949	-2068	-3074	-4642
Exports of goods and services	2172	2812	4467	6,450	532	1022	1588	2172	512	1149	1,963	2,812	946	2068	3194	4467
Imports of goods and services	-4018	-5748	-9109	-14,496	-1047	-2029	-2929	-4018	-1102	-2404	-4,010	-5,748	-1895	-4137	-6268	-9109
Factor income, net	-23	-96	-241	-272	-5	-17	-14	-23	3	-18	-47	-96	-38	-80	-145	-241
Earnings	43	59	78	101	6	20	30	43	9	22	39	59	16	27	43	78
Payments	-66	-155	-319	-373	-11	-38	-44	-66	-6	-39	-86	-155	-54	-108	-188	-319
Unrequited transfers	532	475	534	631	197	270	371	532	83	173	318	475	141	231	382	534
Official grants	532	475	534	631	197	270	371	532	83	173	318	475	141	231	382	534
-of which cash transferrers	0	0	0	300	0	0	0	0	0	0	0	0	0	0	0	0
Current transfers	1053	1349	2597	4,168	194	444	768	1053	266	657	1,001	1,349	333	958	1712	2597
Private remittances, net	27	137	415	507	15	23	30	27	53	106	130	137	107	235	333	415
Inflow	361	493	881	1,229	91	187	278	361	102	209	366	493	171	401	612	881
o/w new f/x saving deposits	13	79	165	0	0	0	2	13	23	49	59	79	53	103	126	165
Outflow	-334	-355	-466	-721	-77	-164	-249	-334	-49	-103	-236	-355	-64	-166	-279	-466
F/X accounts of non-residents	89	242	394	858	14	28	71	89	37	80	149	242	21	106	283	394
F/X purchases, net	564	635	1440	2,455	95	237	380	564	102	326	473	635	152	469	835	1440
Inflow under the Law on Payment Operations	143	285	349	347	1	29	87	143	43	94	199	285	53	147	261	349
Inflow based on Decision 74/100	122	42	0	0	34	63	94	122	23	42	42	42	0	0	0	0
Unregistered	107	9	0	0	36	63	107	107	9	9	9	9	0	0	0	0
CAPITAL AND FINANCIAL ACCOUNT	703	1966	2825	3,788	139	311	436	703	436	682	1,318	1,966	248	725	2050	2825
Foreign direct investment	148	452	1546	1,216	23	47	71	148	139	157	285	452	8	139	1026	1546
Disbursement	222	718	1360	2,718	9	109	188	222	117	315	535	718	62	436	893	1360
Amortization	-29	-64	-235	-776	-2	-5	-17	-29	-3	-14	-18	-64	-24	-44	-103	-235
Short-term loans	-25	-1	14	270	-5	-12	-11	-25	-11	15	3	-1	11	11	22	14
Unpaid imports of oil and gas	90	150	62	236	37	48	54	90	86	66	91	150	101	22	-30	62
Other assets and liabilities	555	747	85	60	74	140	242	555	330	292	540	747	-30	73	293	85
Advance payments	-52	-50	-274	-323	-1	-16	-36	-52	-53	-135	-106	-50	-106	-186	-173	-274
Loro checks	14	14	12	3	4	6	11	14	2	9	16	14	4	5	11	12
Net gain	-2	10	7	18	0	1	-2	-2	2	2	2	10	10	11	19	7
New f/x deposits	247	315	249	670	0	0	29	247	200	242	260	315	11	52	147	249
Exchange operations	423	576	280	0	72	189	297	423	184	264	477	576	61	240	426	280
Old savings f/x deposits repayments	-77	-117	-286	-308	-1	-41	-56	-77	-4	-90	-110	-117	-10	-147	-234	-286
Other	0	0	97	0	0	0	0	0	0	0	0	0	0	97	97	97
Commercial banks	-257	-36	-7	64	4	-16	-92	-257	-221	-150	-117	-36	119	88	-51	-7
ERRORS AND OMISSIONS	27	109	-56	301	60	191	100	27	79	247	205	109	47	300	95	-56
TOTAL BALANCE	447	867	1017	570	71	190	320	447	277	485	747	867	-218	65	1020	1017
FINANCING	-447	-867	-1017	-570	-71	-190	-320	-447	-277	-485	-747	-867	218	-65	-1020	-1017
NBS Reserves, net, (increase,-)	-447	-867	-1017	-570	-71	-190	-320	-447	-277	-485	-747	-867	218	-65	-1020	-1017
o/w: IMF disbursements																
o/w: IMF amortization ⁴⁾																

Appendix IV – External Sector: Balance of Payments

Table A4.4-9. Serbia: Balance of Payments, 2001-2005 ¹⁾

2

	Quarterly				Monthly								
	2004				2005								
	Mar.	Jun.	Sep.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun	July	Aug.	Sep.
	cumulative, in euro millions												
CURRENT ACCOUNT	-778	-1,461	-1700	-3519	-110	-327	-527	-675	-764	-869	-1163	-1200	-1411
Goods	-1838	-3,747	-5381	-8277	-201	-606	-1201	-1801	-2403	-2986	-3579	-4212	-4805
Exports	805	1,774	2985	4640	376	808	1334	1834	2338	2819	3257	3738	4242
Exports f.o.b.	771	1,704	2858	4388	367	790	1306	1794	2286	2759	3187	3653	4143
Unregistered	48	105	183	313	13	26	42	58	73	87	100	114	129
Correction for coverage	-14	-35	-56	-61	-4	-9	-13	-17	-21	-27	-29	-29	-29
Imports f.o.b.	-2643	-5,521	-8366	-12917	-577	-1414	-2535	-3635	-4741	-5805	-6836	-7950	-9048
Imports c.i.f.	-2727	-5,697	-8633	-13330	-595	-1458	-2615	-3750	-4892	-5989	-7055	-8204	-9338
Registered	-2742	-5,727	-8679	-13424	-599	-1469	-2628	-3767	-4913	-6011	-7081	-8230	-9363
Intermediate goods	-1588	-3,264	-4961	-7539	-411	-995	-1725	-2442	-3153	-3828	-4502	-5168	-5818
Capital goods	-497	-1,068	-1639	-2805	-60	-154	-319	-484	-675	-858	-1041	-1275	-1469
Consumer goods	-657	-1,395	-2080	-3080	-129	-320	-585	-840	-1085	-1326	-1538	-1787	-2076
Correction for coverage	15	30	46	93	4	11	13	17	21	22	26	26	26
Unregistered	121	152	226	231	-13	-53	-38	-19	13	37	48	47	51
Receipts	420	799	1266	1810	133	264	431	606	793	973	1149	1326	1498
Travel	48	110	191	273	24	45	72	99	133	165	203	245	285
Transportation (passenger, freight, other)	78	166	269	388	29	65	101	144	186	226	267	305	342
Other services	89	111	142	170	11	21	32	37	52	61	68	79	87
Construction services	30	59	107	185	8	13	29	48	60	85	99	111	122
Other	89	187	305	441	41	80	131	186	246	297	347	397	451
Unregistered	87	165	252	353	20	40	66	92	117	139	165	190	211
Expenditures	-300	-646	-1040	-1579	-146	-316	-469	-625	-780	-936	-1101	-1279	-1447
Transportation (passenger, freight, other)	-104	-216	-341	-515	-47	-92	-141	-187	-233	-277	-319	-370	-420
Transportation ITRS	-71	-146	-234	-350	-39	-74	-108	-140	-172	-202	-231	-267	-304
Transportation from importation	-33	-71	-107	-165	-8	-18	-33	-47	-61	-74	-88	-102	-116
Communications	-9	-26	-35	-50	-4	-7	-9	-13	-17	-21	-27	-30	-34
Travel	-48	-104	-183	-258	-20	-40	-59	-85	-112	-139	-167	-198	-229
Other services	-139	-301	-481	-757	-76	-178	-260	-339	-418	-500	-587	-681	-765
Balance of goods and services	-1717	-3,595	-5155	-8046	-214	-659	-1239	-1819	-2390	-2948	-3531	-4165	-4755
Exports of goods and services	1225	2,572	4251	6450	509	1071	1765	2440	3131	3792	4406	5065	5741
Imports of goods and services	-2943	-6,167	-9406	-14496	-723	-1730	-3004	-4260	-5521	-6740	-7937	-9229	-10495
Factor income, net	-52	-100	-128	-272	-4	-18	-98	-133	-173	-214	-215	-229	-295
Earnings	26	45	62	101	7	13	21	30	38	52	61	69	83
Payments	-78	-146	-190	-373	-11	-32	-119	-163	-210	-266	-276	-298	-378
Unrequited transfers	117	258	382	631	9	29	56	80	119	128	152	206	234
Official grants	117	258	382	631	9	29	56	80	119	128	152	206	234
-of which cash transferrs	35	106	176	300	8	20	33	44	72	79	91	96	107
Current transfers	873	1,976	3201	4168	98	321	753	1198	1680	2166	2432	2988	3405
Private remittances, net	162	384	508	507	41	20	70	105	188	284	305	321	377
Inflow	286	573	849	1229	96	198	318	442	567	697	813	945	1083
o/w new f/x saving deposits	0	0	0	0	0	0	0	0	0	0	0	0	0
Outflow	-124	-189	-342	-721	-54	-177	-248	-337	-379	-413	-507	-623	-707
F/X accounts of non-residents	231	415	749	858	-81	-33	64	120	166	263	285	531	613
F/X purchases, net	412	1,027	1686	2455	116	292	551	875	1199	1451	1635	1877	2116
Inflow under the Law on Payment Operations	69	149	258	347	23	41	68	98	127	168	206	258	298
Inflow based on Decision 74/100	0	0	0	0	0	0	0	0	0	0	0	0	0
Unregistered	0	0	0	0	0	0	0	0	0	0	0	0	0
CAPITAL AND FINANCIAL ACCOUNT	489	1,292	1853	3788	449	840	1043	1621	1585	1995	2801	3177	3568
Foreign direct investment	264	394	699	1216	315	380	450	549	659	850	1031	1278	1470
Disbursement	260	809	1350	2718	76	174	363	625	879	1264	1713	1922	2076
Amortization	-87	-223	-410	-776	-54	-88	-176	-262	-300	-446	-480	-538	-614
Short-term loans	48	95	118	270	-41	-7	65	377	185	231	161	189	231
Unpaid imports of oil and gas	3	-2	115	236	-7	81	74	46	-23	-35	10	37	67
Other assets and liabilities	-34	-38	32	60	-17	96	129	215	80	68	148	199	220
Advance payments	-131	-99	-71	-323	-72	-68	-90	-85	-92	-113	-126	-182	-214
Loro checks	1	9	7	3	4	4	5	7	4	3	8	11	11
Net gain	12	22	17	18	15	42	32	38	-8	-5	-3	14	14
New f/x deposits	95	223	364	670	41	126	194	271	344	424	561	679	747
Exchange operations	0	0	0	0	0	0	0	0	0	0	0	0	0
Old savings f/x deposits repayments	-11	-193	-285	-308	-5	-8	-12	-16	-168	-240	-291	-324	-339
Other	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial banks	35	257	-50	64	178	204	138	70	104	63	217	90	117
ERRORS AND OMISSIONS	74	34	-82	301	-150	-223	-243	-458	-264	-477	-530	-606	-672
TOTAL BALANCE	-216	-136	71	570	189	289	272	487	557	650	1109	1371	1485
FINANCING	216	136	-71	-570	-189	-289	-272	-487	-557	-650	-1109	-1371	-1485
NBS Reserves, net, (increase,-)	216	136	-71	-570	-189	-289	-272	-487	-557	-650	-1109	-1371	-1485
o/w: IMF disbursements													
o/w: IMF amortization ⁴⁾													

Source: NBS

1) Original US dollars monthly data are converted to euros using monthly averages of official daily NBS mid rates.

2) Purchases of cash foreign exchange from the public by the NBS.

3) Includes payments settlement with Montenegro and Kosovo.

4) Principal repayments.

Table A4.4-10. Serbia: Foreign Trade, 2001-2005¹⁾**1**

	Yearly				Quarterly							
	2001	2002	2003	2004	2003				2004			
	Dec.	Dec.	Dec.	Dec.	Mar.	Jun	Sep.	Dec.	Mar.	Jun	Sep.	Dec.
cumulative, in euro millions												
Imports	4763	5925	6589	8623	1540	1627	1572	1850	1778	2048	1997	2801
Exports	1896	2192	2445	2831	581	615	638	608	498	640	781	912
Trade balance	-2867	-3733	-4144	-5792	-959	-1012	-934	-1242	-1279	-1407	-1216	-1889

Table A4.4-11. Serbia: Foreign Trade, 2001-2005¹⁾**2**

	Monthly									
	2005									
	Jan.	Feb.	Mar.	Apr.	May	Jun	July	Aug.	Sep.	
cumulative, in euro millions										
Imports	344	512	672	680	707	739	732	797	764	
Exports	209	249	298	292	303	317	295	323	308	
Trade balance	-134	-262	-373	-389	-404	-422	-437	-474	-456	

Source: SBS

1) Original US dollars monthly data are converted to euros using monthly averages of official daily NBS mid rates.

Table A4.4-12. Serbia: Foreign Trade, 2001-2005¹⁾

	2001	2002	2003	2004	2005 Jan-Aug
Capital entries to the formal system	2,047	1,963	2,029	2,123	1,388
Unpaid imports net of donations	1,336	1,254	1,319	1,393	888
Imports ¹⁾	4,753	5,921	6,589	8,123	5,630
Outward payments for imports	2,761	4,148	4,844	6,327	4,613
Donations	656	520	425	403	129
Constant FX cash inflow ²⁾	711	709	710	730	500
Capital exits from the formal system	583	474	704	510	409
Unpaid Exports	583	474	704	510	409
Exports	1,922	2,187	2,442	2,832	2,287
Inward payments for exports	1,339	1,713	1,739	2,322	1,878
Overstatement of trade deficit ³⁾	1,108	1,134	971	1,249	728

Source: NBS, SBS

1) Excess imports in 2004 are distributed to 2005.

2) This is an assumption. FX cash inflow has been kept constant. We assume NBS FX cash increase is due to the private FX personal savings spending. Also, one of the conditions of the steady state.

3) 50% of the constant FX cash inflow is attributed to unrecorded private remittances.

V MONETARY STATISTICS

- **Definitions**
- **Methodology – general remarks**
- **Issues**

1. Balance Sheet of NBS

- Methodology – specific series
- Issues
- Data Tables
 - Table A4.5-1. Serbia: National Bank of Serbia Balance Sheet, 2001-2005
Frequency: annual, quarterly, monthly

2. Commercial Banks Balance Sheet

- Methodology – specific series
- Issues
- Data Tables
 - Table A4.5-2. Serbia: Commercial Banks Balance Sheet, 2002-2005
Frequency: annual, quarterly, monthly

3. Monetary Survey of Serbia

- Methodology – specific series
- Issues
- Data Tables
 - Table A4.5-3. Serbia: Monetary Survey, 2001-2005
Frequency: annual, quarterly, monthly

Definitions

Monetary statistics refers to the balance sheet data of the NBS, commercial banks and both on consolidated level. It is consisted of:

- Balance sheet of NBS
- Commercial Banks Balance sheet
- Monetary survey

The surveys cover all claims and liabilities of the abovementioned entities that result from their operations in the country and with the rest of the world. The balance sheets comprise the assets side and the liabilities side.

Methodology – general remarks

Source of data:

National Bank of Serbia – Statistical Bulletin, monthly published data available from August 2001 onwards. Series are provided as end of period stocks, on monthly level in millions of dinars.

Regulations:

The compilation and analysis of monetary statistics is the responsibility of the NBS. The source of the NBS data are balance sheets of financial subjects in Serbia which is regulated by the Law.

According to the Law on the National bank of Serbia and the Accounting and Auditing Law, the NBS issues the Rules on the Chart of accounts («Official Gazette of the Republic of Serbia» No. 133/2003 and 4/2004) – the detailed scheme of all groups of accounts and their contents, a mandatory scheme in for all financial subjects in Serbia. Based on this, the KNJ BIFO is established as a mandatory form for the reporting entities⁵⁹ for disclosure the statements of their accounts as reported in their books, on monthly basis. According to the KNJ BIFO guidelines⁶⁰, the reporting entities are required to deliver the KNJ-BIFO form to the NBS latest by the 12th day of each month for the previous month. The information in the KNJ-BIFO form should be reported in thousands of dinars. The National Bank of Serbia is required to process the forms referring to the previous month latest by the 15th day of each month.

Based on abovementioned rules, the NBS publishes the surveys in its monthly publication - Statistical Bulletin, which is available in electronic form in English and in Serbian language: (www.nbs.yu/serbian/linkovi/index.htm and www.nbs.yu/english/publications/index.htm)

The data in the surveys are classified by:

A. Institutional sectors:

1. External sector
2. Domestic sector

2.1 Financial corporations

- 2.1.1 Non-banks financial entities
 - Financial institutions

⁵⁹ The reporting entities are all financial subjects whose are obliged to run their books and report all statements in accordance to the Rules on the Chart of accounts, i.e. banks and other financial organizations, the National Bank of Serbia. The Federation Fund for Financing Accelerated Development of Economically Underdeveloped Republics and Autonomous Provinces, and the Agency for Deposit Insurance, Rehabilitation, Bankruptcy and Liquidation of Banks.

⁶⁰ Guidelines regarding the obligation and methodology of recording, compiling, processing and delivery of information on statement of accounts as reported in books of banks and other financial organizations («Official Gazette of the Republic of Serbia» No. 28/2004)

- Insurance agencies
- 2.1.2 Banks
 - The NBS
 - Commercial banks
- 2.1.3 Other financial entities
 - Savings banks
 - Savings and credit organizations
 - Savings and credit cooperatives
 - Financial leasing enterprises
 - The Agency for Deposit Insurance and Bank Rehabilitation
 - The Belgrade Stock Exchange
 - Exchange bureaus
 - Insurance and reinsurance companies (reinsurance through banks only).
- 2.2 Non-financial corporations (enterprises)
 - 2.2.1 Public enterprises (founded by the state, but profit oriented)
 - 2.2.2 Other enterprises, including health and educational entities with private ownership
 - 2.2.3 Individual entrepreneurs
- 2.3 Public sector include three levels of authorities: State Union, Republic of Serbia and local government
- 2.4 Households – domestic private individuals
- 2.5 Non-profit institutions comprises legal entities and private individuals engaged in providing goods and services for political and business purposes whose aim is not the generation of profit.
 - 2.5.1 Humanitarian, philanthropic and trade associations
 - 2.5.2 Employer's associations
 - 2.5.3 Other associations promoting interests of social groups that control them

B. Financial instruments

Time lag:

NBS publishes the bulletin with up to two months (month and a half) time lag (i.e. the bulletin with September's figures was on the NBS web site on November 20th). FREN updates its database within up to two working days afterwards.

