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SERBIA AND MONTENEGRO

Selected Issues and Statistical Appendix

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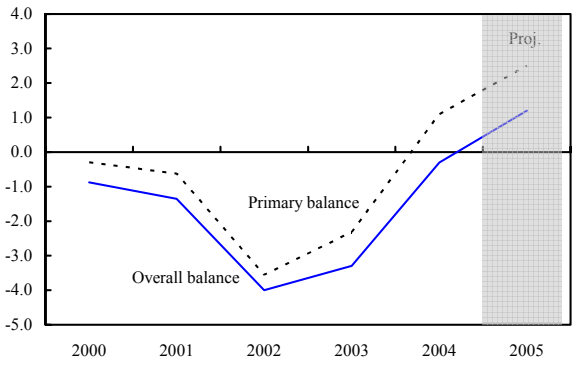
I. CREATING FISCAL SPACE: A REFORM AGENDA FOR THE FISCAL SECTOR IN SERBIA[1]

A. Introduction

1. **This chapter examines the scope for improving the effectiveness of fiscal policy in containing the persistently large external imbalance**. With surging inflation and a large external current account deficit that is increasingly debt-financed, the economy has become more vulnerable to shocks, even as total public debt has continued to decline to about 60 percent of GDP at end-2004. Enterprise reforms now being implemented will address the structural weaknesses in the trade account only over time. In the next few years, the role of fiscal policy in managing demand is likely to increase further, as monetary policy has limited effectiveness in a highly euroized economy, and a further tightening of incomes policy is difficult to sustain.

2. **Despite recent consolidation, fiscal policy will need to continue to target a surplus in 2005 and in the coming years.** The recorded general government budget deficit for Serbia and Montenegro[2] has been reduced substantially since 2000, achieving a first primary surplus for the first time in 2004 where the overall balance improved by 3 percentage points of GDP compared to 2003. The fiscal stance in 2005 will be further strengthened by 1.5 percent of GDP (Figure 1).[3] Quasi-fiscal activities have generally also been under control, although the failure to pass through high international oil prices in a state-owned oil company has undermined

Figure 1. Fiscal Balances, 2000-05
(Percent of GDP)



Sources: National authorities; and IMF staff estimates and projections.

[1] Prepared by Dale Chua.

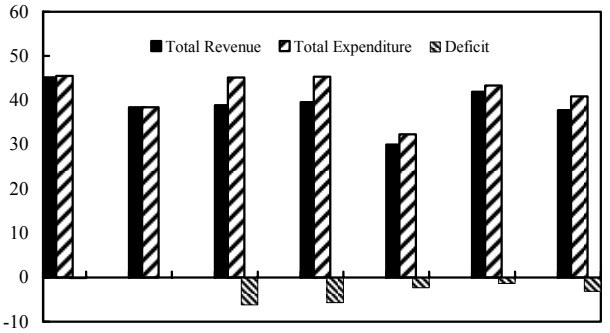
[2] The Union of Serbia and Montenegro consists of the two economies, Serbia and Montenegro. Serbia represents about 93 percent of the union GDP. The consolidated general government comprises the union government, Serbian state and local governments, the Montenegrin state government, and Serbia and Montenegrin special budgetary programs (such as the pension funds, health fund, and labor market fund). Starting in 2004, union level activity is financed on a "territorial" principle, where member states pay only for the services provided by the union government in their territory.

[3] Data regarding the overall fiscal deficits in the early 2000s should be interpreted with care, in particular, the sharp deterioration in 2002 was due mainly to bringing onto the fiscal accounts certain unrecorded quasi-fiscal activities of earlier years.

some recent consolidation.[4] For 2005, the surplus of the consolidated general government is targeted at 1.2 percent of GDP. More may be needed if the desired improvement in the external imbalance remains elusive.

3. **To help narrow the external imbalance, an ambitious fiscal reform agenda should be put in place**. The size of the consolidated Serbia and Montenegro government is large, relative to other countries in the region (Figure 2). Tax burden is high (about 45 percent of GDP), which is needed to finance costly spending programs, many of which are of questionable effectiveness and efficiency. Reducing the role of the government in the economy is, therefore, a key challenge. In this context, it is most important that the republican government in Serbia takes steps to reduce expenditure outlays, makes fiscal policy more flexible, and increases the efficiency and quality of spending programs. These fiscal reforms should be supported by a more effective public expenditure management, which should focus on improving the human resource capacity and organization of the treasury. As regards taxes, major policy changes in the next 2–3 years are not essential, as the tax system has already undergone substantial improvement in recent years. Nevertheless, measures should be taken to improve tax compliance and rein in the gray economy to better mobilize resources. The next sections discuss the related policy reforms in expenditure policy and management, followed by a discussion of tax policy and administration reforms.

Figure 2. Size of Government: Selected Countries, 2003 1/
(Percent of GDP)



Sources: National authorities; and IMF staff estimates.
1/ Includes grants.
2/ In 2004 data.
3/ Excludes SM.

B. Expenditure Policy

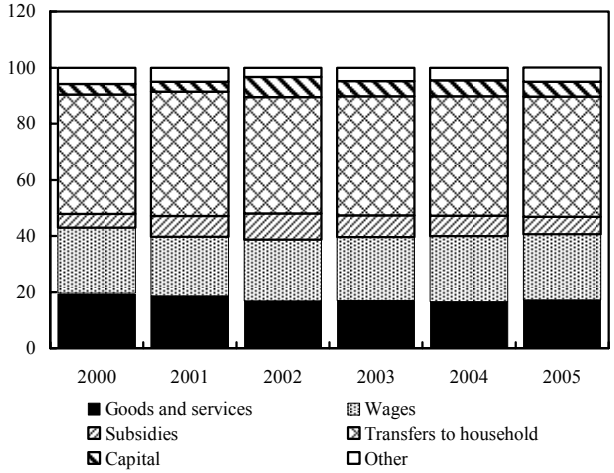
4. **Public expenditure should be reduced while expenditure priority reoriented toward supporting economic growth**. As noted, with few exceptions, the government in Serbia and Montenegro is large relative to other countries in the region. Revenues are on average about 5 percentage points of GDP higher than in its neighbors, while expenditures are 3 percentage points higher. Since 2000 government outlays have on average outpaced receipts by 3 percent of GDP, reaching 45 percent in 2004. Public expenditure choices should, therefore, be reexamined to reduce the size of government. Cuts are needed to

[4] Data on quasi-fiscal activity are patchy. Preliminary work indicates that operating deficits of socially-owned enterprises have declined. But in 2004–05 this may be more than off-set by worsening performance of the state-owned oil company. It is clear that the state-owned enterprises remain a drag on overall economic performance. For details, see Chapter 3.

generate savings for structural reform and create better social safety net (such as unemployment benefit) for those affected by the reform, while capital spending will need to be raised.

5. **Expenditure rigidities would need to be forcefully tackled**. Expenditure ratios in 2004–05 are high because of large outlays in the wage bill (10 percent of GDP), entitlements (19 percent of GDP), and subsidies (3 percent of GDP), while capital spending is low (3 percent of GDP). Non-discretionary spending (transfers to households such as pensions, social entitlements, medical and unemployment benefits, as well as government wages) comprise over two-thirds of total spending (Figure 3). An important first step has been taken in 2005 to downsize government employment at the republican and union levels to keep the wage bill under control, while allowing for some wage decompression. Further inroads in this direction would be welcome.

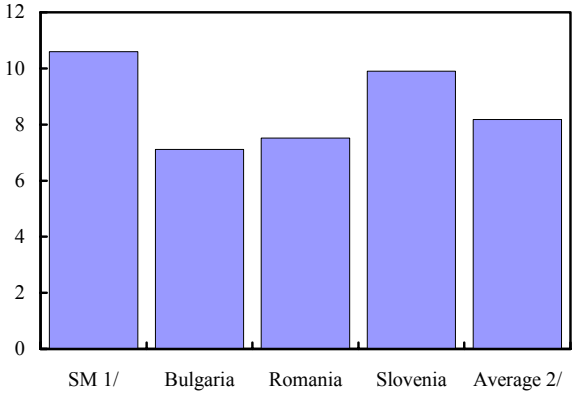
Figure 3. Expenditure Composition, 2000-05
(Percent of total)



Sources: National authorities; and IMF staff estimates, and projections.

6. **Public sector employment reform is essential for placing the wage bill on a sustainable path**. The wage bill in Serbia and Montenegro is higher than most countries in the region (Figure 4). A first step to address this problem has been taken in 2005. The civil service reform will trim government employment by tackling overstaffing at the lower grades, where core wages are low. It will also allow for some wage decompression in the civil service. Some 3,000 workers or 1.5 percent of government employment will be laid off this year. Further employment cuts in the general government, especially in the health and education sector, may be needed in 2006 and beyond, pending ongoing assessment of the public sector reform, with assistance from an EU agency and the World Bank.

Figure 4. Wage Bill of Selected Countries, 2003
(Percent of GDP)

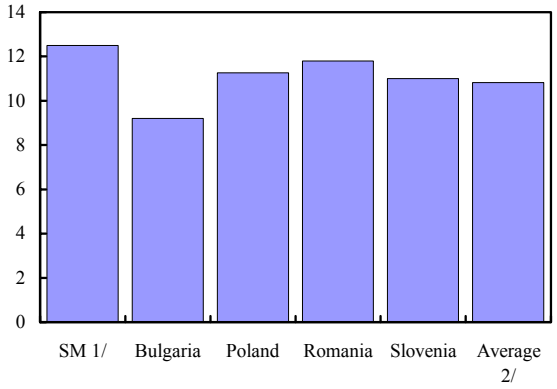


Source: National authorities; and IMF staff estimates.
1/ In 2004 data.
2/ Excludes SM.

7. **Sustainable union level expenditure reform will aid public sector finances**. In 2005, the defense ministry will reduce its manpower by 15 percent (over 6,000 personnel, mainly civilian employees) through a combination of attrition, early retirement, and voluntary and forced separations. This is an important step for improving the structure of the union budget to better balance wage and nonwage expenditures, which has tilted in the direction of the former in recent years. In particular, savings from the wage bill reduction can create space to fund better training programs, and if deemed essential, for some hardware acquisitions, in the foreseeable future as the military seeks to consolidate its operations and bases.

8. **Pension outlays are among the highest in the region and are expected to remain significant as a percent of GDP in the short to medium term** (Figure 5). Important pension reforms in 2001—that raised the retirement age by 3 years for both men and women, shifted the pension indexation formula to the average of wage and price indexation (50:50), reduced the minimum pension to 20 percent of gross average wage, and rationalized the pensionable base—produced relatively modest short-term savings, although a more significant impact can be expected in the long run. Currently, the pension system is a considerable drain on the budget, requiring large annual budget transfers to finance its cash deficit.

Figure 5. Pension Outlays of Selected Countries, 2003
(Percent of GDP)



Source: National authorities; and IMF staff estimates.
1/ In 2004 data.
2/ Excludes SM.

9. **Recent governmental support for taking concrete action to reduce pension expenditures is a positive development.** The doubling of the dependency ratio (pensioners to contributors) since 1990 to about 0.8 in 2004 and the relatively high replacement ratio (average pension payment is about 70 percent of average net wages of the economy) imply that, with relatively flat collection from contributions, an annual transfer of 5 percent of GDP is needed to finance the cash deficit for the pension fund for workers. With the dependency ratio expected to worsen in the medium term, the pension fund deficit is projected to deteriorate further in the next few years in the absence of corrections. To confront this problem, the government has agreed to phase in over a 4-year period the following measures: replace quarterly with annual indexation, index post-retirement pension benefits only to inflation by delinking it from wages, and increase the retirement age.[5] Furthermore, with World Bank assistance, the government has set up a high level work group to tackle deficiency in pension administration. A priority for this medium-term project is to select a competent agency to set up a national registry of pensioners.

[5]For more details, see Chapter 2.