Methodology applied: in accordance with the IMF methodology.

Issues

- Financial statements model of FREN is different from the NBS's, as it presents data in accordance to the IMF balance sheet model. Therefore some of the categories in FREN's balance sheets are different from NBS tables.
- Difference in historical data, i.e. the nonperforming loans in historical series has been cleaned up by FREN. Beside that, some other adjustments have been made in historical figures by FREN (more details given below).

1. Balance Sheet of NBS

Methodology – specific series

The Balance sheet of the NBS covers all claims and liabilities of the NBS that result from its operations in the country and with the rest of the world. The balance sheet comprises the assets side i.e. the reserve money creation and the liabilities side i.e. forms of holding the reserve money.

The model of Balance sheet consists of three parts:

1. Foreign assets, net - shows the NBS operations with the world
2. Net domestic assets (NDA) – shows the NBS operations in the country
3. Reserve money (H) – shows the reserve money and its components

1. Foreign assets, net

- 1.1. Gross foreign reserves of Serbia held in the NBS include foreign exchange reserves (Monetary gold, Special drawing rights – SDRs, Cash holdings and deposits) and other foreign assets (clearing and other short-term claims on the rest of the world)
- 1.2. Gross reserve liabilities (-)
 - 1.2.1. Foreign liabilities: borrowing from IMF and other foreign liabilities (borrowings from other foreign creditors and other short and long-term liabilities to non-residents)
 - 1.2.2. Foreign currency deposits of commercial banks held with the NBS: Required reserves (deposits serving as a collateral for new foreign currency savings) and other banks' foreign exchange deposits

2. Net domestic assets (NDA)

- 2.1. Domestic credits
 - 2.1.1. Net claims on government comprises State Union, Republic of Serbia and local government level
 - 2.1.1.1. Claims: dinar and foreign currency⁶¹ credits granted to the government by the NBS
 - 2.1.1.2. Deposits (-): dinar and foreign currency deposits that the government holds with the NBS
 - 2.1.2. Net claims on banks
 - 2.1.2.1. Claims: comprises dinar and foreign currency, short and long-term credits extended to banks. Up to end 2001 this category included "Recourse to required reserves" item, which equals zero starting January 2002 onwards
 - 2.1.2.2. Liabilities (-): comprises NBS bills and repo (repurchase) transactions and other dinar deposits of banks held in the NBS
 - 2.1.3. Net claims on the rest of the economy
 - 2.1.3.1. Claims: refers mostly to loans to public enterprises and NBS employees
 - 2.1.3.2. Liabilities (-): refers mostly to dinar deposits of other non-government economic entities (different to enterprises and households) held with the NBS
 - 2.1.4. Other items, net include: other assets, deposits of other financial institutions, deposits of banks undergoing liquidation, capital and reserves, other liabilities

3. Reserve money (H)

- 3.1. Currency in circulation
- 3.2. Commercial banks' reserves: required dinar reserves allocated and excess reserves (overnight deposits, and giro account and cash)

⁶¹ Foreign currency credits equals zero starting January 2002, therefore this item is not shown in NBS balance sheet hereby enclosed

Available data: from January 2001 onwards, monthly.

Series presented: yearly (2001-2004), quarterly (2002-2005) and monthly (2005).

Adjustments of data – done by FREN:

- Net claims on banks: Foreign currency credits:
Monthly series in time period January 2001 – December 2001 have been cleaned up for the nonperforming loans: the amount of 141161 millions of dinars has been taken out from each month.

Issues

Differences with NBS Statistical Bulletin’s methodology

Methodology difference: Hereby explained model of balance sheet provided by FREN is in accordance to the IMF methodology.

Different to this is the methodology of NBS, where the assets and liabilities are shown separately.

The NBS methodology does not show separately and clearly the NBS claims and liabilities on non-residents (Net foreign assets) and in the country (Net domestic assets). Furthermore, the operations in the country are not categorized as government and non-government operations. The reserve money and its components are shown within the NBS liabilities, not separately.

Difference in the treatment of categories:

- Local government
 - Statistical Bulletin: The NBS transactions with local government are treated separately, i.e. these are not included in the Net claims on government
 - FREN: The NBS transactions with all levels of government are included in the Net claims on government, same as the IMF methodology

Note:

- The NBS’s provides data on Gross foreign reserves in two different surveys. One is the NBS Balance Sheet and another is separate table on Gross foreign reserves of NBS. The data in these two tables are the same. However, the difference exists and it arises in the applied exchange rate. Namely, in NBS Balance Sheet the end of period exchange rate is applied, while in the Gross foreign reserve table relevant exchange rate is on daily basis.

Difference with the IMF data

- Net foreign assets – Gross reserve liabilities of NBS:
 - IMF include only short-term liabilities (short-term foreign loans and short-term non-resident accounts) NFA, while FREN’s survey include all foreign, short and long-term liabilities. At present, FREN is not able to distinguish short-term from the long-term foreign liabilities hence only the aggregate level of data is available (NBS’ Statistical Bulletin shows only aggregate figures of NBS’s foreign liabilities).

Data Tables**Table A4.5-1. Serbia: National Bank of Serbia Balance Sheet, 2001-2005****1**

	Yearly				Quarterly							
	2001	2002	2003	2004	2002				2003			
	Dec.	Dec.	Dec.	Dec.	Mar.	Jun	Sep.	Dec.	Mar.	Jun	Sep.	Dec.
	in millions of dinars, end of period ¹⁾											
Foreign assets, net	-20,484	52,795	81,859	104,530	36,108	37,007	49,639	52,795	41,229	46,405	86,697	81,859
Foreign assets, net (in euros)	-343	858	1,198	1,308	599	610	815	858	640	722	1,314	1,198
Gross foreign reserves	59,549	137,589	193,700	244,837	102,044	114,130	132,128	137,589	130,038	139,275	192,810	193,700
Gross foreign reserves (in euros)	997	2,237	2,835	3,065	1,693	1,882	2,169	2,237	2,020	2,167	2,923	2,835
Gross reserve liabilities (-)	-80,033	-84,794	-111,841	-140,307	-65,936	-77,123	-82,489	-84,794	-88,809	-92,870	-106,113	-111,841
Gross reserve liabilities (in euros) (-)	-1,340	-1,378	-1,637	-1,756	-1,094	-1,272	-1,354	-1,378	-1,379	-1,445	-1,609	-1,637
o/w: fx deposits of commercial banks	-41,797	-32,365	-43,362	-65,874	-22,045	-27,965	-28,593	-32,365	-35,235	-34,855	-37,160	-43,362
o/w: fx deposits of commercial banks (in euros)	-700	-526	-635	-825	-366	-461	-469	-526	-547	-542	-563	-635
Net Domestic Assets (NDA)	64,124	16,529	-11,863	-27,561	12,212	16,641	15,047	16,529	21,722	12,757	-23,552	-11,863
Domestic credits	17,721	16,520	-10,843	-13,944	4,314	10,721	12,024	16,520	25,304	21,000	-14,707	-10,843
Net claims on government	9,579	9,460	-13,362	-16,630	2,784	9,441	8,998	9,460	17,832	13,710	-19,399	-13,362
Claims	19,795	20,720	19,051	21,427	16,316	17,551	21,573	20,720	23,253	23,224	23,061	19,051
o/w: dinar credits	10,681	20,720	19,051	21,427	16,316	17,551	21,573	20,720	23,253	23,224	23,061	19,051
Deposits (-)	-10,216	-11,260	-32,413	-38,057	-13,532	-8,110	-12,575	-11,260	-5,421	-9,514	-42,460	-32,413
Dinar deposits	-2,939	-5,101	-14,305	-28,068	-4,055	-3,490	-5,310	-5,101	-1,134	-4,709	-8,583	-14,305
Fx deposits	-7,277	-6,159	-18,108	-9,989	-9,477	-4,620	-7,265	-6,159	-4,287	-4,805	-33,877	-18,108
Fx deposits (in euros)	-122	-100	-265	-125	-157	-76	-119	-100	-67	-75	-514	-265
Net claims on banks	5,650	5,470	2,337	2,554	368	150	1,979	5,470	6,386	5,747	2,784	2,337
Claims	7,541	7,147	5,490	4,594	5,330	5,456	6,303	7,147	7,772	6,360	6,155	5,490
o/w: other dinar credits	2,494	4,978	3,774	3,007	2,568	2,961	3,769	4,978	5,550	4,376	4,034	3,774
o/w: fx credits	2,849	2,169	1,716	1,587	2,762	2,495	2,534	2,169	2,222	1,984	2,121	1,716
o/w: fx credits (in euros)	48	35	25	20	46	41	42	35	35	31	32	25
Liabilities (-)	-1,892	-1,677	-3,153	-2,040	-4,962	-5,306	-4,324	-1,677	-1,386	-613	-3,371	-3,153
o/w: NBS bills	-715	-1,549	-2,223	-1,752	-4,870	-5,211	-4,193	-1,549	-1,288	-560	-3,318	-2,223
o/w: repo transactions	0	0	0	0	0	0	0	0	0	0	0	0
Net claims on the rest of the economy	2,492	1,590	182	132	1,162	1,130	1,047	1,590	1,086	1,543	1,908	182
Claims	3,669	1,599	244	198	1,167	1,137	1,054	1,599	1,148	1,585	1,943	244
Dinar and fx credits	3,669	1,599	244	198	1,167	1,137	1,054	1,599	1,148	1,585	1,943	244
Liabilities (-)	-1,177	-9	-62	-66	-5	-7	-7	-9	-62	-42	-35	-62
Dinar deposits	-1,177	-9	-62	-66	-5	-7	-7	-9	-62	-42	-35	-62
Other items, net ²⁾	46,403	9	-1,020	-13,617	7,898	5,920	3,023	9	-3,582	-8,243	-8,845	-1,020
Reserve money (H)	43,640	69,323	69,996	76,969	48,321	53,649	64,687	69,323	62,951	59,161	63,144	69,996
Currency in circulation	25,273	43,719	42,979	45,165	30,161	32,732	40,446	43,719	36,917	37,546	39,224	42,979
Commercial banks' reserves	18,367	25,604	27,017	31,804	18,160	20,917	24,241	25,604	26,034	21,615	23,920	27,017
Required reserves allocated	10,220	11,466	16,212	20,953	10,247	9,678	13,241	11,466	19,500	15,876	15,894	16,212
Excess reserves	8,147	14,138	10,805	10,851	7,913	11,239	11,000	14,138	6,534	5,739	8,026	10,805
Overnight deposits	0	2,850	5,695	5,076	0	5,872	3,717	2,850	1,295	1,581	3,700	5,695
Giro account and cash	0	11,288	5,110	5,775	7,913	5,367	7,283	11,288	5,239	4,158	4,326	5,110

Table A4.5-1. Serbia: National Bank of Serbia Balance Sheet, 2001-2005

2

	Quarterly				Monthly								
	2004				2005								
	Mar.	Jun	Sep.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun	Jul	Aug.	Sep.
	in millions of dinars, end of period ¹⁾												
Foreign assets, net	71,146	72,342	86,174	104,530	101,410	119,498	124,514	135,181	130,382	134,123	145,960	161,969	164,055
Foreign assets, net (in euros)	1,019	1,002	1,149	1,308	1,263	1,484	1,536	1,659	1,589	1,620	1,745	1,918	1,937
Gross foreign reserves	187,951	199,126	217,108	244,837	260,406	267,311	272,654	287,420	288,062	302,596	329,752	351,481	358,226
Gross foreign reserves (in euros)	2,693	2,759	2,895	3,065	3,243	3,320	3,364	3,527	3,511	3,656	3,943	4,163	4,229
Gross reserve liabilities (-)	-116,805	-126,784	-130,934	-140,307	-158,996	-147,813	-148,140	-152,239	-157,680	-168,473	-183,792	-189,512	-194,171
Gross reserve liabilities (in euros) (-)	-1,673	-1,757	-1,746	-1,756	-1,980	-1,836	-1,828	-1,868	-1,922	-2,035	-2,198	-2,245	-2,292
o/w: fx deposits of commercial banks	-47,769	-49,473	-57,375	-65,874	-69,893	-69,246	-71,171	-75,121	-78,644	-89,663	-95,125	-100,714	-106,866
o/w: fx deposits of commercial banks (in euros)	-684	-685	-765	-825	-871	-860	-878	-922	-959	-1,083	-1,137	-1,193	-1,262
Net Domestic Assets (NDA)	-13,646	-10,074	-22,039	-27,561	-37,207	-52,336	-58,814	-64,650	-59,352	-62,632	-69,011	-84,926	-83,861
Domestic credits	-10,991	-5,349	-11,982	-13,944	-21,966	-35,027	-39,936	-42,129	-40,935	-41,262	-49,106	-59,873	-59,167
Net claims on government	-14,068	-4,457	-10,409	-16,630	-23,531	-34,829	-37,448	-37,988	-30,166	-26,469	-33,161	-42,627	-41,230
Claims	18,904	18,840	18,646	21,427	21,236	21,234	21,235	21,235	21,235	16,636	16,563	16,413	16,013
o/w: dinar credits	18,904	18,840	18,646	21,427	21,236	21,234	21,235	21,235	21,235	16,636	16,563	16,413	16,013
Deposits (-)	-32,972	-23,297	-29,055	-38,057	-44,767	-56,063	-58,683	-59,223	-51,401	-43,105	-49,724	-59,040	-57,243
Dinar deposits	-17,570	-16,272	-19,347	-28,068	-34,643	-36,837	-40,595	-40,998	-41,466	-36,534	-36,833	-40,113	-42,851
Fx deposits	-15,402	-7,025	-9,708	-9,989	-10,124	-19,226	-18,088	-18,225	-9,935	-6,571	-12,891	-18,927	-14,392
Fx deposits (in euros)	-221	-97	-129	-125	-126	-239	-223	-224	-121	-79	-154	-224	-170
Net claims on banks	2,899	-1,073	-1,751	2,554	1,428	-345	-2,672	-4,316	-11,014	-15,080	-16,240	-17,535	-18,045
Claims	5,329	4,692	3,561	4,594	3,682	3,654	3,644	3,672	3,773	2,671	2,678	2,732	2,907
o/w: other dinar credits	3,507	2,801	1,608	3,007	1,686	1,663	1,576	1,586	1,578	371	360	368	505
o/w: fx credits	1,822	1,891	1,953	1,587	1,996	1,991	2,068	2,086	2,195	2,300	2,318	2,364	2,402
o/w: fx credits (in euros)	26	26	26	20	25	25	26	26	27	28	28	28	28
Liabilities (-)	-2,430	-5,765	-5,312	-2,040	-2,254	-3,999	-6,316	-7,988	-14,787	-17,751	-18,918	-20,267	-20,952
o/w: NBS bills	-2,378	-5,720	-5,224	-1,752	-1,560	-43	0	0	0	0	0	0	-4,070
o/w: repo transactions	0	0	0	0	-90	-3,263	-3,206	-4,650	-14,624	-17,607	-18,386	-19,738	-15,734
Net claims on the rest of the economy	178	181	178	132	137	147	184	175	245	287	295	289	108
Claims	243	243	242	198	196	206	248	261	311	369	369	360	353
Dinar and fx credits	243	243	242	198	196	206	248	261	311	369	369	360	353
Liabilities (-)	-65	-62	-64	-66	-59	-59	-64	-86	-66	-82	-74	-71	-245
Dinar deposits	-65	-62	-64	-66	-59	-59	-64	-86	-66	-82	-74	-71	-245
Other items, net ²⁾	-2,655	-4,725	-10,057	-13,617	-15,241	-17,309	-18,878	-22,521	-18,417	-21,370	-19,905	-25,053	-24,694
Reserve money (H)	57,501	62,268	64,135	76,969	64,203	67,162	65,700	70,531	71,030	71,491	76,949	77,043	80,194
Currency in circulation	38,004	40,347	42,463	45,165	38,861	39,171	39,368	42,395	41,205	42,316	45,114	44,964	47,283
Commercial banks' reserves	19,497	21,921	21,672	31,804	25,342	27,991	26,332	28,136	29,825	29,175	31,835	32,079	32,911
Required reserves allocated	13,321	15,067	18,738	20,953	21,365	20,496	20,676	21,151	21,974	21,855	23,058	23,539	24,673
Excess reserves	6,176	6,854	2,934	10,851	3,977	7,495	5,656	6,985	7,851	7,320	8,777	8,540	8,238
Overnight deposits	2,280	2,039	734	5,076	491	2,508	2,825	2,039	3,708	3,004	3,480	3,041	3,394
Giro account and cash	3,896	4,815	2,200	5,775	3,486	4,987	2,831	4,946	4,143	4,316	5,297	5,499	4,844

Source: FREN, NBS: Statistical bulletin.

1) Unless otherwise indicated.

2) Includes: Other assets; Fx deposits of other financial institutions; Deposits of banks undergoing liquidation; Capital and reserves; and Other liabilities.

2. Commercial Banks Balance Sheet

Methodology – specific series

The Balance sheet of the Commercial banks shows aggregate claims and liabilities of all commercial banks in Serbia. The model of Balance sheet is consisted of two parts:

1. Net foreign reserves - shows the banks' claims and liabilities on non-residents
2. Net domestic assets (NDA) – shows the banks' claims and liabilities in the country

1. Net foreign reserves
 - 1.1. Gross foreign reserves include foreign currency accounts with banks abroad and other assets in the accounts abroad
 - 1.2. Gross reserve liabilities (-) include obligations of commercial banks under short and long-term loans and deposits in foreign currencies to nonresidents
2. Net domestic assets
 - 2.1. Domestic credits
 - 2.1.1. Net claims on government comprises State Union, Republic of Serbia and local government level
 - 2.1.1.1. Claims include dinar and fx credits granted to the government
 - 2.1.1.2. Liabilities (-) include dinar and fx deposits of government
 - 2.1.2. Net claims on NBS
 - 2.1.2.1. Claims include dinar and fx currency assets (cash, required reserves, excess reserves, NBS bills/repo and deposits) that commercial banks hold with the NBS,
 - 2.1.2.2. Liabilities (-) comprise dinar and foreign currency obligations to the NBS.
 - 2.1.3. Net claims on the rest of the economy
 - 2.1.3.1. Claims include all credits granted to the households and enterprises (including other sectors, i.e. other financial institutions, non-profit and other non-government economic entities)
 - 2.1.3.2. Liabilities (-) include dinar and fx deposits of households and enterprises (including other sectors, i.e. other financial institutions, non-profit and other non-government economic entities) held in commercial banks
 - 2.2. Other items, net include: claims on government on frozen foreign currency deposits (FFCDs); other assets; FFCDs; Deposits of enterprises undergoing liquidation; Capital and reserves; Interbank, net (net amount of dinar and foreign currency claims and liabilities that remained outstanding after the set-off of claims and liabilities among banks) and other liabilities.

Available data: from January 2002 onwards, monthly.

Series presented: yearly (2001-2004), quarterly (2002-2005) and monthly (2005).

Adjustments of data – done by FREN

- Net claims on the rest of the economy – Enterprises:
NPL loans have been cleaned up. The difference between December 2003 and November 2003 - 27760 millions of dinars, have been taken out from figures from January 2002 to November 2003.
- Net credits to government – Fx credits to government:
According to the NBS, one part of commercial banks' claims on government under the FFCDs that have been treated as the claims on the NBS are now treated as the claims on government. Therefore, the following adjustments in the Statistical Bulletin have been taken: the claims on government increased, and for the same amount the dinar deposits held in the NBS (starting December 2003 onwards) and Interbank, net decreased. As the NBS' Statistical bulletin publishes monthly series starting March 2003, the historical adjustments have been done by FREN. The amount of the last available correction (+67.38 millions euros, i.e. the corrected amount in March 2003) have been added to the

Fx credits to government and taken out from the Interbank, net in each month, starting January 2002.

- Gross reserve liabilities:
The banks with foreign ownership held some of their liabilities as the liabilities towards the domestic banks, instead the liabilities toward foreign banks. The corrections have been made in Statistical bulletin starting March 2003 onwards. The historical adjustments have been made by FREN, i.e. the upwards corrections (for 25.07 millions euros, that is the corrected amount in March 2003) have been added to the Gross reserve liabilities historically starting January 2002, and taken out from the Interbank, net.

Issues

Differences with NBS Statistical Bulletin's methodology

Methodology difference:

Hereby explained model of balance sheet provided by FREN is in accordance to the IMF methodology. Different to this is the methodology of NBS, where the assets and liabilities are shown separately.

The NBS methodology does not show separately and clearly the commercial banks' operations with the world (Net foreign assets) and in the country (Net domestic assets). Furthermore, the operations in the country are not categorized as government, NBS and the transactions with the rest of the economy.

Difference in the treatment of categories:

- Local government
 - Statistical Bulletin: The commercial banks' transactions with local government are treated separately, i.e. these are not included in the Net claims on government
 - FREN: The commercial banks' transactions with all levels of government are included in the Net claims on government, same as the IMF methodology

Difference with the IMF data

IMF does not provide Commercial Banks Balance Sheet in the Country reports. However some of the commercial banks' balance sheet data can be seen in the Monetary Survey.

- Net foreign assets – Gross reserve liabilities of commercial banks:
IMF include only short-term liabilities (short-term foreign loans and short-term non-resident accounts) NFA, while FREN's survey include all foreign, short and long-term liabilities. At present, FREN is not able to distinguish short-term from the long-term foreign liabilities hence only the aggregate level of data is available (NBS' Statistical Bulletin shows only aggregate figures of commercial banks' foreign liabilities).
- Net claims on government – Fx credits:
IMF survey distinguishes fx credits to government and claims on government based on FFCDs. In FREN's Commercial banks Balance Sheet these two types of claims have been treated together, as the NBS Statistical Bulletin does not distinguish these claims as well. Therefore, the IMF data on fx credits to government are significantly lower than the FREN's.

Data Tables**Table A4.5-2. Serbia: Commercial Banks Balance Sheet, 2002-2005****1**

	Yearly			Quarterly							
	2002	2003	2004	2002				2003			
	Dec.	Dec.	Dec.	Mar.	Jun	Sep.	Dec.	Mar.	Jun	Sep.	Dec.
	in millions of dinars, end of period ¹⁾										
Net foreign reserves	26,825	25,731	-27,359	43,012	34,364	41,633	26,825	22,864	27,314	33,641	25,731
Net foreign reserves (in euros)	436	377	-342	713	567	683	436	355	425	510	377
Gross foreign reserves	43,438	49,344	53,941	62,382	55,881	53,607	43,438	41,496	42,159	51,297	49,344
Gross foreign reserves (in euros)	706	722	675	1,035	922	880	706	645	656	778	722
Gross reserve liabilities	-16,613	-23,613	-81,300	-19,370	-21,517	-11,974	-16,613	-18,632	-14,845	-17,656	-23,613
Gross reserve liabilities (in euros)	-270	-346	-1,018	-321	-355	-197	-270	-289	-231	-268	-346
Neto domestic assets (NDA)	-26,825	-25,731	27,359	-43,012	-34,364	-41,633	-26,825	-22,864	-27,314	-33,641	-25,731
Domestic credits	26,325	47,584	105,455	9,299	13,499	20,487	26,325	35,249	37,874	34,439	47,584
Net claims on government	-16,526	-1,583	8,657	-12,537	-9,469	-12,226	-16,526	-21,065	-16,438	-13,923	-1,583
Claims	9,187	13,731	22,756	7,234	7,351	8,199	9,187	12,099	12,018	13,143	13,731
Dinar credits	2,777	4,078	8,832	2,858	1,924	2,521	2,777	4,777	4,973	5,211	4,078
Fx credits	6,410	9,653	13,924	4,376	5,427	5,678	6,410	7,322	7,045	7,932	9,653
Fx credits (in euros)	104	141	174	73	89	93	104	114	110	120	141
Liabilities (-)	-25,713	-15,314	-14,099	-19,771	-16,820	-20,425	-25,713	-33,164	-28,456	-27,066	-15,314
Dinar deposits	-15,979	-11,372	-10,700	-9,264	-12,487	-19,076	-15,979	-22,319	-18,393	-17,899	-11,372
Fx deposits	-9,734	-3,942	-3,399	-10,507	-4,333	-1,349	-9,734	-10,845	-10,063	-9,167	-3,942
Fx deposits (in euros)	-158	-58	-43	-174	-71	-22	-158	-168	-157	-139	-58
Net claims on NBS	57,347	70,374	97,570	55,395	59,314	60,641	57,347	62,525	57,107	64,822	70,374
Claims	62,668	74,224	99,325	56,886	61,235	63,927	62,668	67,962	61,338	68,699	74,224
Cash	1,742	4,097	4,281	285	396	479	1,742	3,653	3,407	3,603	4,097
Required reserves	11,525	16,241	20,953	10,461	9,763	13,377	11,525	19,639	16,111	15,896	16,241
Excess reserves	11,879	6,720	6,569	7,741	10,179	9,373	11,879	2,988	1,741	3,261	6,720
Deposits	36,056	44,936	66,013	33,497	35,663	36,469	36,056	40,469	39,519	42,725	44,936
o/w: dinar deposits	1,161	193	156	5,422	1,986	1,982	1,161	833	905	1,712	193
NBS bills/repo ²⁾	1,466	2,230	1,509	4,902	5,234	4,229	1,466	1,213	560	3,214	2,230
Liabilities (-)	-5,321	-3,850	-1,755	-1,491	-1,921	-3,286	-5,321	-5,437	-4,231	-3,877	-3,850
Net claims on the rest of the economy	-14,496	-21,207	-772	-33,559	-36,346	-27,928	-14,496	-6,211	-2,795	-16,460	-21,207
Claims	127,635	172,040	261,826	72,047	81,391	107,237	127,635	140,339	150,142	162,141	172,040
Households	16,020	28,439	64,283	5,024	7,739	11,779	16,020	17,745	22,037	24,736	28,439
Enterprises ³⁾	111,615	143,601	197,543	67,023	73,652	95,458	111,615	122,594	128,105	137,405	143,601
Liabilities (-)	-142,131	-193,247	-262,598	-105,606	-117,737	-135,165	-142,131	-146,550	-152,937	-178,601	-193,247
Dinar deposits	-61,600	-73,998	-87,019	-39,497	-48,574	-60,614	-61,600	-58,161	-59,571	-69,920	-73,998
Households	-11,436	-13,411	-12,737	-7,009	-8,658	-10,097	-11,436	-11,487	-11,939	-14,505	-13,411
Enterprises ³⁾	-50,164	-60,587	-74,282	-32,488	-39,916	-50,517	-50,164	-46,674	-47,632	-55,415	-60,587
Fx deposits	-80,531	-119,249	-175,579	-66,109	-69,163	-74,551	-80,531	-88,389	-93,366	-108,681	-119,249
Households ⁴⁾	-45,941	-69,738	-110,714	-36,739	-40,037	-41,977	-45,941	-51,557	-54,654	-61,727	-69,738
Households (in euros)	-747	-1,021	-1,386	-609	-660	-689	-747	-801	-850	-936	-1,021
Enterprises ³⁾	-34,590	-49,511	-64,865	-29,370	-29,126	-32,574	-34,590	-36,832	-38,712	-46,954	-49,511
Enterprises ²⁾ (in euros)	-562	-725	-812	-487	-480	-535	-562	-572	-602	-712	-725
Other items, net ⁵⁾	-53,150	-73,315	-78,096	-52,311	-47,863	-62,121	-53,150	-58,113	-65,188	-68,080	-73,315
o/w: capital and reserves	-136,404	-92,603	-103,153	-83,904	-82,822	-117,087	-136,404	-129,483	-119,824	-120,789	-92,603

Table A4.5-2. Serbia: Commercial Banks Balance Sheet, 2002-2005

2

	Quarterly				Monthly								
	2004				2005								
	Mar.	Jun.	Sep.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun	July	Aug.	Sep.
	in millions of dinars, end of period1)												
Net foreign reserves	14,259	-5,075	-12,501	-27,359	-35,191	-42,082	-48,165	-50,605	-47,912	-57,549	-67,376	-66,897	-72,880
Net foreign reserves (in euros)	204	-70	-167	-342	-438	-523	-594	-621	-584	-695	-806	-792	-860
Gross foreign reserves	46,029	38,092	50,797	53,941	45,997	44,458	46,962	53,515	52,329	54,225	47,854	54,735	53,196
Gross foreign reserves (in euros)	659	528	677	675	573	552	579	657	638	655	572	648	628
Gross reserve liabilities	-31,770	-43,167	-63,298	-81,300	-81,188	-86,540	-95,127	-104,120	-100,241	-111,774	-115,230	-121,632	-126,076
Gross reserve liabilities (in euros)	-455	-598	-844	-1,018	-1,011	-1,075	-1,174	-1,278	-1,222	-1,350	-1,378	-1,441	-1,489
Neto domestic assets (NDA)	-14,259	5,075	12,501	27,359	35,191	42,082	48,165	50,605	47,912	57,549	67,377	66,897	72,880
Domestic credits	52,999	74,841	81,600	105,455	118,324	123,399	126,889	136,343	137,504	144,130	158,122	163,685	170,160
Net claims on government	-1,195	26	1,951	8,657	9,694	10,294	9,287	8,821	4,401	2,453	2,740	3,143	6,520
Claims	15,184	15,215	17,399	22,756	23,517	24,307	24,262	24,549	22,106	23,743	24,309	25,303	26,578
Dinar credits	4,233	4,658	5,717	8,832	8,833	8,748	9,178	8,784	8,453	8,888	8,195	8,220	7,785
Fx credits	10,951	10,557	11,682	13,924	14,684	15,559	15,084	15,765	13,653	14,855	16,114	17,083	18,793
Fx credits (in euros)	157	146	156	174	183	193	186	193	166	179	193	202	222
Liabilities (-)	-16,379	-15,189	-15,448	-14,099	-13,823	-14,013	-14,975	-15,728	-17,705	-21,290	-21,569	-22,160	-20,058
Dinar deposits	-12,291	-11,902	-12,040	-10,700	-10,302	-10,386	-11,413	-12,171	-13,098	-14,766	-15,028	-15,482	-15,581
Fx deposits	-4,088	-3,287	-3,408	-3,399	-3,521	-3,627	-3,562	-3,557	-4,607	-6,524	-6,541	-6,678	-4,477
Fx deposits (in euros)	-59	-46	-45	-43	-44	-45	-44	-44	-56	-79	-78	-79	-53
Net claims on NBS	66,649	76,109	83,059	97,570	95,256	99,164	99,401	106,736	122,009	136,504	145,669	152,785	159,417
Claims	70,360	79,331	84,880	99,325	97,002	100,891	101,154	108,465	123,737	137,023	146,212	153,314	160,153
Cash	3,451	3,419	3,463	4,281	3,916	4,108	3,812	5,517	4,340	4,430	4,876	5,127	4,822
Required reserves	13,321	15,067	18,738	20,953	21,365	20,496	20,676	21,151	21,974	21,855	23,058	23,539	24,673
Excess reserves	2,732	3,452	-471	6,569	134	3,303	1,766	1,439	3,388	2,790	3,859	3,139	3,349
Deposits	48,628	51,743	58,459	66,013	70,294	69,677	71,694	75,708	79,401	90,317	95,993	101,758	107,501
o/w: dinar deposits	78	57	81	156	329	85	95	94	160	140	211	330	120
NBS bills/repo ²⁾	2,228	5,650	4,691	1,509	1,293	3,307	3,206	4,650	14,634	17,631	18,426	19,751	19,808
Liabilities (-)	-3,711	-3,222	-1,821	-1,755	-1,746	-1,727	-1,753	-1,729	-1,728	-519	-543	-529	-736
Net claims on the rest of the economy	-12,455	-1,294	-3,410	-772	13,374	13,941	18,201	20,786	11,094	5,173	9,713	7,757	4,223
Claims	186,336	207,257	235,836	261,826	273,026	280,385	289,156	300,364	308,030	314,487	331,452	343,358	354,522
Households	32,182	40,048	51,858	64,283	65,873	66,651	69,616	72,277	77,517	82,293	89,439	96,590	102,435
Enterprises ³⁾	154,154	167,209	183,978	197,543	207,153	213,734	219,540	228,087	230,513	232,194	242,013	246,768	252,087
Liabilities (-)	-198,791	-208,551	-239,246	-262,598	-259,652	-266,444	-270,955	-279,578	-296,936	-309,314	-321,739	-335,601	-350,299
Dinar deposits	-67,484	-72,208	-78,691	-87,019	-80,127	-84,152	-84,696	-88,349	-94,386	-96,879	-100,363	-105,272	-109,002
Households	-14,200	-13,116	-13,215	-12,737	-12,294	-13,154	-12,634	-14,425	-14,106	-14,970	-15,845	-15,600	-16,028
Enterprises ³⁾	-53,284	-59,092	-65,476	-74,282	-67,833	-70,998	-72,062	-73,924	-80,280	-81,909	-84,518	-89,672	-92,974
Fx deposits	-131,307	-136,343	-160,555	-175,579	-179,525	-182,292	-186,259	-191,229	-202,550	-212,435	-221,376	-230,329	-241,297
Households ⁴⁾	-76,985	-84,568	-94,472	-110,714	-115,953	-119,635	-124,107	-128,602	-134,506	-141,477	-149,717	-157,527	-162,667
Households (in euros)	-1,103	-1,172	-1,260	-1,386	-1,444	-1,486	-1,531	-1,578	-1,640	-1,709	-1,790	-1,866	-1,921
Enterprises ³⁾	-54,322	-51,775	-66,083	-64,865	-63,572	-62,657	-62,152	-62,627	-68,044	-70,958	-71,659	-72,802	-78,630
Enterprises ²⁾ (in euros)	-778	-717	-881	-812	-792	-778	-767	-768	-829	-857	-857	-862	-928
Other items, net ⁵⁾	-67,258	-69,766	-69,099	-78,096	-83,133	-81,317	-78,724	-85,738	-89,592	-86,581	-90,745	-96,788	-97,280
o/w: capital and reserves	-91,207	-99,054	-105,185	-103,153	-117,887	-106,512	-112,019	-113,178	-114,574	-117,609	-116,495	-119,631	-125,292

Source: FREN and NBS: Statistical Bulletin.

1) Unless otherwise indicated.

2) As mentioned in footnote 2 in Table T-14: Up to end December 2004, includes NBS bills; from January 2005 to February 2005 includes NBS bills and repo transactions; and from March 2005 onwards it includes only repo transactions.

3) Enterprises also include non-profit and other non-government economic entities.

4) Household savings.