10. **Explicit subsidies to enterprises and agriculture should be rolled back further in the coming years**. Subsidies as a share of GDP has been declining in the last few years to under 3 percent of GDP in 2005. However, as part of the enterprise restructuring reform program, further cuts in subsidies are needed to harden the budget constraint of enterprises to accelerate restructuring of those companies with positive net worth and force the liquidation of those with negative net worth.[6] In this context, a reform plan for the state-owned railway company should be a priority so that a subsidy cut to the company will not lead to arrears to the private sector. In addition, the policy behind agricultural subsidies (about 0.5 percent of GDP), including poorly targeted price support (for example, milk), should be reexamined with a view to their downsizing. Policy-based lending for the agriculture sector would need to be phased out as soon as feasible.

C. Public Expenditure Management

11. **Serbia has made considerable strides in catching up in reforming its public expenditure system (PEM)**. Starting later than the other Yugoslav republics, it now has a treasury system with all elements of a modern treasury that is organized around the concept of a Treasury Single Account (TSA). The TSA records all government operations in a ledger system and provides basic controls on the speed at which budget users can execute their budgets. In 2004, the treasury introduced elements of expenditure registration on a commitments basis and a system of monthly cash limits that can be adjusted depending on resources that become available.

12. **However, the existing system has reached a critical stage of development**. In terms of its coverage, the TSA can execute the budgets of all direct budget users.[7] But this leaves some 3,500 indirect budget users, comprising a sizeable part of the republican budget (estimated at about 30 percent) outside its coverage. The budgets of these subordinate spending units (scattered all over the republic) are executed by the Public Payment Agency (PPA). In addition, the PPA also record revenues, and, when appropriate (such as for the personal income tax), shares them between the different levels of government in Serbia—republican and municipality. The PPA also services the extrabudgetary funds and local budgets.

13. **To reduce fiscal risk, the TSA should evolve to cover comprehensively all indirect budget users.** The TSA should be the sole account to receive all inflows to the government, and fund all operations. Effectively, this would mean that own revenue accounts

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[6] Implicit subsidies, such as tax arrears, are discussed in Chapter 3.

[7] Following the inclusion of all accounts of the Ministry of Defense in May 2005, only the Ministry of International Economic Relations currently has accounts that remain outside the TSA. Even though they are relatively small, these accounts should be brought into the TSA as soon as feasible.

of indirect budget users (for example, court fees, road tolls, and hospital services) currently serviced as separate accounts by the PPA would need to be closed off. The Treasury has already started work in this area (for example, by identifying an inventory of own revenue accounts denominated in dinars). Focus is needed to reduce foreign currency revenue accounts of the indirect budget users, and eventually to fold them into the TSA.

14. **An action plan was issued in March 2005 to merge the operations of the treasury and the PPA—a logical step for improving expenditure management.** The present IT system which the treasury operates is custom made and is not easy to network and extend to the indirect budget users. In line with its plan to centralize expenditure management in the treasury, taking over the PPA infrastructure and network for its accounting and processing operations makes good sense. This would mean that the enlarged treasury network will offer treasury services to non-republic budget users currently serviced by the PPA.

15. **To improve control over government expenditures, all stages of government transactions should be recorded**. Despite some improvements in expenditure control, which contains some elements of registration of commitments, payment arrears by budget institutions still routinely surface. This indicates that full control can only be achieved when the general ledger system eventually covers all stages of expenditure. Thus, the general ledger system should be developed to allow for the recording of all stages of the expenditure process starting with: the approved appropriations, any changes in these appropriations in the year, the commitments made against these appropriations, the obligations assumed under these commitments, and the discharge of these obligations in cash.

16. **Budget fragmentation would be further reduced by unifying all investment programs into a single budget framework**. Capital investment programs that are financed by foreign loans are not effectively integrated with the budget. Inadequate coordination between state-owned enterprises, line ministries, and the finance ministry, often ends up with an excessive foreign-financed investment program, that cannot be properly accommodated within a sustainable macroeconomic framework. This undermines effective aggregate demand management and creates pressures against the annual external debt ceiling. Going forward, ample scope exists for closer coordination of all investment budgets. As a first step, this goal will be furthered by appointing a lead ministry for co-coordinating all investment programs that are currently financed from outside the budget.

17. **To be effective, a unified budget should be developed in a medium-term context**. The present annual Budget Memorandum provides budgetary revenue and expenditure projections for 3 years. However, outer year projections, especially on the expenditure side, do not take into account new programs and may only be weakly connected with the previous year's budget. To improve the effectiveness of fiscal policy, budgetary planning should be cast in a multi-year framework, which, as a minimum, requires a fairly accurate costing of current year new programs for future years. Given capacity constraint, the MOF should give priority to building up the budget planning unit with a view to implementing a 3-year rolling budget in the near future.

18. **Financial management capacity of the treasury would need to be strengthened**. The next stage of development must extend the scope of treasury functions beyond recording, payments, and accounting into active cash and debt management in line with the treasuries of most OECD countries. As a full-fledged financial manager of the government, the treasury would prepare financial plans and forecast the total inflows and outflows into the TSA on a continual basis. The financial plan would guide the execution of the budget, determine the cash releases to budget users, and manage liquidity with government borrowing in coordination with monetary policy requirements. Effectively, this would mean widening and deepening the human resource base of the treasury—an urgent issue given serious understaffing.

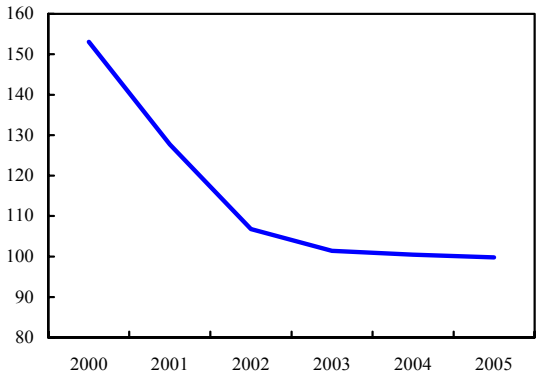
19. **Proper development of debt management policy and skills is key to sound financial management capacity**. The early passage of a long-delayed draft Law on Public Debt should be a priority. The treasury should concentrate on policy development (for example, regarding the maturity structure and currency composition of public debt as well as the use of privatization proceeds to retire expensive debt). Analytical capability of the debt unit will need to be enhanced. In the short-term, capacity constraints would suggest that debt management services should remain a shared responsibility with the National Bank of Serbia. The debt recording function should be retained in the NBS in the foreseeable future, which could be formalized under a service level agreement. In addition, it is important to focus on integrating cash and debt management policy and operations.

D. Tax Policy

20. **Serbia's tax structure has been greatly simplified over the last few years**. The highly complex and inefficient tax system inherited from the former Yugoslavia Federation, characterized by numerous levies, widespread exemptions, and high tax rates, has been transformed into a fairly modern tax system. Exemptions have been greatly reduced. Tax policy orientation is strongly pro-growth to encourage savings and promote incentives for work.

21. **The tax structure is relatively efficient**. The focus on reducing taxation on labor income and increasing the tax burden on consumption—leading to a steady fall in the direct/indirect tax ratio—has continued (Figure 6). Significant developments in 2004 included the elimination of the 3.5 percentage point wage bill tax, reduction of the corporate income tax rate (CIT) and the personal income tax (PIT) on the self-employed from 14 percent to 10 percent, and the harmonization of the social security tax bases and uniformatizaion of contribution rates. In 2005, a highly distortionary financial

Figure 6. Direct and Indirect Tax Ratio, 2000-05
(In percent)



Sources: National authorities; and IMF staff estimates.

transaction tax was eliminated and a new 2-rate VAT (standard rate 18 percent, reduced rate 8 percent) replaced a cascading retail sales tax. However, on the VAT, recent discussion to expand the list of goods and services (for example, to tickets for sports and entertainment and new apartments) to be taxed at the reduced rate is a step that would weaken the structure of the VAT.

22. **Further revenue losing tax reform, even sound ones, might need to wait for an improvement in the external balance**. Remaining notable tax policy changes that have been proposed in 2005 include completing the transformation to reduce the remaining PIT (on salaries and wages) from 14 percent to 10 percent, pending on tax revenue performance. This move will round out the harmonization of the PIT and CIT at a flat rate of 10 percent.[8] In addition, to promote capital market developments and securities trading, the tax on share holding has been proposed for abolition. While these reforms are desirable per se, further tax cuts in the current macroeconomic setting, unless compensated by raising indirect taxes or lowering expenditures, will lead to a loosening of the fiscal stance, that would put further pressure on the large external current account deficit.

23. **Similarly, social security taxes should not be reduced until the financial health of the social funds are placed on a sustainable path.** Social taxes make up about one-third of total wage cost, making the cost of employing workers relatively expensive undermining job creation.[9] However, these taxes are also a major source of funding for the pay-as-you-go pension funds (for workers, farmers, and the self-employed), the health fund, and the unemployment fund. Even with the current social tax rates, as noted, significant annual budget transfers are needed to finance the cash deficit of these funds. Given the current circumstances, a prudent strategy—which the government has indicated it will adopt—must deal first with the expenditure side of the social funds (noted above) before tinkering with the social contribution rate. Otherwise, the risk to weakening the fiscal stance at a time when fiscal consolidation is required to reduce macroeconomic vulnerability is clearly not appropriate.

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[8] Dividend incomes are also effectively taxed at 10 percent, even though the statutory tax rate on dividends is 20 percent because of an exemption of 50 percent on taxable dividends.

[9] According to *U.S. Social Security Administration (2004),* social taxes in Serbia are higher than many OECD countries (Ireland 18.75 percent, United Kingdom, 23.8 percent, Switzerland 25.9 percent,), the Baltic States (Latvia 24.35 percent, Lithuania 31 percent), and Russia (28 percent). However, they are comparable or lower than several Eastern European countries (Moldova 30 percent, Slovak Republic 35 percent, Hungary 45 percent, Poland 46.64 percent, and Romania, 55 percent).

E. Revenue Administration

24. **Revenue administration has been greatly strengthened in recent years.** A new legal framework for tax administration came into force in 2003 (Law on Tax Procedures and Administration) and a new Serbian Tax Administration (STA) was created as part of the ministry of finance. The STA took over several duties including tax collection responsibilities from the now defunct Federal Payment Agency. To rein in the gray economy, a new Law on Cash Registers was passed in 2004. Separately, a new Law on Customs Administration was enacted in 2004, which harmonizes the taxpayer identification number for customs and tax administration. These legislative improvements, and a major reorganization of tax administration functions under the STA, including the establishment of a large taxpayer unit (LTU) and improved tax enforcement strategy, have contributed to stronger revenue receipts. Tax revenue collection as a percent of GDP has grown steadily since 2000.

25. **Key milestones in 2004 and 2005 include self-assessment, simplification of payroll tax administration, and a successful VAT implementation.** Self-assessment, a key figure of modern tax administration, has been introduced for personal and corporate profit taxes. In addition, payroll tax administration was greatly simplified with the harmonization of the contribution bases and clarification of common definitions. In 2005, another tax administration milestone was crossed when the VAT came smoothly into force, following some 2 years of very intense preparation.

26. **Despite these achievements, focused efforts in selected key areas could lead further strengthening in tax administration**. First, the tax policy role of the STA should be further clarified. The ministry of finance should continue to take the lead in designing tax policy while STA should take the lead in the administrative design of policy proposals in order that policy can be effectively implemented. In this role, the STA would consult widely with the MOF and taxpayers over implementation and compliance issues, technical legislative drafting, development, extraction, and provision of data for revenue analysis and forecasting, tax policy proposal costing; and identification and quantification of revenue impacts of tax administration changes.