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

3. Monetary Survey of Serbia

Methodology – specific series

The Monetary survey represents the consolidated balance sheet of the NBS and commercial banks where mutual claims and liabilities have been set-off. It shows the process of money creation and the forms of holding the money in Serbia through consolidated claims and liabilities on domestic clients and on the rest of the world. The Monetary survey is consisted of three parts:

1. Net Foreign assets (NFA) - shows the Serbian financial system's operations with the world.
 2. Net domestic assets (NDA) - shows the Serbian financial system's operations in the country.
 3. Broad money M2 - shows the total money in the system and its components.
1. Net foreign assets (NFA)
 - 1.1. Assets include Gross foreign reserves of NBS and commercial banks
 - 1.2. Gross reserve liabilities⁶² (-) include Foreign liabilities of NBS and Gross reserve liabilities of commercial banks
 2. Net domestic assets (NDA)
 - 2.1. Domestic credits
 - 2.1.1. Net claims on government comprises State Union, Republic of Serbia and local government level
 - 2.1.1.1. Claims: dinar and foreign currency⁶³ credits granted to the government by the NBS and commercial banks
 - 2.1.1.2. Deposits (-): dinar and foreign currency deposits that the government holds with the NBS and commercial banks
 - 2.1.2. Credit to the non-government sector include all credits granted to the households and enterprises (including other sectors, i.e. other financial institutions, non-profit and other non-government economic entities)
 - 2.1.3. Other items, net include Claims on government on FFCDs; other assets; FFCDs; Capital and reserves; Blocked deposits; Other liabilities; and Interbank, net (net amount of dinar and foreign currency claims and liabilities that remained outstanding after the set-off of claims and liabilities among banks).
 - 2.2. Domestic deposits
 3. Broad money M2 refers to M3 in accepted methodology in Serbia, and it includes:
 - 3.1. Dinar denominated M2 that refers to M2 in accepted methodology in Serbia:
 - 3.1.1. M1, i.e. currency outside banks and demand deposits of households and enterprises⁶⁴;
 - 3.1.2. Time and savings dinar deposits of households (households dinar savings) and enterprises⁶;
 - 3.2. Time and savings fx deposits of households (households fx savings) and enterprises⁶

Available data: from January 2001 onwards, monthly.

Series presented: yearly (2001-2004), quarterly (2002-2005) and monthly (2005).

Adjustments of data – done by FREN: Comprises adjustments taken in Balance sheet of NBS and commercial banks balance sheet.

⁶² Gross reserve liabilities is smaller than the sum of NBS and commercial banks Gross reserve liabilities, as it doesn't include the Banks foreign currency deposits held with the NBS.

⁶³ Foreign currency credits equals zero starting January 2002, therefore this item is not shown in NBS balance sheet hereby enclosed

⁶⁴ including other sectors, i.e. other financial institutions, non-profit and other sector and local government

Issues

Differences with NBS Statistical Bulletin’s methodology:

Methodology difference:

Hereby explained model of balance sheet provided by FREN is in accordance to the IMF methodology.

Different with this is the methodology of NBS, where the assets and liabilities are shown separately.

The NBS methodology does not show separately and clearly the operations with the world (Net foreign assets) and in the country (Net domestic assets). Furthermore, the operations in the country are not categorized as government, and the transactions with the rest of the economy. The main money aggregates – M1, M2 dinar and Broad money (M2) are also in accordance to the IMF methodology, while the NBS names these aggregates differently (as explained above).

Difference in the treatment of categories:

- Local government
 - Statistical Bulletin: The financial system’s transactions with local government are treated separately, i.e. these are not included in the Net claims on government
 - FREN: The financial system’s transactions with all levels of government are included in the Net claims on government, same as the IMF methodology

Difference with the IMF data:

- Net foreign assets – Gross reserve liabilities of NBS and commercial banks:
 - IMF include only short-term liabilities (short-term foreign loans and short-term non-resident accounts) in NFA, while FREN’s survey include all foreign, short and long-term liabilities. At present, FREN is not able to distinguish short-term from the long-term foreign liabilities as only the aggregate level of data is available (NBS’ Statistical Bulletin shows only aggregate figures of financial system’s foreign liabilities).
 -
- Net claims on government – Fx credits:
 - IMF survey distinguishes fx credits to government and claims on government based on FFCDS. In FREN’s Commercial banks Balance Sheet these two types of claims have been treated together, as the NBS Statistical Bulletin does not distinguish these claims as well. Therefore, the IMF data on fx credits to government are significantly lower than the FREN’s.

Data Tables

Table A4.5-3. Serbia: Monetary Survey, 2001-2005

1

	Yearly				Quarterly							
	2001	2002	2003	2004	2002				2003			
	Dec.	Dec.	Dec.	Dec.	Mar.	Jun	Sep.	Dec.	Mar.	Jun	Sep.	Dec.
	in millions of dinars, end of period ¹⁾											
Net Foreign Assets (NFA)	32,862	111,985	150,952	143,045	101,165	99,336	119,865	111,985	99,328	108,574	157,498	150,952
Net Foreign Assets (NFA) (in euros)	550	1,820	2,210	1,791	1,678	1,638	1,967	1,820	1,543	1,689	2,388	2,210
Assets	102,390	181,027	243,044	298,778	164,426	170,011	185,735	181,027	171,534	181,434	244,107	243,044
Assets (in euros)	1,715	2,943	3,558	3,740	2,727	2,804	3,048	2,943	2,664	2,823	3,701	3,558
NBS	59,609	137,589	193,700	244,837	102,044	114,130	132,128	137,589	130,038	139,275	192,810	193,700
NBS (in euros)	998	2,237	2,835	3,065	1,693	1,882	2,169	2,237	2,020	2,167	2,923	2,835
Commercial banks	42,781	43,438	49,344	53,941	62,382	55,881	53,607	43,438	41,496	42,159	51,297	49,344
Commercial banks (in euros)	717	706	722	675	1,035	922	880	706	645	656	778	722
Liabilities (-)	-69,528	-69,042	-92,092	-155,733	-63,261	-70,675	-65,870	-69,042	-72,206	-72,860	-86,609	-92,092
Liabilities (-) (in euros)	-1,165	-1,122	-1,348	-1,949	-1,049	-1,165	-1,081	-1,122	-1,122	-1,134	-1,313	-1,348
NBS	-31,935	-52,429	-68,479	-74,433	-43,891	-49,158	-53,896	-52,429	-53,574	-58,015	-68,953	-68,479
NBS (in euros)	-535	-852	-1,002	-932	-728	-811	-885	-852	-832	-903	-1,045	-1,002
Commercial banks	-37,593	-16,613	-23,613	-81,300	-19,370	-21,517	-11,974	-16,613	-18,632	-14,845	-17,656	-23,613
Commercial banks (in euros)	-630	-270	-346	-1,018	-321	-355	-197	-270	-289	-231	-268	-346
Net Domestic Assets (NDA)	94,478	73,874	85,981	165,681	34,607	51,140	55,753	73,874	84,201	81,951	60,362	85,981
Domestic credits	88,052	122,168	157,339	254,051	63,461	82,500	105,063	122,168	138,254	148,999	130,762	157,339
Net credits to government	13,497	-7,066	-14,945	-7,973	-9,753	-28	-3,228	-7,066	-3,233	-2,728	-33,322	-14,945
Credits	27,907	29,907	32,782	44,183	23,550	24,902	29,772	29,907	35,352	35,242	36,204	32,782
Dinar credits	13,001	23,497	23,129	30,259	19,174	19,475	24,094	23,497	28,030	28,197	28,272	23,129
NBS	10,681	20,720	19,051	21,427	16,316	17,551	21,573	20,720	23,253	23,224	23,061	19,051
Commercial banks	2,319	2,777	4,078	8,832	2,858	1,924	2,521	2,777	4,777	4,973	5,211	4,078
Fx credits	14,906	6,410	9,653	13,924	4,376	5,427	5,678	6,410	7,322	7,045	7,932	9,653
Fx credits (in euros)	250	104	141	174	73	89	93	104	114	110	120	141
NBS	9,114	0	0	0	0	0	0	0	0	0	0	0
NBS (in euros)	153	0	0	0	0	0	0	0	0	0	0	0
Commercial banks	5,792	6,410	9,653	13,924	4,376	5,427	5,678	6,410	7,322	7,045	7,932	9,653
Commercial banks (in euros)	97	104	141	174	73	89	93	104	114	110	120	141
Deposits (-)	-14,410	-36,973	-47,727	-52,156	-33,303	-24,930	-33,000	-36,973	-38,585	-37,970	-69,526	-47,727
Dinar deposits	-6,757	-21,080	-25,677	-38,768	-13,319	-15,977	-24,386	-21,080	-23,453	-23,102	-26,482	-25,677
NBS	-2,939	-5,101	-14,305	-28,068	-4,055	-3,490	-5,310	-5,101	-1,134	-4,709	-8,583	-14,305
Commercial banks	-3,818	-15,979	-11,372	-10,700	-9,264	-12,487	-19,076	-15,979	-22,319	-18,393	-17,899	-11,372
Fx deposits	-7,653	-15,893	-22,050	-13,388	-19,984	-8,953	-8,614	-15,893	-15,132	-14,868	-43,044	-22,050
Fx deposits (in euros)	-128	-258	-323	-168	-331	-148	-141	-258	-235	-231	-653	-323
NBS	-7,277	-6,159	-18,108	-9,989	-9,477	-4,620	-7,265	-6,159	-4,287	-4,805	-33,877	-18,108
NBS (in euros)	-122	-100	-265	-125	-157	-76	-119	-100	-67	-75	-514	-265
Commercial banks	-376	-9,734	-3,942	-3,399	-10,507	-4,333	-1,349	-9,734	-10,845	-10,063	-9,167	-3,942
Commercial banks (in euros)	-6	-158	-58	-43	-174	-71	-22	-158	-168	-157	-139	-58
Credit to the non-government sector	74,555	129,234	172,284	262,024	73,214	82,528	108,291	129,234	141,487	151,727	164,084	172,284
Households	5,121	16,020	28,643	64,441	5,024	7,739	11,779	16,020	17,745	22,037	24,736	28,643
Enterprises ²⁾	69,435	113,214	143,641	197,583	68,190	74,789	96,512	113,214	123,742	129,690	139,348	143,641
Other items net ³⁾	6,426	-48,294	-71,358	-88,370	-28,854	-31,360	-49,311	-48,294	-54,053	-67,048	-70,400	-71,358
o/w Capital and Reserves	-339,810	-138,577	-95,373	-118,891	-86,335	-84,875	-129,323	-138,577	-130,809	-128,765	-129,146	-95,373
NBS	-8,579	-2,173	-2,770	-15,738	-2,431	-2,053	-12,236	-2,173	-1,326	-8,941	-8,357	-2,770
Commercial banks	-331,231	-136,404	-92,603	-103,153	-83,904	-82,822	-117,087	-136,404	-129,483	-119,824	-120,789	-92,603
Broad money M2⁴⁾	127,340	185,859	236,933	308,726	135,772	150,476	175,618	185,859	183,529	190,525	217,860	236,933
Dinar denominated M2 ⁵⁾	70,838	105,328	117,039	132,250	69,663	81,313	101,067	105,328	95,140	97,159	109,179	117,039
M1	60,979	88,658	98,222	106,112	61,073	71,774	88,776	88,658	82,278	82,650	91,377	98,222
Currency outside banks	25,273	43,719	42,979	45,165	30,161	32,732	40,446	43,719	36,917	37,546	39,224	42,979
Demand deposits (households and economy)	35,706	44,939	55,243	60,947	30,912	39,042	48,330	44,939	45,361	45,104	52,153	55,243
Time and savings deposits (households and econor)	9,859	16,670	18,817	26,138	8,590	9,539	12,291	16,670	12,862	14,509	17,802	18,817
Fx deposits (households and economy)	56,501	80,531	119,894	176,476	66,109	69,163	74,551	80,531	88,389	93,366	108,681	119,894
Fx deposits (households and economy) (in euros)	946	1,309	1,755	2,209	1,097	1,141	1,224	1,309	1,373	1,453	1,648	1,755
o/w: households ⁶⁾	20,994	45,941	69,738	110,714	36,739	40,037	41,977	45,941	51,557	54,654	61,727	69,738
o/w: households ⁶⁾ (in euros)	352	747	1,021	1,386	609	660	689	747	801	850	936	1,021

Table A4.5-3. Serbia: Monetary Survey, 2001-2005

	Quarterly				Monthly								
	2004				2005								
	Mar.	Jun	Sep.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun	Juli	Aug.	Sep.
in millions of dinars, end of period ¹⁾													
Net Foreign Assets (NFA)	133,174	116,740	131,048	143,045	136,112	146,662	147,520	159,697	161,114	166,237	173,709	195,786	198,041
Net Foreign Assets (NFA) (in euros)	1,908	1,617	1,747	1,791	1,695	1,821	1,820	1,960	1,964	2,008	2,077	2,319	2,338
Assets	233,980	237,218	267,905	298,778	306,403	311,769	319,616	340,935	340,391	356,821	377,606	406,216	411,422
Assets (in euros)	3,352	3,287	3,572	3,740	3,816	3,872	3,943	4,183	4,149	4,311	4,515	4,811	4,857
NBS	187,951	199,126	217,108	244,837	260,406	267,311	272,654	287,420	288,062	302,596	329,752	351,481	358,226
NBS (in euros)	2,693	2,759	2,895	3,065	3,243	3,320	3,364	3,527	3,511	3,656	3,943	4,163	4,229
Commercial banks	46,029	38,092	50,797	53,941	45,997	44,458	46,962	53,515	52,329	54,225	47,854	54,735	53,196
Commercial banks (in euros)	659	528	677	675	573	552	579	657	638	655	572	648	628
Liabilities (-)	-100,806	-120,478	-136,857	-155,733	-170,291	-165,107	-172,096	-181,238	-179,277	-190,584	-203,897	-210,430	-213,381
Liabilities (-) (in euros)	-1,444	-1,669	-1,825	-1,949	-2,121	-2,051	-2,123	-2,224	-2,185	-2,302	-2,438	-2,492	-2,519
NBS	-69,036	-77,311	-73,559	-74,433	-89,103	-78,567	-76,969	-77,118	-79,036	-78,810	-88,667	-88,798	-87,305
NBS (in euros)	-989	-1,071	-981	-932	-1,110	-976	-950	-946	-963	-952	-1,060	-1,052	-1,031
Commercial banks	-31,770	-43,167	-63,298	-81,300	-81,188	-86,540	-95,127	-104,120	-100,241	-111,774	-115,230	-121,632	-126,076
Commercial banks (in euros)	-455	-598	-844	-1,018	-1,011	-1,075	-1,174	-1,278	-1,222	-1,350	-1,378	-1,441	-1,489
Net Domestic Assets (NDA)	104,254	132,763	151,515	165,681	163,419	160,030	163,758	163,273	178,317	186,539	194,196	186,003	200,757
Domestic credits	171,316	203,069	227,620	254,051	259,385	256,056	261,243	271,458	282,576	290,840	301,400	304,234	320,165
Net credits to government	-15,263	-4,431	-8,458	-7,973	-13,837	-24,535	-28,161	-29,167	-25,765	-24,016	-30,421	-39,484	-34,710
Credits	34,088	34,055	36,045	44,183	44,753	45,541	45,497	45,784	43,341	40,379	40,872	41,716	42,591
Dinar credits	23,137	23,498	24,363	30,259	30,069	29,982	30,413	30,019	29,688	25,524	24,758	24,633	23,798
NBS	18,904	18,840	18,646	21,427	21,236	21,234	21,235	21,235	21,235	16,636	16,563	16,413	16,013
Commercial banks	4,233	4,658	5,717	8,832	8,833	8,748	9,178	8,784	8,453	8,888	8,195	8,220	7,785
Fx credits	10,951	10,557	11,682	13,924	14,684	15,559	15,084	15,765	13,653	14,855	16,114	17,083	18,793
Fx credits (in euros)	157	146	156	174	183	193	186	193	166	179	193	202	222
NBS	0	0	0	0	0	0	0	0	0	0	0	0	0
NBS (in euros)	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial banks	10,951	10,557	11,682	13,924	14,684	15,559	15,084	15,765	13,653	14,855	16,114	17,083	18,793
Commercial banks (in euros)	157	146	156	174	183	193	186	193	166	179	193	202	222
Deposits (-)	-49,351	-38,486	-44,503	-52,156	-58,590	-70,076	-73,658	-74,951	-69,106	-64,395	-71,293	-81,200	-77,301
Dinar deposits	-29,861	-28,174	-31,387	-38,768	-44,945	-47,223	-52,008	-53,169	-54,564	-51,300	-51,861	-55,595	-58,432
NBS	-17,570	-16,272	-19,347	-28,068	-34,643	-36,837	-40,595	-40,998	-41,466	-36,534	-36,833	-40,113	-42,851
Commercial banks	-12,291	-11,902	-12,040	-10,700	-10,302	-10,386	-11,413	-12,171	-13,098	-14,766	-15,028	-15,482	-15,581
Fx deposits	-19,490	-10,312	-13,116	-13,388	-13,645	-22,853	-21,650	-21,782	-14,542	-13,095	-19,432	-25,605	-18,869
Fx deposits (in euros)	-279	-143	-175	-168	-170	-284	-267	-267	-177	-158	-232	-303	-223
NBS	-15,402	-7,025	-9,708	-9,989	-10,124	-19,226	-18,088	-18,225	-9,935	-6,571	-12,891	-18,927	-14,392
NBS (in euros)	-221	-97	-129	-125	-126	-239	-223	-224	-121	-79	-154	-224	-170
Commercial banks	-4,088	-3,287	-3,408	-3,399	-3,521	-3,627	-3,562	-3,557	-4,607	-6,524	-6,541	-6,678	-4,477
Commercial banks (in euros)	-59	-46	-45	-43	-44	-45	-44	-44	-56	-79	-78	-79	-53
Credit to the non-government sector	186,579	207,500	236,078	262,024	273,222	280,591	289,404	300,625	308,341	314,856	331,821	343,718	354,875
Households	32,383	40,248	52,059	64,441	66,033	66,830	69,844	72,529	77,777	82,569	89,722	96,867	102,707
Enterprises ²⁾	154,196	167,252	184,019	197,583	207,189	213,761	219,560	228,096	230,564	232,287	242,099	246,851	252,168
Other items net ³⁾	-67,062	-70,306	-76,105	-88,370	-95,966	-96,026	-97,485	-108,185	-104,259	-104,301	-107,204	-118,231	-119,408
o/w Capital and Reserves	-93,974	-102,040	-108,170	-118,891	-133,625	-122,248	-127,754	-128,911	-130,318	-140,174	-139,059	-142,194	-147,854
NBS	-2,767	-2,986	-2,985	-15,738	-15,738	-15,736	-15,735	-15,733	-15,744	-22,565	-22,564	-22,563	-22,562
Commercial banks	-91,207	-99,054	-105,185	-103,153	-117,887	-106,512	-112,019	-113,178	-114,574	-117,609	-116,495	-119,631	-125,292
Broad money M2⁴⁾	237,428	249,503	282,563	308,726	299,531	306,692	311,278	322,970	339,431	352,776	367,905	381,789	398,798
Dinar denominated M2 ⁵⁾	105,553	112,617	121,218	132,250	119,047	123,382	124,128	130,830	135,657	139,277	145,551	150,307	156,530
M1	88,549	94,134	99,876	106,112	94,263	98,237	99,675	105,984	109,769	112,136	119,193	122,356	124,435
Currency outside banks	38,004	40,347	42,463	45,165	38,861	39,171	39,368	42,395	41,205	42,316	45,114	44,964	47,283
Demand deposits (households and economy)	50,545	53,787	57,413	60,947	55,402	59,066	60,307	63,589	68,564	69,820	74,079	77,392	77,152
Time and savings deposits (households and econor)	17,004	18,483	21,342	26,138	24,784	25,145	24,453	24,846	25,888	27,141	26,358	27,951	32,095
Fx deposits (households and economy)	131,875	136,886	161,345	176,476	180,484	183,310	187,150	192,140	203,774	213,499	222,354	231,482	242,268
Fx deposits (households and economy) (in euros)	1,889	1,897	2,151	2,209	2,248	2,277	2,309	2,358	2,484	2,579	2,659	2,742	2,860
o/w: households ⁶⁾	76,985	84,568	94,472	110,714	115,953	119,635	124,107	128,602	134,506	141,477	149,717	157,527	162,667
o/w: households ⁶⁾ (in euros)	1,103	1,172	1,260	1,386	1,444	1,486	1,531	1,578	1,640	1,709	1,790	1,866	1,921

Source: FREN, NBS: Statistical bulletin.

1) Unless otherwise indicated.

2) Enterprises also include non-profit and other non-government economic entities.

3) Includes: Other assets; Capital and reserves; Other liabilities; and Interbank, net.

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. Enterprises also include non-profit and other non-government economic 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.

VI FISCAL STATISTICS

• Methodology

In addition to the figures that appear in the official SNA, fiscal data are published since recently by the Ministry of Finance (MoF) and can also be found in the IMF's publications. The MoF analytical data are overwhelmingly derived from Treasury records. This means that they are based on payments information, not on accounting data, as required by international standards. Since 2002 the annual financial reports that budget users in the previous period submitted to the PB, began being submitted to the STA. These reports could serve as substitutes for budget executions, but the MoF still does not have the capacity to process them for analytical purposes.

• Data Tables

- Table A4.6-1. Budget of Serbia, 2003-2005
Frequency: annual, quarterly
- Table A4.6-2. Budget of Serbia, monthly data, 2003-2005
Frequency: monthly
- Table A4.6-3. Budget of Vojvodina, 2003-2005
Frequency: annual, quarterly
- Table A4.6-4. Budget of Vojvodina, monthly data 2003-2005
Frequency: monthly
- Table A4.6-5. Local Government Revenues, 2003-2005
Frequency: annual, quarterly, monthly
- Table A4.6-6. Pension Fund Revenues: Employees, 2003-2005
Frequency: annual, quarterly, monthly
- Table A4.6-7. Pension Fund Revenues: Self-employed, 2003-2005
Frequency: annual, quarterly, monthly
- Table A4.6-8. Pension Fund Revenues: Farmers, 2003-2005
Frequency: annual, quarterly, monthly
- Table A4.6-9. Total Pension Fund Revenues, 2003-2005
Frequency: annual, quarterly, monthly
- Table A4.6-10. Total Pension Fund Revenues, 2003-2005
Frequency: annual, quarterly, monthly
- Table A4.6-11. Labor Market Fund Revenues, 2003-2005
Frequency: annual, quarterly, monthly

Methodology

Basing fiscal data on payments information is certain to miss some revenues and expenditures and misallocate others, but the omission in the case of Serbia's general government is probably not very large anymore. Payments records are reliable enough in the case of all tax and all central government revenues. Since 2004 when the Single Treasury Account (STA) was established, all payments transactions of direct budget users are managed through it. However, own revenues of indirect budget users (the beneficiaries of the direct budget users—schools, hospitals, and others) do not yet transit through the Treasury. Competent budget users do receive financial reports from their beneficiaries, including not only the disposition with budget funds but also own/autonomous revenues and all expenditures, but these financial reports are not centrally compiled in the context of the budget process. The STA allocates payments at the four digit level of accounting detail which leaves relatively little flexibility to the budget user for reallocation of funds. Still, knowing what a payment should have been used for is not the same as knowing what it was used for.

The STA includes all Local Government Treasuries as well, but their indirect users and their use of own funds is not included. Until 2005, the MoF's biggest shortcoming was not having local government fiscal execution data. Hence, local government executions until 2005 are based on the assumption that they had balanced accounts. This is not a bad assumption given restrictions on borrowing--if anything, local governments seem to have been running surpluses since 2002.

The IMF relies on MoF data for its fiscal accounts but the coverage and methodologies of their respective consolidations of general government accounts differ somewhat. The main difference is in the IMF's effort to include revenues and expenditures of budget users that may not transit the STA—such as those financed by foreign project grants. The fact that they rely on information available to the MoF with the current availability of data, suggests that theirs is also not a complete coverage.⁶⁵

⁶⁵ The Republic Budget Execution should be submitted to Parliament for approval—and this has been done with the 2001 and 2002 reports, but the submission of the 2003 report is being held back by the new government without explanation.

Table A4.6-1. Budget of Serbia, 2003-2005

	2003	2004	2005			
	Total	Total	Total Jan-Sep	Q1	Q2	Q3
A) Budgetary revenues and expenditures						
I TOTAL REVENUES	261,968 0	334,336 0	294,518 0	87,821	101,238	105,460
CURRENT REVENUES	261,968 0	334,336 0	294,518 0	87,821	101,238	105,460
1. Tax revenues	245,838 0	310,650 0	277,879 0	82,875	95,106	99,898
1.1 Personal and corporate income taxes	57,040	61,287	43,145	14,067	14,490	14,588
1.2 Taxes on goods and services	159,717 0	202,813 0	204,991 0	60,601	70,315	74,075
1.2.1. Value added tax and retail sales tax	103,488	133,751	153,765	47,392	52,001	54,372
1.2.2. Excises	56,229	69,062	51,226	13,209	18,314	19,703
1.3 Financial transaction and foreign trade tax	23,267	34,288	26,699	6,971	9,322	10,406
1.4 Other taxes ¹⁾	5,815	12,263	3,044	1,236	979	829
2. Non-taxable revenues ¹⁾	16,014	22,838	16,640	4,946	6,132	5,562
3. Grants and transfers	116	848	0	0	0	0
II TOTAL EXPENDITURE	276,783	335,123	284,735	88,744	96,544	99,447
CURRENT EXPENDITURE	265,213	318,994	273,872	85,370	92,126	96,376
1. Wages and salaries	58,224	69,970	61,716	19,280	20,734	21,701
2. Purchases of goods and services	16,759	16,913	11,880	3,448	4,502	3,931
3. Interest payment	10,978	13,490	11,254	3,710	2,953	4,591
o/w:						
3.1 Interest payment on foreign debt ²⁾	8,598	11,453	9,291	3,194	1,836	4,261
3.2 Accompanied debt expenditures	34	132	221	56	66	99
4. Subsidies ³⁾	29,747	34,467	21,363	7,232	6,838	7,294
5. Grants and transfers (total)	113,580	147,747	132,795	41,935	44,746	46,114
o/w:						
5.1 Grants and transfers to SCG	47,191	60,766	59,293	19,402	20,338	19,553
5.2 Grants and transfers to other level of gov.	66,389	86,981	73,502	22,533	24,408	26,561
5.2.1 Health insurance fund	4,056	2,656	2,616	700	700	1,216
5.2.2 Pension insurance fund	57,217	75,577	64,346	20,117	21,271	22,957
5.2.3 Employment market fund	5,116	8,749	6,540	1,716	2,437	2,387
6. Social assistance/insurance benefits	31,773	32,567	31,441	8,729	11,398	11,313
7. Other current expenditures	4,152	3,840	3,424	1,036	955	1,433
CAPITAL EXPENDITURES	11,570	15,444	10,473	2,998	4,417	3,058
CAPITAL TRANSFERS	0	685	390	376	0	13
III OVERALL BALANCE (I-II)	-14,814 0	-788 0	9,783 0	-923	4,694	6,013
B) Investments in financial assets						
IV REVENUES FROM FINANCIAL INVESTMENTS AND REPAYMENTS OF LOAN GIVEN	29,919	12,907	21,813	11,018	-1,913	12,708
V INVESTMENTS IN FINANCIAL ASSETS AND LOANS GIVEN	9,100	1,783	3,448	267	791	2,390
VI REVENUES AND LOANS MINUS EXPENDITURES AND REPAYMENTS OF LOAN GIVEN (IV-V)	-20,819	-11,124	-18,364	-10,750	2,704	-10,318
OVERALL FISCAL BALANCE (III+VI)	-35,634 0	-11,912 0	-8,581 0	-11,674	7,398	-4,306
C) Financing and debt repayments						
VII FINANCING	9,213	11,589	6,545	1,454	2,842	2,249
1. Domestic financing	2,033	5,912	3,907	1,454	1,724	729
2. Foreign financing	7,180	5,677	2,638	0	1,118	1,520
VIII DEBT REPAYMENT	19,262	18,992	22,221	1,217	15,085	5,918
1. Debt repayment to domestic creditors	18,923	18,912	21,090	938	15,085	5,067
2. debt repayment to foreign creditors	339	80	1,130	279	0	851
IX BALANCE (III+VI+VII-VIII)	-45,683 0	-19,314 0	-24,256 0	-11,436	-4,845	-7,975
X NET FINANCING (VI+VII-VIII-IX)	14,814 0	788 0	-9,783 0	923	-4,694	-6,013

Source: Ministry of Finance of the Republic of Serbia: Public Finance Bulletin.

1) Includes Revenues from sales of real assets.

2) Includes non-interest costs of loans.

3) Refers to public enterprises and institutions.

Table A4.6-2. Budget of Serbia, monthly data, 2003-2005

1

2003													Total
	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Total
I TOTAL REVENUES	10,207	14,760	16,839	23,318	23,569	25,244	23,541	22,897	24,750	26,247	23,572	26,971	261,915
CURRENT REVENUES	10,207	14,760	16,839	23,318	23,569	25,244	23,541	22,897	24,750	26,247	23,572	26,971	261,915
1. Tax revenues	10,061	14,242	16,232	21,341	22,346	23,520	21,240	21,369	23,379	24,705	22,322	25,152	245,909
1.1 Personal and corporate income taxes	2,834	4,236	5,625	4,888	5,037	5,078	4,573	4,449	4,597	4,925	4,369	6,430	57,040
1.2 Taxes on goods and services	7,103	9,623	10,149	13,753	14,366	15,153	13,903	14,376	16,110	16,449	15,554	17,350	163,887
1.2.1. Value added tax and retail sales tax	4,540	6,680	6,367	9,045	8,975	8,799	9,485	9,149	9,394	10,195	10,019	10,842	103,488
1.2.2. Excises	2,379	2,646	3,453	4,321	5,054	6,004	4,038	4,864	6,481	5,953	5,054	5,982	56,229
1.2.3. Other taxes ¹⁾	184	297	329	387	337	351	380	363	235	301	480	526	4,170
1.3 Financial transaction and foreign trade tax	0	0	0	2,285	2,727	2,940	2,404	2,174	2,325	2,924	2,075	3,413	23,267
1.4 Other taxes ²⁾	124	383	458	415	217	350	361	370	347	407	324	-2,041	1,715
2. Non-taxable revenues ³⁾	143	509	543	1,975	1,221	1,715	2,296	1,265	1,366	1,536	1,247	2,075	15,890
3. Grants and transfers	3	10	65	3	2	9	5	263	5	6	3	-257	116
0													0
II TOTAL EXPENDITURE	18,014	15,968	16,822	23,211	23,396	21,034	29,742	23,150	24,386	30,689	21,335	29,035	276,784
CURRENT EXPENDITURE	17,965	15,731	16,555	22,616	22,869	20,649	28,853	22,229	23,358	28,570	19,750	26,070	265,214
1. Wages and salaries	4,365	4,206	2,918	5,614	4,148	4,279	5,906	4,513	5,447	5,464	5,394	5,971	58,224
2. Purchases of goods and services	396	1,459	1,395	1,340	1,081	1,260	1,839	1,261	1,503	1,829	1,722	1,673	16,759
3. Interest payment	178	154	2,034	423	239	201	1,818	225	597	2,361	309	2,442	10,978
o/w:													
3.1 Interest payment on foreign debt	0	0	1,881	254	61	103	1,409	38	418	2,205	104	2,092	8,564
3.2 Accompanied debt expenditures	0	0	0	0	0	49	14	-11	0	-36	17	0	34
4. Subsidies	1,827	1,825	1,331	2,573	2,638	1,875	3,732	3,242	2,379	3,200	3,002	2,124	29,747
5. Grants and transfers (total)	9,495	5,692	6,981	9,625	12,870	10,304	11,670	10,173	10,412	11,523	6,285	8,553	113,581
o/w:													
5.1 Grants and transfers to SCG	839	1,175	737	2,826	5,087	5,046	5,590	4,594	5,182	4,978	5,176	5,962	47,191
5.2 Grants and transfers to other level of gov.	8,656	4,517	6,244	6,799	7,782	5,259	6,079	5,580	5,230	6,545	1,109	2,591	66,389
5.2.1 Health insurance fund	940	0	225	263	513	376	326	526	66	32	12	778	4,056
5.2.2 Pension insurance fund	7,356	4,367	5,744	6,120	6,769	4,633	5,254	4,754	4,814	5,713	797	897	57,217
5.2.3 Employment market fund	360	150	275	415	500	250	500	300	350	800	300	916	5,116
6. Social assistance/insurance benefits	1,486	2,053	1,626	2,632	1,663	2,352	3,243	2,611	2,498	3,950	2,741	4,919	31,773
7. Other current expenditures	219	343	270	410	230	377	647	203	523	245	298	389	4,152
CAPITAL EXPENDITURES	49	237	267	595	528	385	889	921	1,029	2,119	1,585	2,966	11,570
CAPITAL TRANSFERS	0	0	0	0	0	0	0	0	0	0	0	0	0
0													0
III OVERALL BALANCE (I-II)	-7,808	-1,208	17	107	173	4,211	-6,201	-253	364	-4,443	2,237	-2,064	-14,869

Table A4.6-2. Budget of Serbia, monthly data, 2003-2005

2

2004													Total
	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Total
I TOTAL REVENUES	22,277	20,875	23,715	27,795	25,378	28,787	30,669	28,305	27,858	31,249	31,014	36,413	334,336
CURRENT REVENUES	22,277	20,875	23,715	27,795	25,378	28,787	30,669	28,305	27,858	31,249	31,014	36,413	334,336
1. Tax revenues	20,402	19,197	23,093	25,065	24,694	26,453	27,317	27,559	27,390	26,953	29,542	33,237	310,901
1.1 Personal and corporate income taxes	4,334	4,568	6,262	5,495	5,306	5,645	4,822	4,401	5,094	4,890	4,516	5,953	61,287
1.2 Taxes on goods and services	14,474	12,289	14,122	16,465	16,227	17,491	17,899	18,689	18,753	18,339	21,173	21,836	207,757
1.2.1. Value added tax and retail sales tax	9,679	8,342	8,957	11,010	10,445	10,911	11,624	10,819	11,777	12,862	13,002	14,323	133,751
1.2.2. Excises	4,459	3,628	4,756	5,106	5,409	6,149	5,821	7,415	6,539	5,021	7,822	6,937	69,062
1.2.3. Other taxes ¹⁾	336	320	409	349	372	432	453	455	437	455	349	576	4,944
1.3 Financial transaction and foreign trade tax	1,171	2,017	2,340	2,740	2,800	2,940	2,816	2,647	3,143	3,293	3,427	4,956	34,288
1.4 Other taxes ²⁾	423	322	368	366	362	378	1,780	1,823	400	431	426	493	7,570
2. Non-taxable revenues ³⁾	1,808	1,657	318	2,710	689	2,401	3,248	782	806	4,252	1,466	2,450	22,587
3. Grants and transfers	67	22	305	20	-5	-67	104	-35	-338	44	5	726	848
0													0
II TOTAL EXPENDITURE	21,943	21,974	24,602	28,274	26,873	29,437	29,331	24,965	28,943	31,811	32,842	34,153	335,123
CURRENT EXPENDITURE	21,523	21,802	23,863	27,193	26,226	28,072	26,550	23,584	26,693	30,180	31,221	32,112	319,018
1. Wages and salaries	5,598	5,564	5,276	5,903	5,389	6,224	5,575	5,787	6,034	5,935	6,409	6,275	69,970
2. Purchases of goods and services	1,106	868	821	1,665	1,395	1,466	1,444	975	1,282	1,396	1,850	2,645	16,913
3. Interest payment	96	211	1,532	1,294	380	1,591	197	294	684	2,679	2,607	1,925	13,490
o/w:													
3.1 Interest payment on foreign debt	0	4	1,402	1,138	176	1,452	0	91	684	2,234	2,468	1,672	11,321
3.2 Accompanied debt expenditures	0	43	0	0	2	0	1	0	-173	238	-10	32	132
4. Subsidies	2,631	2,098	2,095	2,795	3,160	3,471	2,768	2,886	3,440	3,223	2,702	3,196	34,467
5. Grants and transfers (total)	9,734	10,761	10,644	12,330	12,747	12,781	12,824	11,202	12,009	13,473	14,669	14,574	14,747
o/w:													
5.1 Grants and transfers to SCG	4,569	4,691	4,616	4,920	5,231	5,283	5,277	4,769	4,642	5,349	5,854	5,565	60,766
5.2 Grants and transfers to other level of gov.	5,165	6,070	6,028	7,410	7,516	7,498	7,548	6,433	7,367	8,124	8,815	9,009	86,981
5.2.1 Health insurance fund	0	157	186	0	120	77	502	276	350	460	330	200	2,656
5.2.2 Pension insurance fund	4,665	5,413	4,742	7,137	6,635	6,477	6,357	5,262	6,317	6,757	7,747	8,069	75,577
5.2.3 Employment market fund	500	500	1,100	272	761	944	689	896	700	908	739	740	8,749
6. Social assistance/insurance benefits	2,100	2,017	3,176	2,890	2,721	2,133	3,433	2,200	2,967	3,223	2,680	3,028	32,567
7. Other current expenditures	258	283	317	315	435	407	309	238	277	252	286	462	3,840
CAPITAL EXPENDITURES	406	172	725	1,067	644	1,295	2,710	1,357	2,189	1,564	1,524	1,793	15,444
CAPITAL TRANSFERS	15	0	15	14	3	70	71	25	62	67	97	248	685
0													0
III OVERALL BALANCE (I-II)	334	-1,099	-887	-479	-1,494	-650	1,338	3,340	-1,085	-562	-1,811	2,267	-788