27. **Further taxpayer segmentation should be pursued to refine the service and compliance strategies**. The LTU that was established recognizes that special units can provide services and ensure tax control in an effective way of using limited tax administration resources. Further segmentation for medium-sized and small taxpayers as well as specific industries such as financial services should be considered in developing reform strategies. As a broad objective, the STA should target to generate 70–75 percent of all tax collections from the largest 500-800 taxpayers (which would be broadly consistent with international norms), while the second segment of small- to medium-sized taxpayers contribute around 20-25 percent of revenue. The remaining individual taxpayers (the small taxpayer segment) would not be expected to generate more than 5 percent of revenue. Currently, the STA collects about 50 percent of total revenue from its largest taxpayers. This ratio could be brought more in line with international practice, if the LTU criterion is made

more selective. This will require a change in the LTU decree to define a large taxpayer by turnover only, given that a 2004 amendment apparently failed to emphasize this as the sole criterion for determining a large taxpayer.[10]

28. **Headquarters functions would also need to be strengthened**. While the STA has made progress in setting up HQ functions, managers still lack operational HQ experiences and have concentrated their efforts largely on the development of instructions for branch offices. The STA would need to build up its capacity for strategic and operational planning on a national level, the development of national programs, the provision of technical advice and guidance to operational units, the establishment of national performance targets and measurement systems, and the monitoring and evaluation of field offices. Operational offices would eventually need to be structured along lines similar to the functions in the HQ.

29. **Compliance and administrative costs of the tax system should be reduced**. To bring this about, appropriate amendments to by-laws should be made to (i) provide for filing payroll tax returns and paying payroll tax on a monthly basis for large employers and on a quarterly basis for others; (ii) require employees with a single source income to file an annual tax return only if their income exceeds a high threshold; (iii) review the tax return forms with a view to reducing their number and complexity, and (iv) raise the VAT registration threshold from 2 million dinar per year to 5 million dinar per year.

[10] The 2004 amendment to the LTU decree added turnover as a criterion for identifying a large taxpayer, but left other criteria (such as level of taxes paid) intact. The current practice of using more than one criterion to determine a taxpayer for the LTU is unnecessarily complicated and not in line with best international practice.

References

Bodin, J. P., P. Barrand, W. Crandall, and A. Modi, 2003, *Serbia: Revenue Administration Modernization—The Next Steps*, International Monetary Fund.

Diamond, J., I. Szekely, M. Hawtin, and D. Last, 2001, *Serbia: A Strategy for Reforming Public Expenditure Management*, International Monetary Fund.

———, D. Chua, B. Olden, and T. Thomas, 2004, *Serbia: Further Developments of the Treasury System*, International Monetary Fund.

Sunley, E., M. Casanegra de Jantscher, J. Brondolo, M. Flanagan, and P. Gravelle, 2001, *Serbia: An Agenda for Strengthening Tax Policy and Administration*, International Monetary Fund.

World Bank, *Serbia and Montenegro Public Expenditure and Institutional Review*, 2003, Volume I and II.

II. The Serbian Pension System: Issues and Reform Options [1]

1. **The pension system has been running large deficits in recent years and has become a drag on the budget.** In 2004 the pension system deficit amounted to 5.4 percent of GDP and was financed by equivalent budget transfers. The Fund for Employees (FE) ran a deficit of about 5 percent of GDP in 2004, with the Farmers' Fund (FF) and Fund for the Self Employed (FSE) posting a deficit of 0.6 percent of GDP and a surplus of 0.2 percent of GDP, respectively. [2] Payroll contributions─currently at 22 percent of gross wages─covered only about two thirds of pension expenditures. In addition, there are arrears in pension payments that range from one month in the FE and up to two years for pensioners in the FF.

2. **The need to rationalize pension costs has become an important policy priority.** This chapter discusses the causes of the current problems, presents preliminary results of the projected finances of the FE[3], suggests options for reducing the cost of pension outlays, and provides preliminary estimates of the impact of the authorities' recent reform package on the FE finances. It is divided in four sections. Section A provides a description of the main parameters of the Serbian pension system. Section B discusses the background for the current financial problems, recent reforms and main issues in the current pension system. Section C presents reform options, the reform package chosen by the authorities with preliminary estimates of its financial implications. Section D provides a brief conclusion.

A. Main Parameters of the Serbian Pension System

3. **The Serbian Pension system is a pay-as-you-go system**. The key parameters are contribution rates, eligibility criteria for old age, disability and survivor pensions, the benefit formula to calculate the different pension entitlements (Box 1) and the indexation rules.

4. **Contribution Rates.** The Contribution rates from employers and employees are currently 22 percent for old age, disability, and survivors' insurance. The maximum contribution base is five times the average monthly gross wage, while the minimum

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[1] Prepared by Alejandro Simone.

[2] The Serbian pension system comprises three main funds (for employees, the self-employed, and farmers). The Fund for Employees is the largest with 1.5 million contributors and 1.2 million beneficiaries. The Fund for the Self Employed currently has 250 000 contributors and 40 000 beneficiaries. The Farmers' Fund has 220 000 beneficiaries but few active contributors financing only 13 percent of its pension expenditures with contributions.

[3] The chapter focuses on the finances of the FE because it currently accounts for 93 percent of the pension system deficit and will remain the main driver of the financial results of the pension system in Serbia.

Box 1. Benefits for Both Old Age and Disability Pensions are Based on a Point System Formula

$$P_{it} = PP_i * GPV_t$$

where P_{it} is the pension of individual i at time t, PP_i are the number of personal points and GPV_t is the general point value in dinars at time t. GPV_t was set at about 1.8 percent of the value of the average gross wage in 2004.

The number of personal points PP_i is determined by the following formula:

$$PP_i = PC_i * PS_i$$

where PC_i is the personal coefficient and PS_i are the years of pensionable service. PC_i is simply the sum of the ratios of an individual's contribution wage with the economy's average wage for each year of contribution divided by the number of years over which the personal coefficient is computed.

An individual earning the average wage would accumulate one point per year of contribution. But, while individuals earn a single point for contributions at an average wage level per year for the first 40 years, between 40 and 45 years, the individuals earn only half a point and beyond 45 years of contributions, they earn no points. With respect to PS_i, in addition to the extra service awarded to particular occupational groups, all women are given an additional 15 percent service credit.

For example, if a male person earned the average wage every year and contributed for 41 years his PC_i would be equal to (40*1+1*0.5)/41. If the person is in addition a regular pensioner (that is, not belonging to any of the specific job categories eligible for extra pensionable service awards) his PP_i would round to 40.0—(40.5/41)*40.5—since his pensionable service time PS_i would be equal to 40.5. If the assumption that the individual retired in 2004 is made, the replacement rate of his pension would have been 72 percent of the average gross wage (40*1.8).

There are maximum and minimum pension levels, and pension benefits are not taxed. The minimum pension is set at 20 percent of average gross wages in 2002. The maximum pension is set implicitly to 170 GPV_t by capping the value of PC_i at 4 and PS_i at 42.5. Neither contributions nor benefits are taxed.

Disability pensions are determined exactly as old age pensions, but the length of service (PS_i) is increased. The length of service is increased by two-third of the difference between the person's age and 53, and by one-third the difference between 53 and the relevant retirement age. This implicitly assumes that had the individual been healthy, he would have worked two-third of the time until age 53, the earliest age of retirement, and only one-third of the time between age 53 and the normal retirement age.

For eligible survivors, the magnitude of the benefit as a share of the benefit of the deceased beneficiary depends on their number. Survivors are given 70 percent of the pension if there is only one survivor, 80 percent to be divided between them if there are two survivors, 90 percent if there are three survivors, and 100 percent for four or more survivors. Survivor pensions are calculated on the basis of at least 20 years of contributions, regardless of the actual years of contribution. If a spouse and children exist, other family members such as parents and step parents can claim the difference between 100 percent and the benefit awarded to the immediate family.

contribution base is 40 percent of average monthly gross wage. In addition, employers and employees pay a combined additional 12.3 percent for health insurance and 1.5 percent for unemployment insurance, making the total payroll tax 35.8 percent of wages. Additional contributions are required from workers in specific professions or belonging to specific groups: dangerous or harmful conditions, intelligence agencies, foreign affairs, criminal sanctions, tax police, military invalids and persons suffering from multiple sclerosis. The additional contributions are required for these employees because they are credited for additional months of service for each year of contribution, that is, for every 12 months of contributions they are credited up to 18 months of service depending on the specific job type.

Eligibility criteria for pensions

- **General eligibility for a pension is based on age and years of contributions.** The retirement ages are 63 for men and 58 for women with 20 years of service, and 65 and 60 with 15 years of service. There is a minimum retirement age of 53 with 40 years of service for men and 35 years for women. These periods of eligibility include the additional service credit which may be provided for workers in certain professions and groups. Any individual who meets eligibility requirements for two or more different types of pension is entitled to only one of these pensions at his choice.

- **Only individuals that suffer a complete loss of capacity to work are eligible for disability pensions.** If the disability arises from a work-related injury, eligibility is immediate regardless of past contribution history. If the disability is not work related, a disabled person is entitled to a pension, if he has not reached retirement age and has accumulated a minimum number of years of contributions, which depends on the age of the disabled person at time of occurrence. Disabled individuals, which are over 30 years old need to have completed 5 years of contributions, with lower eligibility requirements for those younger than age 30 at the time of disability.

- **A worker must contribute for a minimum of 5 years of contributions before his survivors can qualify for a pension in the event of her or his death.** Eligible beneficiaries are current or divorced spouses, direct siblings or other children supported by the deceased or any other of his beneficiaries and parents or step parents. A widow/widower must be 48/53 or older and be either unable to work or have children to qualify for a survivor pension. Children are generally entitled to survivor pensions until they reach 15 years old but can retain eligibility up to 26 years of age depending on whether they attend school, college or university. Disabled orphans are eligible to receive the pension for life. Parents or step parents are eligible to a survivor pension if they are unable to work and are at least 58/63 years of age for women/men.

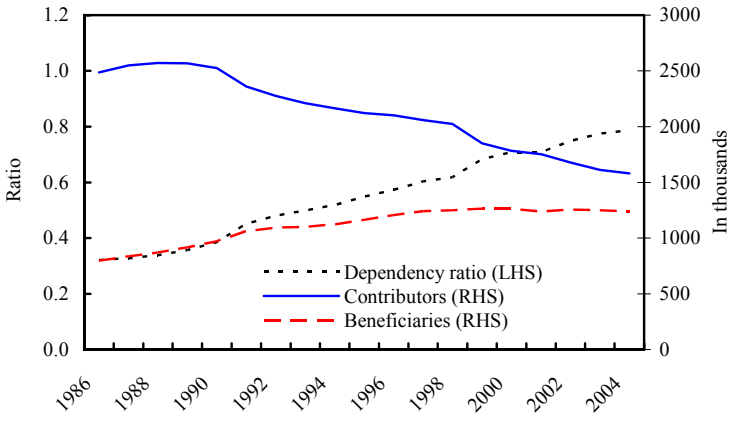
5. **Indexation**. The value of the general point (GPV_t) is indexed by the "Swiss formula." This formula indexes the general point value by the average of the inflation rate and nominal wage growth. Indexation is implemented quarterly. The minimum and maximum pensions are also indexed with the same formula and periodicity. Pensions post-retirement are also

indexed by the same combination of 50 percent inflation and 50 percent nominal wage growth and periodicity.

B. Current Financial Problems, Recent Reforms, and Outstanding Issues

6. **The pension system is financially unsustainable. The current high deficits are primarily the result of a sharp increase in the dependency ratio during the 1990s.** Data for the employees fund shows that the dependency ratio went from about 0.4 in 1990 to about 0.8 in 2004 (Figure 1).

Figure 1. Contributors and Pension Beneficiaries in the Fund for Employees, 1986–2004



Sources: Statistical Office of Serbia; and the Fund for Employees.

7. **This evolution of the dependency ratio reflects both a decline in the number of contributors and an increase in the number of beneficiaries.** The decline in the number of contributors is related to the disruptions to economic activity generated by political instability and civil war in the 1990s, and higher rate of informalization of the economy. The system's increasing maturity and lax eligibility criteria for disability pensions contributed to the growth of beneficiaries. Disability pensioners currently make up 30 percent of all pensioners, roughly three times the level seen in most other countries. Such a difference cannot be explained by a higher prevalence of disability due to the armed conflicts of the 1990s. Rather, the disability system has been used by individuals who would not have qualified for a retirement pension until the normal retirement age to retire early.