Table A4.6-2. Budget of Serbia, monthly data, 2003-2005**3**

	2005									
	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Total Jan-Sep
I TOTAL REVENUES	26,743	27,696	33,381	34,171	33,378	33,690	36,578	34,205	34,677	294,518
CURRENT REVENUES	26,743	27,696	33,381	34,171	33,378	33,690	36,578	34,205	34,677	294,518
1. Tax revenues	25,868	26,699	30,732	32,517	32,230	31,534	34,556	33,006	32,766	279,908
1.1 Personal and corporate income taxes	3,406	4,027	6,633	4,899	4,574	5,018	4,885	4,703	5,001	43,145
1.2 Taxes on goods and services	20,015	20,422	21,358	24,738	24,709	22,982	26,653	24,625	24,010	209,512
1.2.1. Value added tax and retail sales tax	15,104	15,928	16,360	18,520	16,596	16,886	19,930	16,889	17,553	153,765
1.2.2. Excises	4,628	4,067	4,514	5,757	6,939	5,617	6,339	7,315	6,049	51,226
1.2.3. Other taxes ¹⁾	283	427	484	461	1,174	479	385	421	408	4,521
1.3 Financial transaction and foreign trade tax	2,016	2,240	2,716	2,858	2,949	3,515	3,009	3,658	3,739	26,699
1.4 Other taxes ²⁾	431	10	25	22	-2	20	9	20	17	552
2. Non-taxable revenues ³⁾	876	997	2,649	1,654	1,148	2,156	2,022	1,199	1,910	14,611
3. Grants and transfers	0	0	0	0	0	0	0	0	0	0
II TOTAL EXPENDITURE	26,034	28,330	34,381	32,373	31,121	33,050	33,995	32,249	33,203	284,735
CURRENT EXPENDITURE	25,834	27,282	32,253	30,355	29,889	31,883	32,778	31,210	32,389	273,872
1. Wages and salaries	6,192	6,318	6,770	6,753	6,851	7,130	7,349	7,205	7,148	61,716
2. Purchases of goods and services	772	1,141	1,535	1,512	1,362	1,628	1,184	1,590	1,157	11,880
3. Interest payment	288	282	3,139	462	1,607	884	1,961	449	2,181	11,254
o/w:										
3.1 Interest payment on foreign debt	46	67	3,024	313	1,456	0	1,863	200	2,100	9,069
3.2 Accompanied debt expenditures	0	56	0	29	37	0	0	80	19	221
4. Subsidies	2,013	2,598	2,620	2,427	2,354	2,058	2,429	2,253	2,612	21,363
5. Grants and transfers (total)	14,020	12,898	15,018	15,187	13,643	15,916	14,675	15,765	15,674	132,795
o/w:										
5.1 Grants and transfers to SCG	6,146	6,159	7,097	6,487	6,888	6,963	6,648	6,595	6,310	59,293
5.2 Grants and transfers to other level of gov.	7,874	6,739	7,921	8,700	6,755	8,953	8,027	9,170	9,364	73,502
5.2.1 Health insurance fund	213	233	253	233	233	233	520	520	176	2,616
5.2.2 Pension insurance fund	7,109	5,892	7,116	7,634	5,689	7,949	6,736	7,842	8,379	64,346
5.2.3 Employment market fund	551	614	551	833	833	771	771	808	808	6,540
6. Social assistance/insurance benefits	2,426	3,436	2,867	3,728	3,704	3,967	4,574	3,382	3,358	31,441
7. Other current expenditures	124	609	304	287	368	300	607	566	260	3,424
CAPITAL EXPENDITURES	199	963	1,836	2,018	1,232	1,167	1,217	1,039	802	10,473
CAPITAL TRANSFERS	0	84	292	0	0	0	0	0	13	390
III OVERALL BALANCE (I-II)	710	-633	-1,000	1,797	2,257	640	2,583	1,956	1,473	9,783

Source: Ministry of Finance of the Republic of Serbia: Public Finance Bulletin.

- 1) Includes minor tax collections contained in totals published, not itemised throughout the Bulletin. Derived implicitly.
- 2) Includes Tax on wage bill
- 3) Includes Revenues from sales of real assets.

Table A4.6-3. Budget of Vojvodina, 2003-2005

	2003	2004	2005			
	Total	Total	Total Jan-Sep	Q1	Q2	Q3
I TOTAL REVENUES	13,344	14,244	13,244	4,080	4,561	4,603
CURRENT REVENUES	13,344	14,244	13,244	4,080	4,561	4,603
1. Tax revenues	2,924	3,419	3,478	1,093	1,205	1,180
2. Grants and transfers	10,344	10,613	9,669	2,967	3,320	3,382
3. Non-taxable income ¹⁾	75	212	97	21	36	40
			0	0	0	0
II TOTAL EXPENDITURES	12,082	14,822	13,131	3,784	4,659	4,689
CURRENT EXPENDITURES	11,977	14,658	13,048	3,781	4,635	4,632
1. Wages and salaries	9,300	11,098	10,280	3,156	3,525	3,599
2. Purchases of goods and services	1,043	1,151	665	148	256	260
3. Interest payment	0	0	0	0	0	0
4. Subsidies	856	1,339	1,383	300	564	519
5. Grants and transfers	390	544	432	126	150	157
6. Social assistance/insurance benefits	16	28	25	4	14	7
7. Other current expenditures	372	497	262	47	126	90
CAPITAL EXPENDITURES	106	164	83	3	24	56
III OVERALL BALANCE (I-II)	1,261	-578	112	297	-98	-86

Source: Ministry of Finance of the Republic of Serbia: Public Finance Bulletin.

1) Includes Revenues from sales of real assets.

Table A4.6-4. Budget of Vojvodina, monthly data 2003-2005**1**

	2003												Total
	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	
I TOTAL REVENUES	887	956	843	1,123	905	835	1,290	877	1,632	1,385	1,340	1,271	13,344
CURRENT REVENUES	887	956	843	1,123	905	835	1,290	877	1,632	1,385	1,340	1,271	13,344
1. Tax revenues	128	249	416	146	214	236	262	232	245	257	238	303	2,924
2. Grants and transfers	758	702	419	971	685	591	1,020	640	1,382	1,121	1,095	960	10,344
3. Non-taxable income*	1	5	9	6	6	8	9	5	5	7	7	8	75
II TOTAL EXPENDITURES	870	787	642	1,224	934	742	1,304	767	1,247	1,144	1,073	1,348	12,082
CURRENT EXPENDITURES	869	784	639	1,221	930	738	1,298	761	1,240	1,125	1,060	1,310	11,977
1. Wages and salaries	780	682	442	976	683	548	1,025	524	1,032	854	871	885	9,300
2. Purchases of goods and services	22	80	62	70	113	74	111	107	82	86	83	154	1,043
3. Interest payment	0	0	0	0	0	0	0	0	0	0	0	0	0
4. Subsidies	0	1	106	157	92	79	76	88	45	28	27	156	856
5. Grants and transfers	3	10	10	11	16	11	47	19	42	123	43	56	390
6. Social assistance/insurance benefits	0	1	1	1	0	2	1	1	1	3	1	4	16
7. Other current expenditures	65	11	18	6	26	25	40	22	37	32	36	56	372
CAPITAL EXPENDITURES	1	3	3	3	4	4	6	5	7	19	13	38	106
III OVERALL BALANCE (I-II)	17	168	201	-101	-29	93	-14	111	385	242	268	-78	1,261

Table A4.6-4. Budget of Vojvodina, monthly data 2003-2005**2**

	2004												Total
	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	
I TOTAL REVENUES	1,410	1,098	1,195	1,108	1,129	1,174	1,181	977	1,122	1,223	1,294	1,332	14,244
CURRENT REVENUES	1,410	1,098	1,195	1,108	1,129	1,174	1,181	977	1,122	1,223	1,294	1,332	14,244
1. Tax revenues	216	241	329	231	253	288	284	284	290	300	299	406	3,419
2. Grants and transfers	1,118	848	849	865	866	871	885	683	821	910	988	909	10,613
3. Non-taxable income*	76	9	17	12	11	15	12	11	11	13	7	18	212
II TOTAL EXPENDITURES	1,300	983	1,028	1,107	1,091	1,381	1,170	1,192	1,456	1,248	1,197	1,669	14,822
CURRENT EXPENDITURES	1,299	983	1,024	1,107	1,083	1,377	1,154	1,176	1,447	1,241	1,186	1,582	14,658
1. Wages and salaries	870	837	829	964	839	946	941	942	942	970	1,006	1,013	11,098
2. Purchases of goods and services	58	73	81	38	57	122	104	109	180	121	66	142	1,151
3. Interest payment	0	0	0	0	0	0	0	0	0	0	0	0	0
4. Subsidies	317	12	31	38	101	141	27	61	234	67	70	242	1,339
5. Grants and transfers	17	18	36	23	18	105	37	42	59	55	14	122	544
6. Social assistance/insurance benefits	2	1	1	1	3	2	2	2	1	1	1	10	28
7. Other current expenditures	34	43	46	44	65	61	43	20	32	27	29	53	497
CAPITAL EXPENDITURES	1	0	4	0	8	4	16	16	8	7	11	87	164
III OVERALL BALANCE (I-II)	110	114	167	1	38	-207	11	-215	-333	-25	97	-337	-578

Table A4.6-4. Budget of Vojvodina, monthly data 2003-2005

	2005									
	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Total Jan-Sep
I TOTAL REVENUES	1,201	1,261	1,618	1,478	1,509	1,573	1,544	1,524	1,535	13,244
CURRENT REVENUES	1,201	1,261	1,618	1,478	1,509	1,573	1,544	1,524	1,535	13,244
1. Tax revenues	254	310	530	364	382	459	398	386	396	3,478
2. Grants and transfers	942	945	1,080	1,104	1,117	1,098	1,136	1,128	1,119	9,669
3. Non-taxable income*	5	7	9	10	10	16	10	10	21	97
II TOTAL EXPENDITURES	1,117	1,101	1,566	1,491	1,596	1,572	1,652	1,628	1,409	13,131
CURRENT EXPENDITURES	1,117	1,101	1,563	1,490	1,588	1,557	1,644	1,604	1,385	13,048
1. Wages and salaries	1,004	998	1,154	1,172	1,187	1,166	1,202	1,203	1,194	10,280
2. Purchases of goods and services	11	63	75	78	91	88	129	66	65	665
3. Interest payment	0	0	0	0	0	0	0	0	0	0
4. Subsidies	70	13	217	159	196	209	234	267	19	1,383
5. Grants and transfers	29	7	91	34	61	55	27	47	82	432
6. Social assistance/insurance benefits	0	1	3	3	7	4	5	0	2	25
7. Other current expenditures	2	20	25	43	46	36	47	20	23	262
CAPITAL EXPENDITURES	0	0	2	1	8	15	8	25	24	83
III OVERALL BALANCE (I-II)	84	160	53	-12	-87	1	-108	-105	126	113

Source: Ministry of Finance of the Republic of Serbia: Public Finance Bulletin.

Table A4.6-5. Local Government Revenues, 2003-2005

	2003	2004	2005												
	Total	Total	Total Jan-Sep	Q1	Q2	Q3	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep
I TOTAL REVENUES	68,649	105,951	85,034	25,511	29,515	33,309	7,234	8,494	9,783	9,152	9,879	10,483	9,907	12,462	10,940
CURRENT REVENUES	68,649	105,951	85,034	25,511	29,515	33,309	7,234	8,494	9,783	9,152	9,879	10,483	9,907	12,462	10,940
1. Tax revenues	53,381	65,708	39,205	12,975	14,433	15,098	3,545	4,615	4,815	4,557	5,075	4,801	4,473	5,565	5,060
2. Grants and transfers	41	580	10,956	3,588	3,607	3,760	1,160	1,206	1,222	1,186	1,211	1,211	1,304	1,211	1,246
3. Non-taxable income ¹⁾	15,228	39,663	34,874	8,948	11,475	14,451	2,529	2,673	3,746	3,410	3,593	4,471	4,130	5,686	4,635
II TOTAL EXPENDITURES ²⁾	77,025	17,175	24,835	25,757	4,950	5,742	6,482	8,052	7,517	9,266	8,478	8,269	9,010
CURRENT EXPENDITURES	...	...	57,586	15,363	20,839	21,384	4,345	5,065	5,953	6,900	6,435	7,504	7,308	6,782	7,294
1. Wages and salaries	...	...	16,678	5,038	5,745	5,895	1,519	1,586	1,933	2,058	1,724	1,964	1,988	1,905	2,002
2. Purchases of goods and services	...	...	12,873	3,363	4,649	4,862	846	1,191	1,326	1,420	1,641	1,587	1,669	1,485	1,707
3. Interest payment	...	...	241	93	40	109	69	13	11	9	14	17	73	14	22
4. Subsidies	...	...	15,771	3,499	6,077	6,195	1,135	1,083	1,281	2,032	1,838	2,208	2,076	1,991	2,127
5. Grants and transfers	...	...	7,050	2,145	2,420	2,486	529	720	896	754	656	1,009	806	801	879
6. Social assistance/insurance benefits	...	...	1,822	466	691	665	96	146	223	221	177	294	259	226	180
7. Other current expenditures	...	...	3,151	759	1,217	1,175	152	325	282	406	386	425	436	361	377
CAPITAL EXPENDITURES	...	...	19,439	1,812	4,014	13,613	605	678	530	1,152	1,082	1,762	1,170	1,487	1,716
III OVERALL BALANCE (I-II)	68,649	105,951	8,009	8,336	4,680	7,551	2,284	2,752	3,301	1,100	2,362	1,218	1,429	4,193	1,930

Source: Ministry of Finance of the Republic of Serbia: Public Finance Bulletin.

1) Includes Revenues from sales of real assets.

2) 2003 and 2004 data are unavailable.

Table A4.6-6. Pension Fund Revenues: Employees, 2003-2005

	2003	2004	2005		2005										
	Total	Total	Jan-Sep	Q1	Q2	Q3	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep
I TOTAL REVENUES	148,341	183,520	163,070	47,882	57,606	57,582	15,089	15,953	16,840	19,079	18,157	20,370	20,378	18,537	18,667
Out of which: CURRENT REVENUES	136,354	179,164	151,044	46,022	51,672	53,350	14,663	14,876	16,483	18,091	15,812	17,769	16,852	18,028	18,470
1. Social contributions	78,621	107,677	89,093	26,546	30,846	31,701	7,873	8,968	9,705	10,586	10,253	10,007	10,329	10,597	10,775
2. Grants and transfers	55,119	67,351	58,154	18,368	19,578	20,208	6,456	5,556	6,356	7,106	5,106	7,366	5,906	7,006	7,296
3. Non-taxable income ¹⁾	2,614	4,136	3,797	1,108	1,248	1,441	334	352	422	399	453	396	617	425	399
II TOTAL EXPENDITURES	146,114	183,084	163,225	48,459	57,452	57,315	15,918	15,546	16,995	18,786	18,307	20,348	21,046	17,921	18,348
Out of which: CURRENT EXPENDITURES	145,800	179,822	154,844	48,255	53,139	53,455	15,857	15,465	16,933	18,331	17,361	17,447	18,590	16,591	18,274
1. Wages and salaries	1,119	1,451	1,206	386	387	433	126	126	134	131	129	127	130	130	173
2. Purchases of goods and services	1,792	1,477	1,032	299	365	373	35	109	155	89	155	116	128	123	122
3. Interest payment	171	6,753	3,497	1,286	1,497	714	746	265	275	473	906	118	433	200	81
5. Grants and transfers	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6. Social assistance/insurance benefit:	142,632	170,096	149,072	46,278	50,876	51,918	14,946	14,964	16,368	17,636	16,170	17,070	17,899	16,123	17,896
7. Other current expenditures	54	45	37	6	14	17	4	1	1	2	1	11	0	15	2
CAPITAL EXPENDITURES	11	182	255	61	36	158	5	14	42	16	9	11	41	51	66
III OVERALL BALANCE (I-II)	2,227 0	436 0	-155 0	-577	154	267 0	-829	407	-155	293	-150	22	-668	616	319

Source: Ministry of Finance of the Republic of Serbia: Public Finance Bulletin.

1) Includes Revenues from sales of real assets.

Table A4.6-7. Pension Fund Revenues: Self-employed, 2003-2005

	2003	2004	2005												
	Total	Total	Total Jan-Sep	Q1	Q2	Q3	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep
I TOTAL REVENUES	6,356	9,140	6,447	2,056	2,438	1,954	594	655	807	793	678	967	632	618	704
CURRENT REVENUES	150,023	3,750	5,934	2,050	1,931	1,953	593	651	806	592	673	666	632	618	703
1. Social contributions	4,674	7,273	5,433	1,949	1,843	1,641	554	626	769	566	638	639	408	566	668
2. Grants and transfers	115	108	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Non-taxable income ¹⁾	1,566	1,760	501	102	88	312	39	25	37	26	35	27	224	52	36
II TOTAL EXPENDITURES	5,685	6,446	6,249	1,819	2,313	2,117	590	617	613	805	900	609	836	637	644
Out of which: CURRENT EXPENDITURES	5,676	6,283	5,722	1,800	1,799	2,124	590	599	611	598	599	602	836	636	652
1. Wages and salaries	112	144	122	42	42	38	16	14	12	16	13	13	13	13	13
2. Purchases of goods and services	153	83	68	21	21	27	5	7	8	7	7	8	11	8	7
3. Interest payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5. Grants and transfers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6. Social assistance/insurance benefits	5,403	6,051	5,531	1,736	1,736	2,059	567	578	591	575	579	582	812	616	632
7. Other current expenditures	8	5	2	1	1	0	1	0	0	1	0	0	0	0	0
CAPITAL EXPENDITURES	4	157	30	19	9	2	0	17	2	7	1	1	1	1	1
III OVERALL BALANCE (I-II)	671 0	2,695 0	197 0	237	124	-164 0	5	38	194	-12	-222	358	-204	-20	60

Source: Ministry of Finance of the Republic of Serbia: Public Finance Bulletin.

1) Includes Revenues from sales of real assets.

Table A4.6-8. Pension Fund Revenues: Farmers, 2003-2005

	2003	2004	2005												
	Total	Total	Total Jan-Sep	Q1	Q2	Q3	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep
I TOTAL REVENUES	4,751	9,397	7,344	2,184	2,080	3,080	787	498	900	606	742	732	856	967	1,256
CURRENT REVENUES	4,721	9,396	7,344	2,184	2,080	3,080	787	498	900	606	742	732	856	967	1,256
1. Social contributions	944	1,219	1,099	413	370	316	124	162	128	74	153	143	22	126	168
2. Grants and transfers	3,750	8,141	6,195	1,750	1,695	2,750	653	336	761	528	583	583	831	836	1,083
3. Non-taxable income ¹⁾	28	37	51	21	16	14	9	0	11	4	6	6	4	5	5
II TOTAL EXPENDITURES	4,810	9,400	7,218	1,998	2,153	3,068	769	450	779	771	611	770	836	857	1,375
CURRENT EXPENDITURES	4,810	9,400	7,217	1,996	2,153	3,068	769	450	777	771	611	770	836	857	1,375
1. Wages and salaries	2	2	2	1	1	1	0	0	0	0	0	0	0	0	0
2. Purchases of goods and services	199	298	182	89	40	53	49	17	23	16	15	8	0	35	18
3. Interest payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5. Grants and transfers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6. Social assistance/insurance benefits	4,608	9,100	7,032	1,906	2,112	3,014	719	432	754	755	596	762	835	823	1,357
7. Other current expenditures	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAPITAL EXPENDITURES	0	0	2	2	0	0	0	0	2	0	0	0	0	0	0
III OVERALL BALANCE (I-II)	-89	-4	126	187	-72	11	17	48	121	-165	131	-38	21	110	-119

Source: Ministry of Finance of the Republic of Serbia: Public Finance Bulletin.

1) Includes Revenues from sales of real assets.

Table A4.6-9. Total Pension Fund Revenues, 2003-2005

	2003	2004	2005												
	Total	Total	Total Jan-Sep	Q1	Q2	Q3	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep
I TOTAL REVENUES	159,448	202,057	176,861	52,122	62,124	62,615	16,470	17,106	18,547	20,478	19,577	22,069	21,866	20,122	20,627
Out of which: CURRENT REVENUES	147,488	197,730	164,323	50,257	55,683	58,383	16,043	16,025	18,189	19,289	17,228	19,167	18,340	19,613	20,430
1. Social contributions	84,269	116,168	95,625	28,908	33,059	33,658	8,551	9,756	10,602	11,226	11,045	10,789	10,758	11,289	11,610
2. Grants and transfers	58,984	75,600	64,349	20,118	21,273	22,958	7,109	5,892	7,117	7,634	5,689	7,949	6,737	7,842	8,379
3. Non-taxable income ¹⁾	4,235	5,962	4,349	1,231	1,351	1,767	383	378	471	429	494	429	845	482	440
II TOTAL EXPENDITURES	156,608	198,930	176,683	52,275	61,907	62,500	17,277	16,613	18,386	20,362	19,818	21,738	22,718	19,416	20,367
Out of which: CURRENT EXPENDITURES	156,285	195,506	167,788	52,051	57,090	58,647	17,216	16,514	18,321	19,701	18,571	18,819	20,261	18,085	20,302
1. Wages and salaries	1,233	1,598	1,330	429	429	472	143	141	146	147	142	140	143	143	186
2. Purchases of goods and services	2,144	1,858	1,287	409	425	453	90	133	186	112	177	137	140	166	148
3. Interest payment	171	6,753	3,497	1,286	1,497	714	746	265	275	473	906	118	433	200	81
5. Grants and transfers	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6. Social assistance/insurance benefits	152,643	185,247	161,636	49,920	54,724	56,992	16,233	15,974	17,713	18,966	17,345	18,413	19,546	17,561	19,885
7. Other current expenditures	62	50	39	7	15	17	5	1	1	3	1	11	0	15	2
CAPITAL EXPENDITURES	15	339	287	82	45	160	5	31	46	23	10	12	42	52	67
III OVERALL BALANCE (I-II)	2,810 0	1,880 0	168 0	-152	206	115 0	-807	495	159	116	-240	330	-851	707	260

Source: Ministry of Finance of the Republic of Serbia: Public Finance Bulletin.

1) Includes Revenues from sales of real assets.

Table A4.6-10. Total Pension Fund Revenues, 2003-2005

	2003	2004	2005												
	Total	Total	Total Jan-Sep	Q1	Q2	Q3	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep
I TOTAL REVENUES	66,638	83,938	72,569	21,197	24,353	27,019	6,434	6,747	8,015	8,969	7,002	8,382	9,365	8,311	9,343
CURRENT REVENUES	66,638	49,526	72,569	21,197	24,353	27,019	6,434	6,747	8,015	8,969	7,002	8,382	9,365	8,311	9,343
1. Social contributions	47,483	59,175	50,061	14,836	16,871	18,354	4,396	4,973	5,468	5,904	5,342	5,625	5,743	6,302	6,309
2. Grants and transfers	4,095	2,750	2,616	700	700	1,216	213	233	253	233	233	233	520	520	176
3. Non-taxable income ¹⁾	15,060	22,013	19,892	5,660	6,782	7,449	1,825	1,541	2,294	2,832	1,426	2,524	3,103	1,489	2,858
II TOTAL EXPENDITURES	66,573	82,510	70,868	19,960	25,007	25,902	4,766	6,865	8,329	8,067	8,664	8,276	8,415	9,010	8,477
CURRENT EXPENDITURES	66,550	82,493	70,824	19,957	24,994	25,873	4,765	6,863	8,328	8,065	8,662	8,267	8,406	9,008	8,459
1. Wages and salaries		594	845	683	186	261	236	37	70	80	109	70	82	77	79
2. Purchases of goods and services		1,039	857	272	79	102	91	21	28	30	34	33	36	30	31
3. Interest payment		29	1,897	1,558	730	515	313	291	174	265	315	118	83	198	80
5. Grants and transfers		0	0	0	0	0	0	0	0	0	0	0	0	0	0
6. Social assistance/insurance benefits	64,847	78,842	68,242	18,954	24,108	25,179	4,415	6,591	7,948	7,606	8,438	8,064	8,077	8,800	8,303
7. Other current expenditures		41	52	69	8	7	54	1	2	5	2	3	2	26	19
CAPITAL EXPENDITURES		23	18	44	3	13	29	1	1	1	2	2	9	9	2
III OVERALL BALANCE (I-II)		65	1,427	1,701	1,237	-654	1,118	1,668	-118	-314	902	-1,662	107	950	-699

Source: Ministry of Finance of the Republic of Serbia: Public Finance Bulletin.

1) Includes Revenues from sales of real assets.

Table A4.6-11. Labor Market Fund Revenues, 2003-2005

	2003	2004	2005												
	Total	Total	Total Jan-Sep	Q1	Q2	Q3	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep
I TOTAL REVENUES	9,813	15,273	12,629	3,521	4,527	4,581	1,060	1,235	1,226	1,581	1,486	1,461	1,461	1,551	1,568
CURRENT REVENUES	9,813	15,273	12,629	3,521	4,527	4,581	1,060	1,235	1,226	1,581	1,486	1,461	1,461	1,551	1,568
1. Social contributions	4,645	6,397	6,027	1,790	2,063	2,174	505	616	669	732	648	684	684	738	752
2. Grants and transfers	5,116	8,812	6,543	1,717	2,437	2,388	551	615	551	833	833	771	771	809	808
3. Non-taxable income ¹⁾	52	64	59	13	26	19	3	5	6	16	5	6	7	4	8
II TOTAL EXPENDITURES	9,761	14,501	12,275	3,856	4,216	4,203	1,206	1,129	1,521	1,273	1,648	1,295	1,447	1,342	1,413
CURRENT EXPENDITURES	9,720	14,421	12,195	3,834	4,189	4,172	1,205	1,124	1,505	1,271	1,636	1,282	1,438	1,340	1,394
1. Wages and salaries	460	634	592	183	188	221	54	55	73	55	68	64	68	65	88
2. Purchases of goods and services	551	399	359	103	121	136	26	32	45	37	39	45	42	42	52
3. Interest payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5. Grants and transfers	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
6. Social assistance/insurance benefits	8,689	13,374	11,240	3,547	3,879	3,814	1,124	1,037	1,386	1,178	1,529	1,172	1,328	1,233	1,254
7. Other current expenditures	19	12	4	2	2	0	1	0	1	0	0	1	0	0	0
CAPITAL EXPENDITURES	40	79	80	22	27	30	1	5	16	2	12	13	9	2	19
III OVERALL BALANCE (I-II)	52	773	354	-336	311	378	-146	106	-296	308	-162	166	15	209	155

Source: Ministry of Finance of the Republic of Serbia: Public Finance Bulletin.

1) Includes Revenues from sales of real assets.

Serbia's Economy: The Stylized Facts

APPENDIX FIVE

An assessment of the Household Sector Accounts in Serbia, 2003

I INTRODUCTION

There are strong doubts about the validity of the officially published GDP of the Republic of Serbia, but it is not clear whether it is perceived as over- or under-estimated (references to conversations with various local experts). The purpose of this paper is to fit into the System of National Accounts and to examine more precisely the case of one particular institutional sector, the Households (Hh). In order to propose a method of estimation of the current (2005) value of the most significant accounting items pertaining to the Hh sector – such as Gross Value Added, Gross Operating Surplus (mixed income), Compensation of Employees, Gross Disposable Income, Final Consumption Expenditure and GFCF – it is necessary to assess the available information for past periods and to draw from this assessment some kind of reliable relation between current observable indicators and the aforementioned SNA items. That is why we focus here on the most recent year for which a wide information is available, that is the year 2003, since for that year the final version of National Accounts is published as well as the Hh Budget Survey and in surplus there was a Living Standard Survey from which we may draw very detailed information (which is not the case for the HhBS).

In Serbia, the Hh account is built along the lines drawn from the SNA and, for the year 2003, contains the following balanced information.

Table A5-1.

Balanced Households Account (from SNA 2003, bn CSD)			
Uses of Hh account		Resources of Hh account	
		Output (incl. for own use)	425
Intermediate consumption	178	Taxes on products (received)	11
		Gross Value Added	258
Wages (paid by entrepreneurs)	157		
Social contributions (idem)	9		
Taxes on products (returned)	11		
Other taxes (paid)	3		
		Gross Operating Surplus	78
		<i>Compensation of employees</i>	513
Property income paid (rentals, interests)	2	o.w. Wages received (incl. ss. employees)	438
Social Contributions (fict. returned)	75	Employers ss contrib. (fict. received)	75
		Property income received	1
		Entrepreneurs social contrib. (received)	9
Current taxes on income	31	Current transfers received (pensions etc)	45
		Gross Disposable Income	538
<i>Final Consumption</i>	824		
<i>Gross Fixed Capital Formation</i>	42		
Inventory change	-10		
		Net borrowing	-318

There is a certain number of problems with this table, both in structure and in figures. (i) Concerning the structure of the table, the status of social contributions and benefits is not clear : the employees social contribution should appear to be returned to the government sector (fund PIO and other funds) and not only the employers social contribution, as is the case in the table ; this again would charge the uses side of the table and deepen the "deficit" (negative balance) of the account. (ii) Turning to figures, how is it possible that (individual market) consumption, that is what is paid from the pocket of the Hh plus self-consumption, appears as more than twice as large as the net wages received by these same Hh ? Are these figures

compatible with other available sources (for instance fiscal or banking) ? There are plenty of questions which arise in the analysis of this table and which cast the doubts evocated above.

It is however impossible to develop all these points and we concentrate in this paper on a part of each of the two sides of the Hh account, beginning by the uses side where we look into consumption figures and then turning to the resources side where we examine the wages structure. Concerning the uses side, we discuss two points in respect to the estimation of consumption : first, we have to compare SNA data with the HhBS. This comparison will reveal that SNA figures are largely directly based on HhBS, however with significant corrections which we try to elucidate (section 1). Second, since SNA and HhBS are (to a large extent) identical, how LSMS fares in respect to them? This will be addressed in section 2. Last, we will turn to the wages structure in section 3.

II THE CONSUMPTION SIDE OF THE HH ACCOUNT: A COMPARISON OF SNA AND HHBS ACCOUNTS

Let begin by the SNA-HhBS relation. The documents we compare are (i) on the SNA side, the "Final Consumption Expenditure of Households by Purpose, 2003" which is a part (page 132) of the *Presentation of More Significant Results of National Accounts of Republic of Serbia for 2000-2003* published by the GSO of Serbia. (ii) on the HhBS side, the Bulletin N° 437 of 2005, giving the results of the "Anketa o potrosnji domaćinstva" for the year 2003, pages 49-53. The first document follows the classical presentation of consumption along the classification COICOP. One characteristics may have been an obstacle to understanding the structure of the table, which is that the total consumption is quoted as 895 bn CSD whereas the National accounts are "only" 824 bn CSD high. This is of course because there is a line "transfers by government and NPISH sectors" which is added at the end of the table. This line represents the non-market services, produced by the government or NGO sectors, and conventionally supposed to be part of the consumption of households because they are granted for free (or at a price which does not reflect their cost) for direct use by the Hh. Mainly these are services of education, health, social security, part of housing and part of transport. Of course, there is no reason why we should find these non-market services in the Hh account (as well as in the HhBS) since they are part of the government sector consumption. Withdrawing this last line (71 bn CSD), we get the figure of 824 bn CSD for total consumption as stated above.

Now, if we turn to the HhBS data, incomes and expenditure are presented in terms of average monthly figures for one household, in CS dinars. But it is rather easy to pass to the macroeconomic level since the number of households in the country is given in the same tables. The "Total spent resources" (last line of the table) is 21707 CSD ; multiplying this figure by 12 months and ca 2,5 million (the exact figure to the unit is provided in the second line of the table) leads to a 670,7 bn CSD for the year 2003 for the entire country. We thus fall far below the SNA figure, and the two sources appear at first sight to be inconsistent.

However, a closer look at the detail of the resources spent for each precise item shows that this first impression is wrong: most of the content of the consumption aggregate comes from the HhBS. In order to prove that assertion, we first converted the entire HhBS table into yearly country-wide data (in million of CSD); we then started from the 2-digit COICOP nomenclature which is the way the SNA table is presented, and we looked into the more detailed decomposition of the HhBS table whether it was possible to group various items in conformity with the COICOP 2-digit presentation. It turns out that it is feasible for all items except one. Moreover, the table on the following page shows that in 22 occurrences out of 39 lines at the 2-digit level, it was possible to find exactly the SNA consumption figure, starting from HhBS data. After correction to take account of the consumption in kind, this ratio reaches 24 items.

Short explanation of the consumption in kind adjustment: the HhBS shows separately the consumption in kind (penultimate line of the table), and it is understood that items 1 and 2 (various food consumptions) are presented without these items; we thus allocated the total amount of consumption in kind between the various possible items ; as tobacco consumption was already saturated by the HhBS figure (exactly the same figure of 22,989 mn CSD appeared both in HhBS converted data and SNA consumption table), we remained with three possible items. We decided rather arbitrarily to saturate item 1 (1.1 Food and 1.2 non-alcoholic beverages) by allocating parts of the consumption in kind to food and to beverages so that their respective amount in the SNA table be reached. We thus remained with a balance of consumption in kind which was ultimately allocated to item 2.1 (alcoholic beverages) without saturating this item.

Table A5-2. Comparison between National Accounts, Households Budget and Living Standard Surveys for Households Consumption of Market Goods and Services

Year 2003, mn CSD					
CODE	ITEM	SNA	HBS	LSMS	discrepancy SNA - HBS
	1 Food and non alcoholic beverages	277645	277645	293569	
1.1	Food	250327	250327		0
	Food (purchased for money)		219847		
	Food (in kind)		30480		
1.2	Non-alcoholic beverages	27318	27318		0
	Non-alcoholic beverages (purchased for money)		22927		
	Non-alcoholic beverages (in kind)		4391		
	2 Alcoholic beverages, tobacco	55581	50688	31664	
2.1	Alcoholic beverages	32592	27699		4893
	Alcoholic beverages (purchased for money)		10691		
	Alcoholic beverages (in kind)		17008		
2.2	Tobacco	22989	22989		0
	3 Clothing and footwear	45168	43351	38824	
3.1	Clothing	27880	26666		1214
3.2	Footwear	17288	16685		603
	4 Housing, water, electricity, gas and other fuels	166975	92882	161662	
4.1	Actual rentals for housing	6272	6272		0
4.2	Imputed rentals for housing	73068			73068
4.3	Maintenance and repair of dwellings	6303	6303		0
4.4	Water supply and services related to dwellings	8466	8466		0
4.5	Electricity, gas and other fuels	72866	71840		1026
	5 Furnishing, household equipment and routine maintenance of the house	37370	31172	14798	
5.1	Furniture and furnishings, carpets and other floor coverings	10937	5376		5561
5.2	Household textiles	896	896		0
5.3	Household appliances	8126	8126		0
5.4	Glassware, tableware and household utensils	1170	1170		0
5.5	Tools and equipment for the house and garden	1143	1143		0
5.6	Goods and services for routine household maintenance	15098	14461		637
	6 Health	21784	21784	42325	
6.1	Medical products, appliances and equipment	15542	15542		0
6.2	Out-patient services	5253	5253		0
6.3	Hospital services	989	989		0
	7 Transport	84391	55247	66033	
7.1	Purchase of vehicles	10725	5500		5225
7.2	Operation of personal transport equipment	52171	37697		14474
7.3	Transport services (urban and long dist)	21495	12051		9444
	8 Communication	32706	18787	25936	
8.1	Postal services	32706	18787		13919
	9 Recreation and culture	28573	25228	34926	
9.1	Audio-visual, photographic, and information processing equipment	7152	7152		0
9.2	Other major durables of recreation and culture	247	247		0
9.3	Other recreational items and equipment, gardens and pets	3368	3368		0
9.4	Recreational and cultural services	6312	2966		3346
9.5	Newspapers, books and stationery	8528	8528		0

9.6	Package holidays	2966	2966		0
	10 Education	10893	10893	7638	
10.1	Educational services	10893	10893		0
	11 Restaurants and hotels	27043	7910	26015	
11.1	Catering services	23588	7230		16358
11.2	Accommodation services	3455	680		2775
	12 Miscellaneous goods and services	36162	35145	52270	
12.1	Personal care	22446	22446		0
12.3	Personal effects	2101	2101		0
12.4	Social protection	649	649		0
12.5	Insurance	3242	2225		1017
12.6	Financial services	1143	1143		0
12.7	Other services	6581	6581		0
	TOTAL	824291	670733	795660	153558
	<i>consumption in kind (gifts of food incl. alc. beverages) added to food and alcohol</i>		51879		

Sources : see explanations in the text

This is for the technical accounting aspect of consumption in kind. Now, it should be stressed that consumption in kind is something quite difficult to estimate, because there are plenty of various food products which are consumed in small amounts by a large number of people. According to the head of the GDP office in the GSO, this item in National Accounts is estimated through the accounts of agriculture. Agricultural output is estimated through technical measures of the yield of various crops in various regions, then the uses of each crop are estimated and one of these uses is the farmer's final consumption. In this is so, it is not clear what is the status of the line "consumption in kind" in the HhBS. Is it derived from the survey or is derived from another source (material balances of agriculture)?