8. **Several reforms have been introduced to improve the finances of the system in recent years.** The main ones were introduced in 2001, which included reducing the contribution rate from 32 percent to 19.6 percent while broadening the definition of gross wages; increasing the statutory retirement age by 3 years with a comparable increase in the minimum retirement age; and changing the indexation of pensions from wages to the Swiss formula, implemented quarterly instead of monthly. In addition, eligibility criteria for disability pensions were tightened, mainly by eliminating the concept of partial disability. In 2003, the point system was introduced, making accrual rates more uniform throughout the contribution period instead of being frontloaded. The pension calculation wage was changed from the best ten consecutive year average to the full career average. Finally, the authorities increased the contribution rates, first to 20.6 percent in 2003 and then to 22.0 percent in 2004.

9. **While the reforms are expected to produce significant savings, the full effect will take time to accrue.** The 2003 Public Expenditure Review of the World Bank estimated the 2001 reforms would reduce the 2005 deficit by 1.6 percent of GDP. The actual reduction is likely to be less, however, since the inflow of new pensioners was particularly marked in the run up to the legislative changes of 2001. The number of new entrants in the old age pension system was more than 3 times the level observed in subsequent years. In the medium term, recent estimates by the World Bank suggest that the deficit could be reduced by up to 4 percent of GDP by 2010 and up to 7 percent of GDP by 2020. An important measure included in these reforms with a significant medium term impact was the tightening of eligibility for disability pensions. Recent data from the Ministry of Labor show that new disability benefits have been approximately halved from 21,408 in 2002 to 10,746 in 2004.

10. **Although reforms to date will imp rove the fiscal situation significantly in the medium term, they will not be sufficient to bring the system into balance.** The FE balance (Table 1) is expected to worsen slightly up to about 6.9 percent of GDP in the 2020s and begin improving during the 2030s, reaching a deficit of about 1 percent of GDP by 2050. The pattern reflects an increasing dependency ratio due to adverse demographics that dominate the finances in the first 20 years. In the longer term, the finances improve due to a significant reduction in the replacement ratio of the system and as pressures on the dependency ratio decrease as the overhang of disability pensions of the 1990s works its way through the system. [4]

Table 1. Baseline Projections of the Finances of the Fund for Employees, 2006-50

	2006	2007	2008	2009	2010	2025	2050
Real GDP growth (percent)	4.8	5.0	5.2	5.4	5.4	5.0	5.0
Inflation (percent change)	9.0	6.0	4.0	3.5	3.2	3.1	3.0
Real wage growth (percent)	4.8	5.0	5.2	5.4	5.4	5.0	5.0
Total fertility rate (per 100 women)	172.6	173.1	173.6	174.1	174.6	181.9	194.2
Disability rate	Expected to fall by 26 percent by 2050						
Survivors	Expected to fall by 32 percent by 2050						
Overall balance (percent of GDP)	-5.2	-5.5	-5.7	-5.8	-6.0	-6.9	-0.9

Sources: National authorities; World Bank; Schwarz (2005); and IMF staff estimates and projections.

11. **A main problem with the current system is the significant evasion of contributions.** According to a recent project information document by the World Bank, an important factor in the current and future deficits of the pension system is the lack of compliance. Less than 60 percent of the labor force is contributing to the pension system. The lack of an individual database on contributors is generating problems for adequate enforcement. While contributions are collected by the tax authorities, the funds are largely transmitted through employers. Employers are required to file an M-4 form with the pension funds annually that reports individual contributions, but many are neglecting to do so. As a

[4] See more on this in the discussion of post retirement indexation below.

result, neither the tax authorities nor the pension funds have reliable records on individual contributors.

12. **Regular retirement ages are also low relative to the European average.** While the retirement age for men is slightly below the European average, the retirement age for women is significantly lower. The European average statutory retirement age is 63.8 for men and 61.2 for women, while in Serbia the corresponding figures are 63 for men and 58 for women (Table 2). Moreover, in many European countries retirement ages for men and women have been equalized. The longer life expectancy for women combined with their previous lower retirement ages and demographic trends (i.e., lower fertility and increasing life expectancy) proved to be a financial burden that many national pension schemes could not afford.

13. **Early retirement remains pervasive, increasing the costs to the system.** The minimum retirement age is 53 for both men and women in Serbia and is among the most generous in Europe (Table 2). As of the end of 2003, about 15 percent of the stock of FE pensioners retired before the normal retirement age for old age benefits (58 for women and 63 for men), and more than 35 percent of disability pensioners have retired early. While these figures could have been influenced by the developments of the 1990s, information for new entrants shows an overall starker picture. In 2003, 65 percent of new male and female old age retirees retired before the normal retirement ages. For disability pensions, the equivalent figures were 47 percent of men and 28 percent of women.

14. **Accelerated pensionable service for specific professions is facilitating early retirement and providing implicit subsidies for certain industries.** For some professions, including dangerous professions such as mining, a worker contributing for 12 months can be credited for up to 18 months of contributions. This allows individuals in these professions to retire early as their pensionable service requirement is met faster. In 2003, old age and disability retirees under accelerated pensionable service represented about 14.4 percent of the total number of old age and disability retirees in the FE, and about 13.2 percent of new old age and disability retirees. Although these workers pay additional contributions for the higher benefits they receive, this contribution is not enough to compensate for the fact that because they retire early they receive benefits for a longer period of time. In addition, this lack of adequate compensation acts as an implicit subsidy from the government, which finances the deficit of the system through transfers, to specific activity sectors. The companies in these sectors should be responsible for paying the higher cost their activities are generating.

15. **Replacement rates are currently relatively generous.** While the average old age pension benefit represents about 50 percent of gross wages, the ratio of the average pension benefit to the average wage net of contributions and taxes is high. This ratio is about 80 percent of average net wages while international standards are about 40 percent. This rather high replacement rate relative to international standards for old age pensions is in part due to the fact that pensions are not taxable while the worker earning the average wage does have to pay taxes.

Table 2. Statutory and Early Pensionable Ages, 2004
(Years)

	Pensionable age							
	Statutory				Early			
	Men		Women		Men		Women	
Albania	65		60		...	2/	...	2/
Austria 1/	65		60		62		56	
Belarus	60		55		...	2/	...	2/
Belgium 1/	65		63		60		60	
Bulgaria	62		58		...	2/	...	2/
Croatia	63		58		58		53	
Cyprus	65		65		63		63	
Czech Republic 1/	62		56		58		53	
Denmark 1/	65	3/	65	3/	60		60	
Estonia	63		59		...	2/	...	2/
Finland 1/	65		65		60		60	
France 1/	60		60		...	2/	...	2/
Germany 1/	65		65		60		60	
Greece 1/	65		60		60		55	
Hungary 1/	62		59		60		57	
Iceland 1/	67		67		...	2/	...	2/
Ireland 1/	66		66		...	2/	...	2/
Italy 1/	65		60		...	2/	...	2/
Latvia	62		60		60		58	
Liechtenstein	64		63		60		60	
Lithuania	62		59		58		54	
Luxembourg 1/	65		65		60		60	
Malta	61		60		...	2/	...	2/
Moldova	62		57		...	2/	...	2/
Netherlands 1/	65		65		...	2/	...	2/
Norway 1/	67		67		...	2/	...	2/
Poland 1/	65		60		...	2/	...	2/
Portugal 1/	65		65		55		55	
Romania	65		60		55		55	
Russia	60		55		...	2/	...	2/
Serbia	**63**		**58**		**53**		**53**	
Slovak Republic 1/	62		62		...	2/	...	2/
Slovenia	63		60		...	2/	...	2/
Spain 1/	65		65		...	2/	...	2/
Sweden 1/	65		65		61		61	
Switzerland 1/	65		63		...	2/	...	2/
Ukraine	60		55		...	2/	...	2/
United Kingdom 1/	65		60		...	2/	...	2/

Source: U.S. Social Security Administration (2004).

1/ OECD country.

2/ The country has no early pensionable age, has one only for specific groups, or information is not available.

3/ There is no statutory old-age pension system.

16. **The current indexation of benefits, which includes a wage component, is unaffordable.** With the current overhang of pensioners due to the developments in the 1990s and the very fast growth in real wages that is typical of transition countries, maintaining partial indexation to wages is likely to quickly increase the real value of pensions and exacerbate current problems with high pension expenditures.

17. **The current quarterly periodicity of indexation exacerbates the costs of partial wage indexation.** While indexation in other countries is typically annual, the years of high inflation in Serbia have led to more frequent indexation. In particular, before 2001 indexation was implemented monthly. This high frequency of indexation was in place to avoid a quick erosion of the purchasing power of pensions. While this indexation periodicity does ensure that pension values track closely the movements in average prices and wages, it is no longer desirable since it is not affordable and exacerbates the costs of partial wage indexation.

18. **While partial indexation to wages in the calculation of the initial benefit is a valuable temporary measure to reduce replacement rates, maintaining it permanently could seriously erode incentives to participate in the system.** Since nominal wage growth tends to be faster than inflation, indexing the initial entitlement to an average of nominal wage growth and inflation will necessarily continuously reduce the replacement rate over time. In the current scheme, the level of the average replacement rate will be halved to slightly above 20 percent of the average gross wage by 2050. Therefore, this should only be a temporary measure until an appropriate replacement rate is attained. If the replacement rate is allowed to reach very low levels, there are risks of increased political pressure to raise the level of benefits. In addition, a low replacement rate will imply a low rate of return on contributions, providing increased incentives for evasion.

C. Reform Options

19. **In a pay-as-you-go pension system, four basic reform strategies can be combined to improve the system's finances.** Reforms to the pension system should aim to restore the financial sustainability of the system while allowing for a minimum replacement rate that prevents poverty in old age. The simple arithmetic of a pay-as-you-go system implies that for financial balance it is necessary that the contribution rate equals the average replacement rate times the dependency ratio. This suggests essentially four broad reform strategies: raising contribution rates, improving collection enforcement of contributions, reducing replacement rates, and reducing the system dependency ratio.

20. **Some reform strategies can generate significant savings in the short term, while others will typically do so in the medium term.** Increasing contribution rates and reducing benefits to current and soon-to-be retirees are typically the only options that can produce significant short-term improvements in the finances of a pension system. The high dependency ratio inherited from the 1990s and collection enforcement problems are unlikely to be significantly affected by policies in the short term. Both can be affected in the medium to long term by restricting pension eligibility for future retirees and improving collection

enforcement procedures. In this regard, the authorities are already working on a project with the World Bank to create a database for contributors and strengthen collection enforcement.

21. **With the current level of labor taxation and evasion, tightening benefits would seem the main reform path available to generate short term savings.** Reducing benefits seems the most sensible path since the labor income taxation is already close to the OECD average and the high level of evasion does not make it advisable to continue increasing the contribution rate (Table 3). The 22 percent contribution rate on pensions compares to a 24 percent average OECD level and the overall payroll taxation level of 35.8 percent of gross wages compares to a 36 percent average OECD level. Continuing to increase labor taxation by increasing the pension contribution rates would risk adversely affecting the business environment and increasing incentives for evasion, which could actually end up reducing collections.

22. **Taking into account these considerations and the discussion in Section B, the following options to reduce benefits in the short to medium term could be considered:**

- **Introduce a tax/contribution on pension benefits**. A 10 percent tax on current pensions could be seen as a "solidarity" contribution. Since neither contributions nor benefits are currently taxed, it would also reduce the unnecessarily high tax preferences for pensions.

- **Reduce the indexation of pension benefits post entitlement and maintain—at least for some time—the current indexation system pre entitlement.** The options that could be considered for post entitlement indexation range from freezing indexation completely to a gradual convergence to CPI indexation. With respect to pre entitlement indexation, the current Swiss formula can be kept temporarily since it gradually reduces the replacement rate of the system. To avoid a deterioration of the replacement rate below an adequate level, pre-entitlement indexation of pension benefits will eventually need to be shifted from the current Swiss formula back to wages in the medium to long term.

- **Shift the periodicity of indexation to an annual basis from the existing quarterly basis.** Keeping the pensions without indexation for a longer period in an environment of significant positive inflation can effectively contribute to reduce pensions costs.

- **Increase and equalize gradually the statutory retirement age for both men and women at 65 years, and raise gradually the minimum retirement age**. The current minimum retirement age of 53 years is among the lowest in Europe, which exacerbates the prevalence of early retirement and creates cash flow problems.