Coming back to the listed discrepancies in the table above, all other items where the column "discrepancy SNA – HBS" shows the value 0 indicate an exact correspondence between the two documents. Now, of course, the interesting part of the study consists in examining why certain items do not correspond, and what are the most significant differences. In total, as shown by the table, the discrepancy is in the amount of 153 bn CSD over a total consumption of 824 bn CSD, that is ca 19%.

Out of these 153 bn CSD discrepancy, 73 bn CSD or nearly the half come from item 4 "Housing" under the form of imputed rentals. It is perfectly standard that imputed rentals are not integrated in Households budget surveys and that they should be added to consumption (and production) in the National Accounts. How that figure has been estimated is not known. Experts should be extremely cautious as to a right estimation of rentals. In particular, it is not because the market of housing is extremely small or even non existent in certain regions or cities that the rental should be close to zero. Imputed rentals may be estimated having recourse to comparable market values, but they should not be less than the sum of the depreciation of the house (flat) including capital repair, and the imputed interest charge on the value of the asset. In our case, an expenditure of 10% of total consumption (actual plus imputed rentals) seems rather adequate and corresponds to international standards.

The other items where the discrepancy is important pertain to 6 items and are the following (in order to schematise, we represent all discrepancies by one of the three values 5, 10 and 15 bn CSD):

2.1 Alcoholic beverages	5
5.1 Furniture	5
7.1 Purchase of personal vehicles	5
7.2 Operation of personal transport	15
7.3 Transport services	10
8.1 Communication	15
9.4 Recreational and cultural services	5
11.1 Catering services	15
All other goods or services	5
TOTAL discrepancy (except rentals)	80

These discrepancies represent corrections brought by the National Accountant to HhBS data on the basis of a judgement on their credibility. There are thus several cases: for instance, in the case of transport services (urban transport, trains, bus etc), it is clear that there are far better information on the amount spent by Hh coming from the organisations operating these kinds of transport than from the Hh themselves. On the one hand, it is normal to correct the data with companies data. On the other hand it is rather frightening to see that in a case when we have a "sure" information coming from another source, this information shows that we should add 75% to the amount recorded through the survey. The same argument goes for item 8.1 where communication appears to be also 75% larger than recorded by the survey, when one asks the telephone companies. As it is rather easy for an interviewed Hh to look at his telephone bill and there is no real secret as to how much is spent on that purpose, we may devise that the panel of interviewed Hh (through the HhBS) might not be using new communication devices such as cellular phones etc. A confirmation of that tenet is item 7.2 "operation of personal vehicles". This item corresponds mainly to purchases of gasoline, which is also a product of which the distribution is largely controlled by the government (and thus the

actual consumption is rather easy to know); here, the addition of 40% to the amount recorded from the survey shows that either interviewed Hh have less cars than the rest of the population, or that they use their car less than others. Looking at the availability of durables (pages 199 and 209 of Bulletin 437) shows that, out of 100 Hh (interviewed in the Anketa), 47 have a car and 70 have a cellular phone. This information should be cross-checked with police information about the total number of registered cars and information from telephone companies about the number of subscriptions. We strongly recommend to proceed to this assessment of the panel of Hh surveyed by the GSO ; on the basis of experience, it is frequent that panels get older and lose their adequacy to the actual population.

The second category of discrepancies covers the ones which were not mentioned yet, and altogether represent 40 bn CSD. Here, the National Accountant has little alternative official information as to what the "actual" figure might be. It is generally well known that declared expenditure figures are widely under-estimated in items such as restaurants, recreational services etc, but they are also strongly distorted at the level of reporting corporations (for purposes of tax evasion). Moreover, a relatively large part of these services are provided by unincorporated outlets, what in Serbia is called "entrepreneurs", or by similar SMEs. As such, the sales of these goods and services should appear in the "output" line of the Hh account, and they should be the basis of estimation of the Gross Value Added and Gross Operating Surplus of Hh.

III WHAT IS THE RELATION OF LSMS WITH THE PREVIOUS SET OF DATA?

We turn now to LSMS data. The detailed presentation which I wished to get is not available yet. I thus use some preliminary but valuable works from CEVES. One is a paper called "Comparative Review of 2002 and 2003 LSMS data", comprising two tables, about changes in the consumption and in the income structure. Another set of documents comprises three tables showing the structure of consumption of LSMS compared to HhBS, both in percentage and in a macroeconomic format, and a third table showing the totals of consumption in the two sources. These two sets of documents are not compatible (the same items bear different values), and we chose to use exclusively the second set. This second set itself contains errors as to the reproduction of HhBS data. The author has not correctly allocated the line consumption in kind. We thus keep from this document only the information pertaining to LSMS.

Apparently, the number of households mentioned in this document is different for the year 2003 than the one given in HhBS: 2,442 thousands Hh against 2,575 thousands in HhBS, that is a significant difference of 5% less. As this total number of households in the country does not rely on the survey but in principle is a data estimated through the population census, it is not clear why there is such a large gap between the two estimates. Possibly some rather small province (like Kosovo or Montenegro) has been excluded from the LSMS; that should of course be cleared. The number of persons per household is also less in LSMS than it is in HhBS: 3.08 in the first, 3.09 in the second. Especially the number of households is rather frustrating because a 5% difference in the population transfers immediately into 5% less at the macroeconomic level. Anyway, we took as a benchmark the total figure for LSMS 2003 Total Consumption, indicated in the above mentioned document (795.7 bn CSD). We applied the percentage shares given in another of the tables to that total and obtained the results shown in the third column (LSMS) of the table above (page 4). We insist on the fact that we had no control over the way the values put in the table (in that column) were obtained. No information is available on the detailed items (only the 1-digit level is available).

Let us now compare the first and third columns of the table. Looking at the grand total is rather reassuring, since we have totals of 825 and 796 bn CSD or a 5% difference. If we remember that the population taken into account is also 5% less in LSMS, the 825 figure drops to 783, now very close to the 796 LSMS figure. However, going into details does not allow to keep to this uniformity. In order to have a valuable comparison between the first and third column, we multiplied all items of the third column by $825/796$ in order to normalize the total discrepancy between the two columns to zero. Having done that, it appears that for two items, the LSMS shows approximately the same consumption as the SNA. For four items, the LSMS is higher and for six items it is lower. There are in total 12 first-digit items.

The two items presenting similar consumption expenditure are item 4 Housing and item 11 Restaurants. Each of these pose a different problem. As said above, Housing includes a very large part of imputed rentals. How were imputed rentals included and calculated in the LSMS and were they at all included in the results? Anyway, there is no point in asking households in a survey what is their imputed rent. So if it has been included, where was the figure taken from? If it has not been included, then there is no point at comparing our first and third columns, and we should compare the third with the second column (which does not include imputed rentals). Concerning Restaurants and Hotels, which has been very widely revised between the HhBS and SNA, we have no information as to how the National Accountants have done that revision. It is not excluded that they might have used preliminary LSMS results, and that would explain the correspondence between the two figures. On both these items, we need more information because they are also related to households production account, which is part of our future research.

For two items we have conflicting results: for item 1 Food, LSMS gives higher results than the SNA by 26 bn CSD, whereas for item 2 Alcohol and Tobacco, LSMS gives lower results by 23

bn CSD. In total, the enlarged 1+2 item Foods, beverages and Tobacco would stand at the same level in the two sets of accounts. But again, there is here a problem which deals with consumption in kind: was it incorporated in the accounts? How was it estimated? What prices were used? Did all households reported their detailed consumption in kind and how was the adjustment for non reporting households done? In principle, many households just do not have any consumption in kind, and normally do not report. Looking in detail into the results of the LSMS should help understand what may be done in that respect.

We remain with three items for which LSMS is higher than SNA. These items are: Health, Recreation and Culture, and Miscellaneous goods and services. With a 21 bn CSD supplement, health is double in LSMS than it is in SNA. With a 18 bn CSD supplement, Miscellaneous goods and services are 50% more in LSMS than in SNA. These two items dwarf the third one (Recreation). Without detailed information about the nature of what makes these huge supplements in each of the mentioned items, it is difficult to elaborate.

The same goes for the five remaining items for which LSMS is lower than SNA. Among them, two show a very large discrepancy and the three others a much smaller one. The two largest differences are for item 5 Furniture and for Item 7 Transport. What is remarkable is that expenditure for furniture is even much lower than in the HhBS data. For transport, LSMS gives a figure which is 20% higher than HhBS but much lower than the SNA corrected figure.

In conclusion, although much remains to be done in order to reconcile data from various sources, there is a rather promising agreement between LSMS data and SNA data on the total amount of the households consumption expenditure. According to the population taken into account, the total expenditure of households, would be either 800, or 825 bn CSD. The latter figure includes 52 bn CSD of final consumption in kind and 73 bn CSD of imputed rents. Notice that these two amounts are part of the households production. In this respect, an amount of 125 bn CSD should be included not only in the Output of the Hh sector, but also in its Gross Value Added and in its Gross Operating Surplus, since both these items are entirely consumed. Looking at this last item in the table page 2 shows that there is a disbalance and that the Gross Operating Surplus or Mixed Income of households is under-estimated in the National Accounts. At least, it is not compatible with final uses data.

IV THE RESOURCES SIDE OF THE HOUSEHOLD ACCOUNTS: A LOOK INTO WAGES

Wages constitute usually the main part of Hh resources. They appear in two sub-accounts of the total set of accounts of the Hh institutional sector: as wages paid by Hh-entrepreneurs, or by Hh having domestic servants, and as wages received by all Hh (including the one working for Hh-entrepreneurs or as domestic servants). In the first case, wages are on the uses side of the Generation of Income Account ; in the second case, there are on the resources side of the Allocation of Primary Income Account. In all case however, wages appear under the form of "Compensation of Employees" and they are subdivided into two parts: "wages and salaries" and "employer's social contributions". That is what appears in the Table above (page 2).

In principle, one of the easiest operations for National Accountants should be the compilation of social contributions. These contributions are usually managed through one or several centralised funds. This is the case in Serbia, where the system of social contributions, although complex, is based on flat rates of contributions. In summary, all contributions as well as the income tax due by households receiving a wage are calculated as a constant percentage of the gross wage (including employee's contributions and income tax, but excluding employer's contributions). Employee's and employer's contributions are in the same amount (10.3% for the Pension Fund, 5.95% for the health fund and 0.55% for the unemployment fund); the income tax, paid exclusively by the employee is in the amount of 14% of the gross wage. There was a "tax on the wage fund" (Porez na fond zarada, code 712) paid by employers in the amount of 3.5% of gross wages, however it seems that in 2003, the fiscal authority collected a very small amount of tax (132 mn CSD); certain local experts do affirm however that this tax still existed in 2003. In view of the fiscal evidence, we decided not to take it into account.

There are two ideas which may be tested using the contributions and tax rates above: first, it is interesting to check the internal consistency of the National Accounts, second, it is interesting to check their external consistency in respect to the HhBS data. For that purpose, we need to estimate two ratios, starting from the tenet that social contributions paid by employers should be a well known magnitude: the first is the ratio of gross wages to employer's social contributions (in view of checking the internal consistency of the National Accounts), and the second is the ratio of the employer's social contribution to the "net-net" wage (that is what is finally received by the employee after paying employee's social contribution and tax on income); this should give us a point of comparison with the HhBS data which show such a "net-net" wage.

It is easy to calculate the first ratio: summing the previous rates, the employer's various social contribution should represent 16.8% of the gross wage (including all other social contributions and the income tax). Looking at the table on page 2 shows that for 74,8 bn CSD of employer's social contributions, we have 438,3 bn CSD of gross wages. With a ratio of 17.06% we are not far from the target. It looks even remarkable that actually paid social contributions are in excess of what they should be: employers and employees pay 1,2 bn CSD more than they should have (or 1.5% of the due amount). As will be seen below, this remains a very minor problem in comparison to others.

Let pass to the second ratio and the comparison with HhBS data. The ratio of employer's social contributions to the "net-net" wages is 24.28%. This implies that the "net-net" wages in the National accounts should be approximately 308,2 bn CSD. The difference between the gross wages (438,3 bn CSD) and that amount should comprise in principle the employees social contributions (in an amount equal to the employers, that is 74,8 bn CSD) and the tax on income (62,3 bn CSD). Does 308,2 bn CSD correspond to the net wage as recorded in the HhBS? In the survey, we find, on a monthly basis for an average household, 10099 CSD of "receipts from regular employment", 178 CSD of "receipts out of regular employment" and 37 CSD of "salaries in kind" which should, according to SNA standards, be included in the wages. Taking into account the usual number of Hh and passing to a yearly basis leads to a "net-net" wage of 318,7 bn CSD, which is 3.5% higher than the spot. Although this is not perfect, we definitely lie in the same range of magnitude.

In fact, there are many question marks in both previous paragraphs. In the last one, we saw that 74,8 + 74,8 bn CSD of employers and employees social contributions should be returned to various government social funds; this is not at all what is done in the National Accounts in the Hh account (see table page 2), where only employers social contributions are returned to the government. In the same time, we should see approximately 62,3 bn CSD of income tax delivered by households to the government; however, there is only 31 bn CSD which appear as income tax in the households account. It is true that the fiscal authorities declare to have collected only 57 bn CSD personal income tax in 2003, but that does not correspond either to the National Accounts. It is true that if all these payments had been made from Hh resources, very little would have been left for the Gross Disposable Income and thus for consumption. But again, looking into the HhBS data shows us that the total of money transfers received from governmental organisations (social welfare, pensions and the like) and NGOs amount to 5,675 CSD per month and per household. This leads to a yearly total for the country as a whole of approximately 181,6 bn CSD, instead of 45 bn written down in the National Accounts. Definitely, after checking whether there are reasons why the accounts are presented this way, if there is a misconception in the structure of accounts, a revision of these accounts should be quickly undertaken.

Coming back to the measurement of wages, we remarked above that there a little more social contributions actually paid than required. In fact this hides a deeper problem. As is well known, many SMEs or individual entrepreneurs do not declare entirely the wages they pay (in cash) in order to reduce the social contributions and taxes due. The duty of the National Accountant is to try to get a credible information about the wages actually paid, and to reveal a discrepancy between the wages paid and the contributions which should have been paid but have not. And this is in fact what appears in the Hh account (see page 2), where we see that entrepreneurs paid wages in an amount of 156,8 bn CSD and paid social contributions only up to 9,3 bn CSD : instead of paying 16.8% of the (supposedly gross) wage, which would have amounted to 26,3 bn CSD of social contributions due by employers, these last paid only a 6% rate. Figures look nice and credible. However, look at what happens with other institutional sectors which also pay wages and social contributions. Except for the small NPISH sector for which social contributions amount more or less to what they should (in relation to gross wages paid), the ratio of employers social contributions to the gross wages is between 21 and 23% (instead of 16.8%). And this is true for the government sector, the non-financial corporate sector and the financial sector. The fact that the degree of bias is approximately the same for these three sectors casts doubts on the validity of these data. Either the wages are higher in these three sectors, or social contributions are lower. Our preference goes to the second solution : it is highly probable that the government (but also banks and non-financial corporations) pay exact social contributions, and not 30% more than they should. But in that case, the other social contributions and income tax also decline, which leads to more "net-net" wages, which in turn contradicts HhBS data.

Of course, we may consider that we don't need to take into account neither social contributions nor taxes since all these payments are withdrawn at the enterprise level and do not influence the households account. It remains however that Hh draw also their resources from social benefits (pensions, allowances etc) and that these should be checked against the balance of the various social funds (PIO etc).

V CONCLUSION

We started with a puzzle: how is it possible that households consumption is twice as high as the wages these households receive? At the end of this preliminary exploration into Serbia's accounts, one may draw the following conclusion, based on some figures which we feel as more solid than others. The overall figure for total households consumption is credible at the level of 825 bn CSD. However, this figure includes (at least) 125 bn CSD of in kind consumption, namely food production and imputed rentals. We thus remain with a consumption in cash of roughly 700 bn CSD for 2003. How are these financed? First, we have most probably net-net wages in an amount of 308 bn CSD, 185 bn CSD of transfers from government and NGOs. We are left with a 207 bn CSD deficit. Clearly, a part of it is covered by the Gross Operating Surplus (mixed income) of small entrepreneurs; as we excluded already the non-market part of it (food in kind and rentals), it is only the profit of small businesses which should be sought here. However, an amount of 100 bn CSD does not seem to be exaggerated for that kind of income. It has of course to be ascertained. And the remaining 107 bn CSD might well come through remittances from abroad.