- **Eliminate the accelerated pensionable service credit for specific professions and groups and the 15 percent additional pensionable years of service benefit for women**. These provisions increase unnecessarily pension costs by facilitating early retirement. Moreover, they do not internalize the full cost of pensions to the labor market.

Table 3. Social Security Contribution Rates, 2004
(Percent of wage)

	Old age, disability and survivor			All social security programs		
	Employee	Employer	Total	Employee	Employer	Total
Albania	9.5	29.9	39.4	9.5	39.5	49.0
Austria 1/	10.2	12.6	22.8	17.25	25.0	42.1
Belarus	1.0	10.0	11.0	1.0	11.0	12.0
Belgium 1/	7.5	8.9	16.4	13.1	17.9	31.0
Bulgaria	21.8	7.2	29.0	25.0	17.7	42.7
Croatia	20.0	0.0	20.0	20.0	17.2	37.2
Cyprus	6.3	6.3	12.6	6.3	6.3.0	12.6
Czech Republic 1/	6.5	21.5	28.0	12.5	37.0	49.5
Estonia	2.0	33.0	35.0	2.0	33.0	35.0
Finland 1/	4.6	22.8	27.4	6.1	25.4	31.5
France 1/	6.6	9.8	16.4	15.4	33.9	49.3
Germany 1/	9.8	9.8	19.5	20.0	21.3	41.3
Greece 1/	6.7	13.3	20.0	11.6	24.1	35.6
Hungary 1/	8.5	18.0	26.5	13.5	32.0	45.5
Iceland 1/	4.0	11.6	15.6	4.0	11.6	15.6
Ireland 1/	8.0	10.8	18.8	8.0	10.8	18.8
Italy 1/	8.9	23.8	32.7	8.9	30.9	39.8
Latvia	2.0	18.0	20.0	...	...	24.4
Liechtenstein	9.4	9.4	18.8	11.2	13.2	24.4
Lithuania	2.5	23.4	25.9	3.0	28.0	31.0
Luxembourg 1/	8.0	8.0	16.0	16.4	13.6	23.0
Malta	10.0	10.0	20.0	10.0	10.0	20.0
Moldova	2.0	28.0	30.0	2.0	28.0	30.0
Netherlands 1/	19.2	8.9	28.0	39.4	17.2	56.6
Norway 1/	7.8	14.1	21.9	7.8	14.1	21.9
Poland 1/	16.3	16.3	32.5	27.0	19.8	46.6
Portugal 1/	11.0	23.8	34.8	11.0	23.8	34.8
Romania	11.7	23.3	35.0	19.7	35.3	55.0
Russia	0.0	28.0	28.0	0.0	28.2	28.2
Serbia	**11.0**	**11.0**	**22.0**	**17.9**	**17.9**	**35.8**
Slovak Republic 1/	7.0	19.0	26	9.4	25.6	35.0
Slovenia	15.5	8.8	24.4	22.1	15.9	38.0
Spain 1/	4.7	23.6	28.3	6.2	31.68	37.8
Sweden 1/	7.0	11.9	18.9	7.0	25.9	32.9
Switzerland 1/	11.9	11.9	23.8	12.9	13.0	25.9
Ukraine	3.0	32.0	35.0	3.35	35.0	38.2
United Kingdom 1/	11.0	12.8	23.8	11.0	12.8	23.8

Sources: U.S. Social Security Administration (2004); and Schwarz (2005) for Serbia.

1/ OECD country.

23. **The largest short-term savings are related to options containing indexation (Table 4).** Given that they affect current or soon-to-be retirees, the first three reform options are expected to have the largest short term impact while the remaining options would only have a significant impact in the medium to long term.

Table 4. Fund for Employees: Financial Savings from Selected Reform Options, 2006–50
(Percent of GDP)

	2006	2007	2008	2009	2010	2025	2050
Tax on pension benefits of 10 percent	1.0	1.0	1.0	1.0	1.0	1.2	1.0
No indexation until Q3 2008—CPI thereafter	1.2	2.0	2.5	2.7	2.8	3.9	3.8
Gradual shift in indexation coefficient to CPI	0.0	0.2	0.4	0.6	0.9	3.5	3.7
Change to annual indexation	0.5	0.7	0.7	0.7	0.8	2.0	3.0
Eliminate 15 percent benefit for women	0.0	0.1	0.1	0.1	0.2	0.7	0.8
Reduce early retirement by 40 percent	0.0	0.1	0.1	0.2	0.2	0.5	1.0

Sources: IMF staff estimates and projections.

24. **The authorities' current reform package consists of the following measures:** (1) gradually increasing retirement ages for women from 58 to 60 and from 63 to 65 for men in equal annual increases in a four years period, (2) changing the periodicity of indexation to an annual basis starting in October 2005, (3) phasing in a shift to price indexation in four years for pensions, with equal annual increases in the inflation weight of the indexation formula; and (4) maintaining the Swiss formula for calculating initial benefits.

25. **While these reforms have an important medium term impact on the finances of the employees fund, short term savings are expected to be limited to about 0.6 percent of GDP in 2006 (Table 5).** While there could be a significant improvement in the balances by 2050 of about 5.6 percent of GDP with respect to the baseline, average annual savings per year from 2006 to 2010 are likely to be limited to only about 1 percent of GDP. These are mostly generated by the longer lags in indexing pensions. In the medium to long term, the savings from the shift to full CPI indexation are expected to be the largest source of savings.

Table 5. Fund for Employees: Financial Savings from Authorities' Plan, 2006–50
(Percent of GDP)

	2006	2007	2008	2009	2010	2025	2050
Baseline scenario	-5.2	-5.5	-5.7	-5.8	-6.0	-6.9	-0.9
Authorities' reform scenario	-4.6	-4.6	-4.6	-4.6	-4.6	-2.2	4.7
Savings	0.6	0.8	1.1	1.2	1.5	4.6	5.6

Sources: IMF staff estimates and projections.

D. Conclusion

26. **Although past reforms and the latest package will significantly improve the finances of the system in the medium to long term, they will not be sufficient to attain financial balance in the short term.** Current projections suggest that the FE would continue to run a rather significant deficit of 4.6 percent of GDP in the period 2006-2010. The deficit would reach levels of 3 percent of GDP by 2020.

27. **Unless additional measures are taken to reduce the benefits of current, or soon to be retirees, financial balance will be achieved only in the long term.** The large increase of the dependency ratio during the 1990s is the main cause of the system current financial problems. Unless politically difficult measures such as suspending indexation or taxing pension benefits are implemented to reduce rapidly the cost of the pensioner overhang of the 1990s, it will take a long time for the costs of the overhang to work its way through the system and disappear.

28. **Further reforms are needed to reduce early retirement.** Early retirement has been a reason for increased costs in many European pension systems and has been substantially limited over time. With the general trends of reduced mortality and fertility, the financial burden became unaffordable. Serbia shares similar demographic trends to the ones prevailing in the rest of Europe and therefore is likely to experience the same financial pressures. Measures to increase the minimum retirement age, eliminate the accelerated pensionable service for certain professions and groups, and the 15 percent additional pensionable years of service benefit for women should be taken as soon as possible to reduce pension costs in the medium term to long term.

References

Government of Serbia, 2004, 2*003 Annual Reports, Fund for Employees* (Belgrade).

Martineau, Jean-Noel, *The National Pension System of Serbia: Preliminary Fiscal Analysis*, USAID-Bearing Point, June,2004

Schwarz, Anita, *Pension System in Serbia*, (mimeo) May 2005.

World Bank, *Pension Administration Reform Project*, Project Information Document, 2005 (Washington).

———, *Serbia and Montenegro Public Expenditure and Institutional Review*, February, 2003 (Washington).

III. SERBIA: DEFICITS OF STATE AND SOCIALLY OWNED ENTERPRISES IN 2004[1]

A. Introduction and Main Findings

1. **This chapter attempts to assess the extent of deficits in the non-budget public sector in Serbia.** This is important, as large deficits in the broader public sector can undermine fiscal tightening and stabilization. In Serbia, this concerns mainly state- and socially owned enterprises (SSOE) that in terms of employment equal the size of the budget sector. A number of factors may have contributed to an increase in deficits in these enterprises recently: their budget subsidies have been reduced, international energy prices have only been partially passed through to consumers; the intensified privatization efforts of these enterprises since mid-2004 may have increased the moral hazard for managers and unions to boost expenditures and debt before the expected privatization and associated debt write-offs.

2. **Notwithstanding severe data limitations, the chapter concludes that higher SSOE deficits may have contributed to widening macro-imbalances in 2004.** The analysis relies on cash deficits as above-the-line data of these enterprises is not available. While their overall operating deficits seem to have declined, this was more than off-set by a deterioration in the performance of the state-owned oil company (NIS) due to hikes in implicit consumer subsidies to cushion the impact of rising international oil prices.

3. **The remainder of the chapter is structured as follows.** Section B presents the findings, Section C outlines the shortcomings of the analysis and suggests possible extensions, and Section D discusses policy implications.

B. SSOE Performance in 2004

4. **SSOEs have a dominant role in the Serbian economy (Table 1).**[2] Most companies suffer from overstaffing, low productivity, relatively poor product and service quality, and outdated and badly maintained equipment. Hence, they lack competitiveness and their survival depends on subsidies and—in case they enjoy a monopolistic position—on administrative price hikes. As in many other economies, the energy companies NIS (oil) and EPS (electricity) have also been in involved in quasi-fiscal activities, and tariffs have been set with a distributive motive, often implying cross-subsidies between consumer groups.

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[1] Prepared by Harald Hirschhofer and Janko Guzijan, with the assistance of Dejan Maljkovic.

[2] The socially owned enterprises in Serbia can be split into two groupings: (i) 60–70 large companies under restructuring, and (ii) medium to small sized companies which are mostly economically viable. Companies in the second group operate similar to private firms and are excluded from this analysis. Estimates of the economic size of the different sectors with state involvement vary. In terms of employment, the budget sector covers 16 percent, the state enterprises 5 percent, and the socially owned 11 percent of total in 2004 (the large socially owned enterprises are about 5 percent of total employment.).

Table 1. State and Socially Owned Enterprises in Serbia

	Sector	No. of employees	Wage bill 2004		Budget subsidies 2003	Budget subsidies 2004
			(In billions of dinars)			
State owned enterprises		**136,720**	**33.0**		**12.1**	**13.4**
NIS	Energy-oil and gas	17,298	4.6		0.0	0.0
EPS	Electricity and mining	48,182	12.4		0.0	0.0
PTT	Post	17,514	3.6		0.0	0.0
ZTP	Transport – railway	25,683	4.3		9.5	8.9
RTS	Media	5,700	1.5	1/	1.9	3.2
JAT	Air transportation	3,704	1.3		0.0	0.0
Airport Beograd	Transport – airport	1065	0.3		0.0	0.0
Telekom	Telecommunication	12,574	3.3		0.0	0.0
Mines	Mining	5,000	1.3	1/	0.7	1.3
Large socially owned enterprises (under restructuring)		**121,455**	**...**		**6.9**	**6.5**
RTB Bor	Mining	8,294	...		0.8	0.5
Zastava	Manufacturing	11,831	...		2.1	1.9
Azotara Pancevo	Chemical	1,200	...		0.0	0.1
Matroz	Chemical	1,310	...		0.1	0.2
Viskoza	Chemical	2,140	...		0.1	0.1
Magnohrom	Manufacturing	2,791	...		0.1	0.1
Fabrika Vagona Kraljevo	Manufacturing	776	...		0.0	0.0
Industrija Stakla Pancevo	Glass industry	703	...		0.1	0.0
HIP Petrohemija	Petrochemical	3,100	...		0.0	0.0
Ivo Lola Ribar	Manufacturing	2,286	...		0.1	0.1
Other		87,024	...		3.4	3.3

Sources: Privatization Agency; and Ministry of Finance.

1/ Estimate.

5. **The SSOE cash deficits are estimated from the financing side, as above-the-line data is not available.** Table 2 details changes in bank loans and deposits, private sector supplier credits, and in a few cases borrowing from abroad via export guarantee agencies or international development financing institutions like the EBRD.

Table 2. Serbia: Overall Fiscal Deficit, 2003–04
(Percent of GDP)

	2003	2004	
General government deficit	3.2	0.0	1/
SSOE deficit	1.2	1.6	
Change in bank credit	0.1	0.0	2/
Supplier credits	0.7	1.3	3/
External financing	0.4	0.3	4/
Total public sector deficit	4.4	1.7	
Memorandum item:			
GDP in billions of dinars	1,095	1,290	

Sources: National Bank of Serbia; Company balance sheets; Ministry of Finance; and IMF staff estimates.

1/ On cash basis. Arrears did not increase in 2003 and 2004.

2/ Excludes 5.6 billion dinar PTT loan for Telekom purchase in 2003.

3/ Data refer only to NIS and EPS.

4/ Only EPS, ZTP, and Airport had external financing in 2002–04.

6. **The SSOE deficit rose from an estimated 1.2 percent of GDP in 2003 to 1.6 percent of GDP in 2004.** Most of the increase in financing occurred in form of private sector supplier credits to NIS and EPS which rose by 0.6 percent of GDP. The weak condition of many SSOE balance sheets permitted only a handful of SSOEs like NIS, EPS, Post and Telekom, and Aircontrol to access bank financing or other forms of private credit (Annex Table 1).[3]

7. **The increase in SSOE deficits in 2004 reflects deteriorating operating results in the energy companies, and lower deficits in socially owned companies.** According to available data, the largest 10 socially owned enterprises reduced their deficits (before budgetary subsidies) from 0.7 percent of GDP in 2003 to 0.4 percent of GDP in 2004 on an unconsolidated basis and adjusted for loan write-offs for Zastava and Matroz (Table 3). This suggests that financial discipline has increased in the socially-owned companies in 2004. However, this may be an underestimate as these companies are not subject to tax audits,

[3] In the case of NIS, several domestic banks have exceeded their maximum single exposure limit.

which may hide large tax arrears.[4] In contrast, performance in the state-owned sector has deteriorated. The cash deficits of NIS rose from 0.3 percent of GDP in 2003 to 1.0 percent of GDP in 2004, and the estimated deficit of EPS from 0.6 percent of GDP in 2003 to 0.7 percent of GDP in 2004.

Table 3. Deficit Financing for the 10 Largest Socially Owned Enterprises (In billions of dinars)

	Budget subsidies		Bank financing		Change in arrears (excl. penalties) to EPS		Change in arrears (excl. penalties) to NIS		Total	
	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004
RTB Bor	0.8	0.5	0.0	0.0	0.5	0.6	-0.1	0.1	1.2	1.2
Zastava	2.1	1.9	-0.1	-0.0	0.1	0.2	0.3	0.2	2.3	2.3
Azotara Pancevo	0.0	0.1	0.0	0.1	0.0	0.0	0.5	0.2	0.5	0.4
Matroz	0.1	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.3	0.3
Viskoza	0.1	0.1	0.0	0.0	0.0	0.1	0.3	0.0	0.4	0.3
Magnohrom	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2
Fabrika Vagona Kraljevo	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.3	0.0
Industrija Stakla Pancevo	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.0
HIP Petrohemija	0.0	0.0	1.3	0.5	0.1	0.0	0.7	-0.4	2.1	0.1
Ivo Lola Ribar	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.2
Total	3.5	3.2	1.2	0.6	0.8	1.1	2.1	0.1	7.6	5.1
(In percent of GDP)	0.3	0.2	0.1	0.0	0.1	0.1	0.2	0.0	0.7	0.4

Sources: Company balance sheets; Ministry of Finance; and IMF staff estimates.

8. **Data on subsidies and arrears confirm tightening of financial discipline for public utilities, which may have contributed to the deficits.** Total budgetary subsidies and indirect support via accumulation of payment arrears vis-à-vis EPS and NIS declined from 2.3 percent of GDP in 2003 to 1.8 percent of GDP in 2004 (Table 4).[5]

Table 4. SSOEs Subsidies and Arrears, 2003–04
(In percent of GDP)

	2003	2004
Total	2.3	1.8
Budget subsidies received	1.6	1.3
ZTP	0.9	0.7
Mines	0.1	0.1
Development fund	0.6	0.5
Arrears to energy companies	0.7	0.6
NIS	0.5	0.2
EPS	0.2	0.3

Sources: Ministry of Finance; NIS; and EPS.

9. **The worsening performance of NIS can also be explained by losses from implicit consumer subsidies to energy users (Annex 1).** The government increased net implicit consumer subsidies by about U.S. dollars 179 million (0.9 percent of GDP) from 2003 to 2004. This resulted from changes to, and a temporary suspension of, the price setting formula for diesel and gasoline wholesale prices. If properly applied, domestic prices should have been automatically adjusted to changes in the international oil price. While the change in pricing practices protected the domestic consumers from higher prices, it is likely to have contributed to the deterioration in the accounts of NIS. However, the impact of this policy on NIS was cushioned by an increase in the economic value of an implicit subsidy given to NIS─it is allowed to exploit the oilfields in Vojvodina without paying royalties to the budget.[7]

C. Shortcomings and Possible Extensions

10. **While the cash deficit analysis gives some indication of the quasi-fiscal activities in the economy, the consolidated public sector deficit m ay be underestimated owing to data problems:**

- **The coverage of socially owned enterprises is incomplete and above-the-line data is not available for 2004.** Detailed financing data has only been compiled for the

[7] NIS and EPS also better controlled their wage bill in 2004, which rose by 8 percent (broadly in line with the indicative program target), while nominal GDP growth is estimated at almost 18 percent.

largest 10 socially owned companies. For the remaining 50–60 large socially owned companies under restructuring aggregate loan data has been made available, but not on deposits.

- **Data quality for the large state-owned companies is poor with corporate balance sheets and income data not audited.** Year-to-year comparisons are difficult due to frequent changes in accounting practices and lack of detail. Time lags for above-the-line data are large, and 2004 data has only been submitted for NIS and EPS (as of March 2005), with the exception of wage bill data which has been made available for the 8 largest state-owned enterprises. Also, financing data show important weaknesses: for example, non-cash debt settlements and rescheduling are typically not identified and required adjustments are not made.

- **The analysis excludes municipally owned and operated companies, mainly water and transport utilities.** Similar to the state-owned utilities, these local enterprises depend on subsidies from local municipal budgets and have suffered from underinvestment in infrastructure. A consistent effort to collect performance data for these enterprises would be needed.

11. **Additional micro-economic analysis of SSOE performance is needed to assess sustainability.** The present assessment does not distinguish between current and investment spending. Anecdotal evidence suggests that maintenance and investment spending has been systematically suppressed during the last decade. Such under-investment temporarily lowers the deficits, but becomes increasingly unsustainable as the capital stock deteriorates. A second micro-economic problem is whether administered prices reflect the true costs of the enterprises (including adequate investment and maintenance costing). For example, the analysis presented in Annex 1 describes the pricing of diesel and gasoline and compares it to what could perhaps be considered a full cost price. Following this example, future studies should look at the extent and implications of distortive administered pricing schemes for other utilities. A cursory look at various utility tariffs would suggest that the principle of full-cost pricing has not yet been established.

D. Policy Recommendations

12. **Progress in reducing the broad public sector deficit requires:** Privatization; improved transparency and accountability; and strengthened financial discipline.

- **A rapid privatization of companies is the first best option to achieve structural reform in the SSOE sector and reduce quasi-fiscal activities.** It would improve incentives, reduce governance problems, and introduce new management techniques, technologies, and fresh financial resources to the sector. If the new investors are large international listed companies, transparency would be strengthened as these companies are required to submit audited financial reports to the public. The recent efforts to speed-up privatization of socially-owned companies and spin-off of non-

core activities of the state owned utilities are steps in the right direction. Privatization should be extended to core-areas as has been recently announced for the refineries.

- **A clear exit strategy needs to be developed for enterprises that cannot be sold to private investors**. The newly strengthened bankruptcy process would be an option under certain conditions and the government is already making increasing use of this instrument.

- **More transparency and accountability is needed to address governance problems and improve public understanding of SSOE performance**. The recent requirements for some state enterprises to publish audited financial statements consistent with International Accounting Standards (IAS) should be broadened to all large SSOEs. Any privileged treatments by the owner, the tax authorities, and direct subsidies need to be publicly known and costed. In particular, NIS should pay royalties for extracting oil. Furthermore, the NBS could strengthen the monitoring of the financing operations of SSOE, especially of deposits, loans and foreign debt (supplier credits).

- **Improved financial discipline should reduce SSOE quasi fiscal operations and return them to profitability**. SSOEs should pay taxes like any other companies and be subjected to regular audits. Large socially owned enterprises should not be permitted to accumulate arrears towards energy suppliers (NIS and EPS), the tax administration, or employees. Recent efforts by energy suppliers to improve collections need to be intensified. If the government considers that continued existence of unprofitable enterprises is politically and socially important, the bills and taxes should be paid from the state budget.

Annex 1. Implicit Consumer Subsidies on Diesel and Gasoline

In Serbia, the oil market is distorted by administrative price setting and import restrictions on oil derivatives. The method of price adjustment is specified in the "Decree on the Prices of Petroleum Products". An adjustment is mandated if (1) the international price for Ural crude changes by more than 2.5 percent in dinar terms, and (2) more than 30 days have elapsed since the last adjustment. Another government decree gives NIS the exclusive right to import oil derivatives and protects domestic refineries. Existing private retailers must either have their crude imports processed by NIS refineries, or buy derivatives from NIS.

The inconsistent application of the pricing formula has resulted in an implicit subsidy to consumers with rising international oil prices. An implicit tax on consumers of about SRD 5.7 billion in 2003 was replaced by an implicit consumer subsidy of about SRD 4.8 billion in 2004, as the price formula has not been automatically adjusted to changes in world prices of oil. As a result, consumers benefited from this policy switch by some estimated SRD 10.5 billion (0.8 percent of GDP) (see Table A2). This figure is derived by constructing an import parity benchmark price based on derivative prices for diesel and gasoline traded in international markets (PLATTS), and comparing the actual domestic price level with this benchmark (Figure A1). From April-October 2004 (a period of sharply rising international oil prices) the government did not apply the oil price formula (Figure A2). NIS had to keep ex-refinery prices relatively unchanged, while its own costs were rising. In addition, the government lowered the refining margin of NIS in the pricing formula from U.S. dollars 45 per ton to U.S. dollars 34 per ton, aiming to lessen excise increases of SRD 3 per liter in April (part of the 2004 budget). Combined these two actions are estimated to have lowered NIS income by some SRD 4.5 billion or U.S. dollars 70 million over the period April–October.[8]

The financial impact of this policy shift on NIS has been partly cushioned by the increase of the economic value of the implicit subsidy which NIS receives in form of the free crude produced in the Vojvodina fields. The budget does not receive royalties from the exploitation of this non-renewable resource, which is public property. Only the local communities receive relatively small payments. Table A3 shows that the benefit which accrued to NIS from this practice amounted to U.S. dollars 111 million in 2003, and U.S. dollars 145 million in 2004. However, production volumes are declining at a considerable speed.

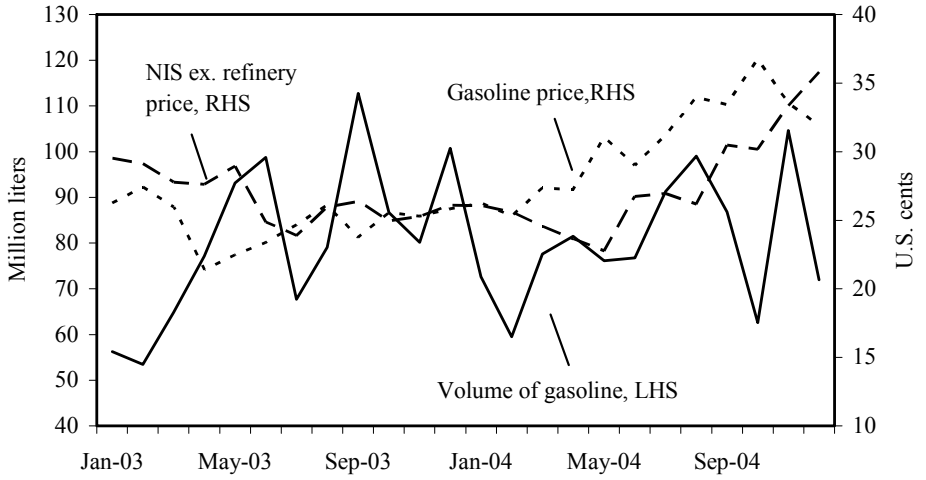
[8] Source: NIS 2004 final report.

Table A1. Stock of Banking Loans to the Public Enterprises and Socially Owned Enterprises (In billions of dinars, end period)

	2002	2003	2004
Public enterprises	4.3	10.9	11.0
NIS	3.4	3.1	6.7
EPS	0.3	1.8	1.1
PTT	0.0	5.6	2.2
ZTP	0.4	0.1	0.5
RTS	0.2	0.4	0.5
JAT	0.0	0.0	0.0
Airport	0.0	0.0	0.1
Telekom	0.0	0.0	0.4
Socially owned enterprises	6.4	7.7	6.2
HIP Petrohemija	1.2	2.5	3.1
RTB Bor	0.0	0.0	0.0
14. Oktobar	0.8	0.9	0.1
Matroz	0.0	0.0	0.0
Zastava	1.7	1.6	0.3
Azotara Pancevo	2.3	2.3	2.4
MIN	0.3	0.2	0.3
Industrija stakla Pancevo	0.1	0.1	0.1

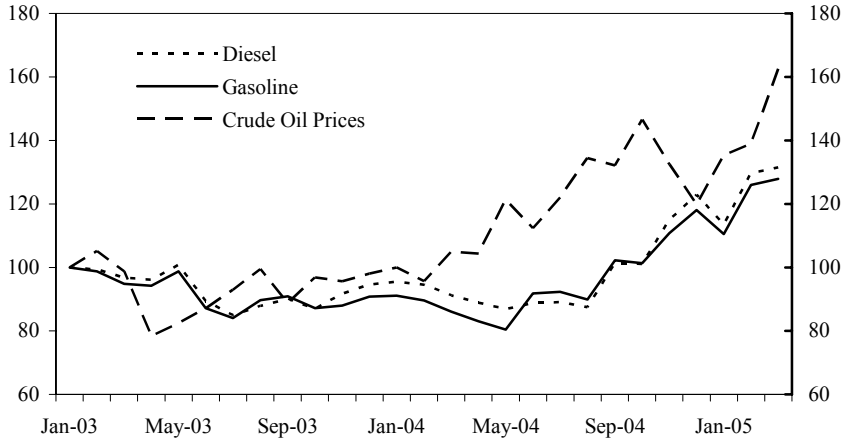
Source: National Bank of Serbia.

Figure A1. NIS Refinery Price Compared to International Benchmark Price, Jan. 2003─Dec. 2004



Sources: NIS; and PLATTS European MarketScan.

Figure A2. Price of Gasoline and Diesel in Serbia Compared to World Crude Oil Price, Jan. 2003─Mar. 2005 (Jan. 2003=100)



Sources: NIS; and PLATTS European MarketScan.

Table A2. Difference Between Domestic Prices and International Benchmark Multiplied by Consumption Volumes, 2003─04 (In billions of dinars)

	2003	2004	Change
Gasoline	-1,8	2,9	4.7
Diesel	-3,9	1,9	5.8
Total	-5,7	4,8	10.5

Sources: NIS and IMF staff estimates.

Table A3. NIS Value of Crude Produced, 2002─04

	2002	2003	2004
Domestic production (in 000's tons)	690.2	677.7	656.2
(Change in percent)	...	-1.8	-3.2
Domestic production (in 000's barrels)	5,107	5,015	4,856
International price for Ural (U.S. dollar/barrel)	23.7	27.0	34.8
Production costs (U.S. dollar/barrel)	5	5	5
Implicit value of crude produced (in millions of U.S. dollars)	95.7	110.5	144.7
Implicit value of crude produced (in billions of dinars)	5.6	6.4	8.5

Sources: NIS; and IMF staff estimates.

IV. Inflation Determinants in Serbia[1]

A. Introduction

1. **This chapter studies the main determinants of inflation in Serbia and develops models to explain and forecast inflation.** It finds that the main determinant of inflation in the short run is the exchange rate. Incomes and the output gap also produce a strong impact on inflation, while broad money growth is not statistically significant. However, data quality issues weaken the chapter's conclusions and, therefore, leave room for further research.

2. **The chapter is organized as follows.** Section B presents a stylized description of inflation developments in Serbia, and Section C offers a brief review of similar estimates in the region. Section D specifies the models for explaining and forecasting inflation, Section E explains the results, and Section F discusses forecasting. The Technical Appendix describes in detail the construction of data series, specifications of the models, and the model's output.

B. Inflation Developments in Serbia

3. **History has made the exchange rate a "nominal anchor" for price movements.** The credibility of the dinar has been weakened by the crisis of former Yugoslavia in 1992, and hyperinflation in 1993, and again in 1999–2000. These events led to increasing euroization of the economy and propped up the exchange rate as the main anchor of inflation.

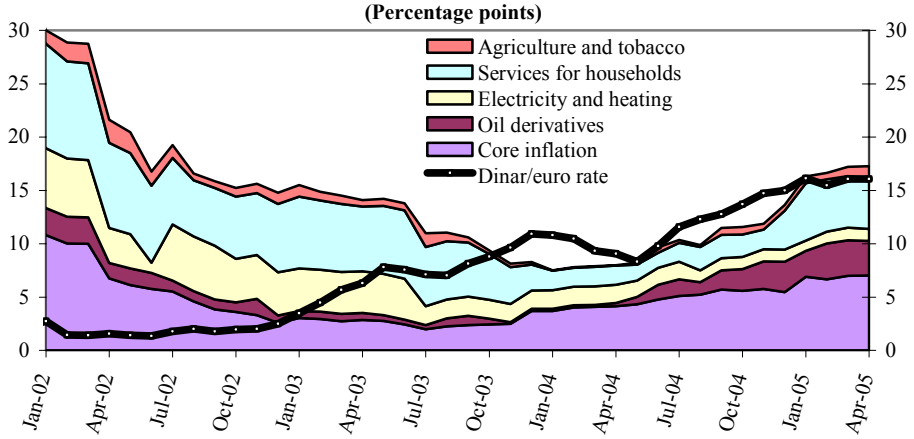
4. **Frequent changes in exchange rate policy in recent years further influenced the role of the dinar as anchor for inflation.** The exchange rate-based stabilization of 2001–02 was successful in reducing inflation from more than 100 to about 15 percent. While this strengthened the role of the exchange rate as a price anchor, the subsequent strong real appreciation of the dinar, largely reflecting weak incomes policies, reduced external competitiveness. This led to a shift in the exchange rate policy towards faster depreciation in 2003-04. However, this led to a gradual increase in prices in an environment of high euroization, and insufficient support from macroeconomic policies to contain demand. Faced with surging inflation, the pace of dinar depreciation was again reduced in early 2005. These developments further contributed to making the nominal exchange rate of the dinar a key factor for inflation for tradable and even for nontradable goods.

5. **Inflation has also been influenced by developments in administered prices, and external factors (Figures 1 and 2).** The favorable price developments in 2003 and early 2004 also benefited from low world oil prices, and moderate increases in the often volatile agricultural prices. A major disinflationary impulse also came from delayed adjustments in administered prices in the run-up to the end-2003 elections. These trends were reversed after mid-2004. Local governments raised prices for municipal services at end-2004 much beyond expectations, contributing about 3 percentage points to the inflation rate, and oil prices

[1] Prepared by Michael Gorbanyov, with contributions from Dejan Maljkovic.

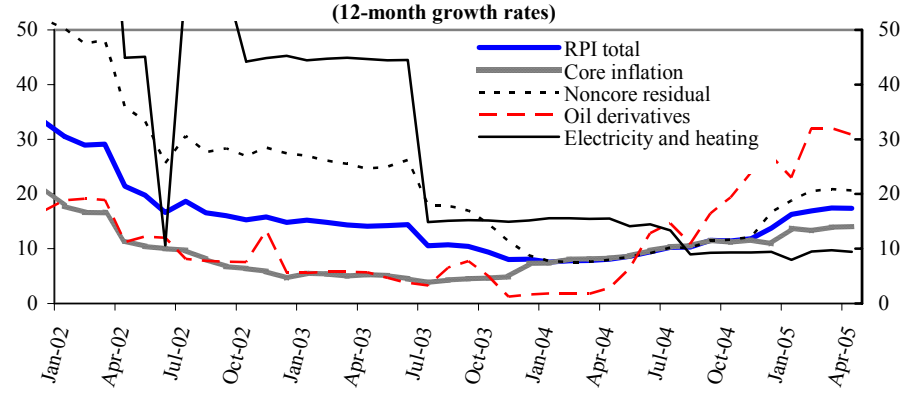
surged. Furthermore, in January 2005 the introduction of the value added tax (VAT) resulted in an additional one-time boost to inflation. Driven by all these factors, the 12-month retail price inflation (RPI) rose to 17.5 percent in May 2005, more than twice its lowest level of 7.5 percent reached in January 2004.

Figure 1. Contribution of Main Components to 12-month RPI Growth Rate and Dinar Depreciation Rate, 2002-05
(Percentage points)



Sources: Serbian Statistical Office; National Bank of Serbia; and IMF staff estimates.

Figure 2. Main Indicators of Inflation, 2002-05
(12-month growth rates)



Sources: Serbian Statistical Office; National Bank of Serbia; and IMF staff estimates.

C. Brief Review of Studies on Inflation in the Region

6. **The Serbian National Bank (NBS) has estimated a relatively weak impact from the exchange rate to inflation.** The exchange rate pass-through to prices during1997–2004 was estimated at only 0.32, which is comparable to the impact of the growth of the money supply (M1) at 0.35 on prices (NBS, 2004a). Another model with a "structural break" to accommodate the impact of exchange rate and price liberalization of October 2000 estimated the pass-through from the exchange rate to core inflation for 2001–04 as 0.4. The work on a short-term model that can provide more robust estimates of the inflation determinants for recent years is underway.

7. **Studies in other countries in the region offer a wide range of coefficients for the pass-through from the exchange rate to prices.** These range between 0.2 and 0.7, making the exchange rate an important determinant of inflation in some cases. A paper for Romania (Gueorguiev, 2003) estimated the pass-through from the exchange rate to consumer price inflation at 0.7 in the medium term, which has been reduced to 0.45 in recent years. For Russia, the pass-through from the exchange rate was estimated at 0.5–0.7 (Stavrev, 2003), and for Belarus at 0.3–0.4 (Vacher, 2004). A study for the Czech Republic identified the exchange rate movements as "by far, the most important determinant of inflation" in the short term, and also one of the most important determinants in the medium term, although no precise estimates of the pass-through were reported (Tzanninis, 2001). In Slovakia, one percent devaluation induces a "rapid" increase of prices of 0.2 percent (Kuijs, 2001). The impact of other important factors (wages or unit labor costs, money supply, output gap, interest rates, foreign inflation, world oil prices, trade balance) varies from country to country (see Mattina, 2004; Sommer, 2004; and Xiao, 2004).

8. **Other important determinants of inflation in transition countries are the so-called "catch-up" and Balassa-Samuelson effects.** As prices under central planning rarely reflected full costs, many of them have had to be adjusted drastically. This has affected in particular many prices of nontradable goods.[2] However, with the shrinking gap between domestic and world market prices, the impact of the "catch-up" effect has often been superseded by the price effects of slower productivity growth in the nontradable goods relative to tradables ─ the Balassa-Samuelson effect. While quantitative estimates of this effect's contribution to inflation for Serbia are not available, estimates for transition economies in Central Europe vary widely, between 0.2 and 4.0 percentage points per annum (for a survey of recent results, see Mihaljek and Klau, 2004).

D. Model Specifications and Output

9. **To model inflation, a medium-term (1997–2004) vector autoregression (VAR) and short-term (2001–04) vector error-correction (VEC) models were constructed**. With this approach, the analysis follows a number of studies of inflation determinants and pass-through effects prepared by Fund staff (such as Stavrev, 2003; Vacher, 2004; and Peiris, 2003). The inclusion of a cointegrating equation between the exchange rate and inflation in the short-term model, which actually transforms it into vector error-correction form, made it possible to capture the impact of the use of the dinar/euro exchange rate as a nominal anchor of inflation in 2001-04. Under this policy, a deviation of the exchange rate from the inflation

[2] For example, the consumer price of electricity in Serbia from end-2000 to end-2004 increased more than fourfold, while the headline inflation over the same period was about 90 percent. Even after the latest price increase in July 2004, the average electricity price in Serbia was only 70 percent of the average for developed countries of the Euro zone (US$0.05 per kilowatt-hour in Serbia, compared with an average of US$0.07 in the developed countries), suggesting the need for further price increases in coming years.

trend can have an impact on the inflation level, which the cointegration equation captures. As short-term models without cointegration did not produce statistically robust results, they were not used. A more sophisticated model (e.g., following the works of Belaisch, 2003; and Gueorguiev, 2003) was not attempted, given data availability constraints and the relatively small number of consistent observations after the crisis events of 1999–2000, which introduced major structural breaks in data series.[3]

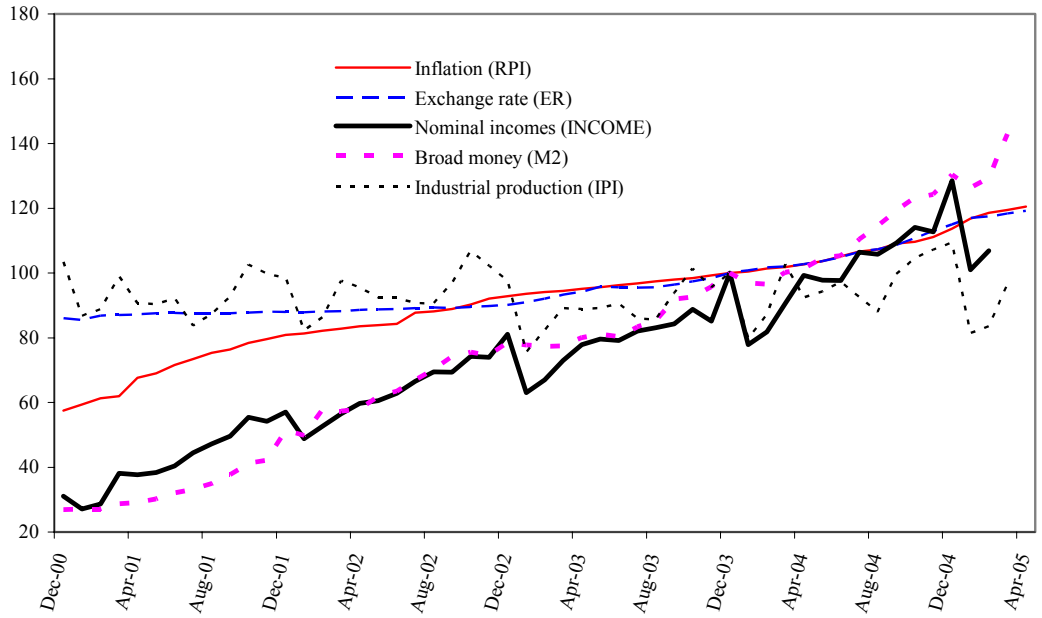
10. The models seek to explain the movements of the RPI or its subcomponents through changes in the exchange rate, nominal income, broad money, industrial production, and other variables (Figures 3 and 4; and Tables A1–A4 in the Technical Appendix).

- In the Serbian euroized economy, the best **exchange rate** indicator is the *nominal exchange rate of the dinar to euro*. For the medium-term model, a simple arithmetic average of the official and parallel market exchange rates was taken for the period of dual exchange rate regime.
- For **nominal incomes**, a seasonally adjusted proxy of a *simple average of wages and retails sales* indices was calculated.
- For **industrial production**, the *Hodrick-Prescott filter's residual of the seasonally adjusted industrial production index (IPI)* was incorporated.
- For **broad money in the short-term model**, the seasonally adjusted *M2 aggregate* (including bank deposits in foreign currencies) was selected.
- A proxy for **broad money for the medium-term model** was constructed by *combining the available data on money aggregates* into a single data series.

In addition to the basic short-term model, a modified model that breaks down the total RPI into core and residual non-core inflation components was created. The explanatory power of other variables, including wages, retail sales, and world oil prices, turned out to be insufficient to justify their inclusion in the basic models.

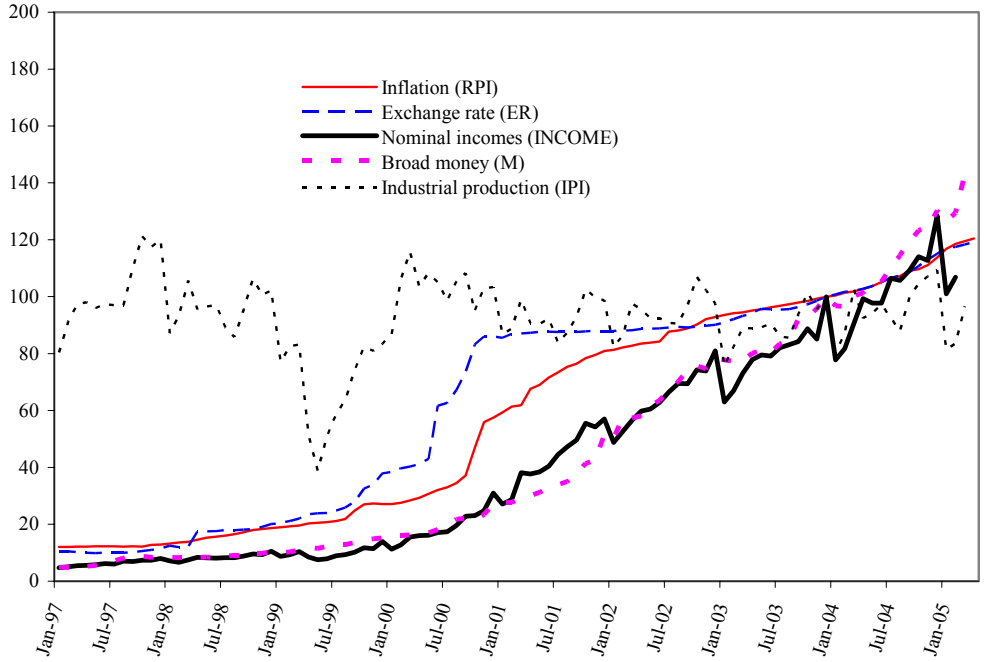
[3] The model specifications and choice of explanatory variables are discussed in more detail in the technical appendix.

Figure 3. Short-Term Model: Main Variables,
Dec. 2000-Apr. 2005
(Dec. 2003=100)



Sources: Serbian Statistical Office; National Bank of Serbia; and IMFstaff estimates.

Figure 4. Medium-Term Model: Main Variables,
Jan. 1997-Apr. 2005
(Dec. 2003=100)



Sources: Serbian Statistical Office; National Bank of Serbia; and IMFstaff estimates.

Box 1. Summary of the Model Estimates

The short-term model for 2001-04 identified the pass-through from the exchange rate as the main determinant of inflation (Table 1). The coefficient was 0.72 within 12 months, rising to 0.88 in 24 months. The impact of incomes was initially very strong, reaching 0.4 in the first 2-3 months, but it then declined to a modest 0.12 in 12 months. The impact of broad money growth was either insignificant or negative. In contrast, the pass-through from the increase in industrial production was strongly negative, reaching -0.26 in the first year. The pass-through estimates produced by the model were largely as expected, except for the broad money impact, which requires special explanation (given in Section E).

The modified short-term model confirmed a strong pass-through from the exchange rate to core inflation, while the influence of incomes was stronger for the non-core inflation residual (Table 2). To see the nuances of factor impacts, the core and non-core inflation indicators were used in the modified short-term model instead of the total RPI. The modified model revealed a very strong pass-through from the exchange rate to core inflation, reaching 0.89 within 12 months. Meanwhile, the pass-through to the noncore residual was weaker, 0.37 within one year. The pass-through from incomes was stronger to the noncore residual, although it was strong only in the first 2–3 months, and quite small, a mere 0.12 within 12 months. The negative pass-through from industrial production remained quite high, especially for core inflation, for which it was -0.36 within a one-year period. An interesting outcome of the model was the strong negative impact of the non-core residual on core inflation, as high as -0.36 within 12 months, while the reverse impact was smaller and negative as well. Although the numerical estimates of the model were not considered as reliable as the estimates of the basic short-term model, they helped in identifying the channels of transmission between the key variables.

The medium-term model for 1997-2004 also identified the pass-through from the exchange rate as the key factor of inflation, but the impact of incomes became stronger (Table 3). The model estimated the pass-through from the exchange rate at 0.39 within 12 months. At the same time, the pass-through from incomes was 0.29, while the impact of broad money and industrial production was not significant. In a modification of the medium-term model, that used the core inflation instead of total RPI, the pass-through from the exchange rate to core inflation increased to 0.47 within 12 months. However, it should be noted that, due to the major structural breaks and time-series distortions of 1999-2001, the deviations of quantitative estimates can be quite significant in the medium-term model. This calls for more sophisticated model design. However, with the paper's focus on the developments of the last three-four years, it concentrated more on improving the short-term models.

Table 1. Short-Term Model: Pass-Through from Explanatory Variables to RPI Inflation

Month	Exchange Rate (ER)	Nominal Incomes (INCOME)	Broad Money (M2)	Industrial Production (IPI)
1	0.45	0.00	0.00	0.00
2	-0.17	0.41	-0.03	-0.09
3	0.41	0.32	-0.03	-0.19
4	0.24	0.14	-0.07	-0.08
5	0.39	0.11	-0.06	-0.21
6	0.52	0.26	-0.06	-0.17
7	0.53	0.13	-0.07	-0.21
8	0.59	0.11	-0.07	-0.23
9	0.63	0.16	-0.07	-0.23
10	0.67	0.13	-0.07	-0.24
11	0.70	0.12	-0.07	-0.25
12	0.72	0.12	-0.07	-0.26
13	0.75	0.12	-0.07	-0.27
14	0.77	0.11	-0.08	-0.27
15	0.79	0.11	-0.08	-0.27
16	0.81	0.11	-0.08	-0.28
17	0.82	0.11	-0.08	-0.28
18	0.83	0.11	-0.08	-0.28
19	0.84	0.11	-0.08	-0.28
20	0.85	0.11	-0.08	-0.29
21	0.86	0.11	-0.08	-0.29
22	0.87	0.11	-0.08	-0.29
23	0.88	0.11	-0.08	-0.29
24	0.88	0.10	-0.08	-0.29

Table 3. Medium-Term Model: Pass-Through from Explanatory Variables to RPI Inflation

Month	Exchange Rate (ER)	Nominal Incomes (INCOME)	Broad Money (M2)	Industrial Production (IPI)
1	0.15	0.00	0.00	0.00
2	0.27	0.14	-0.15	-0.05
3	0.33	0.20	-0.13	-0.04
4	0.33	0.27	-0.11	0.01
5	0.35	0.30	-0.10	0.04
6	0.37	0.29	-0.10	0.04
7	0.38	0.29	-0.10	0.04
8	0.38	0.29	-0.09	0.04
9	0.39	0.30	-0.09	0.04
10	0.39	0.30	-0.09	0.04
11	0.39	0.29	-0.09	0.04
12	0.39	0.29	-0.09	0.04

Table 2. Short-Term Model: Pass-Through from Explanatory Variables to the Core Inflation and Noncore Inflation Residual

Pass-Through to Core Inflation					**Pass-Through to Noncore Inflation Residual**				
Month	Exchange rate (ER)	Nominal incomes (INCOME)	Industrial production (IPI)	Noncore residual (NONCORE RPI)	Month	Exchange rate (ER)	Nominal incomes (INCOME)	Industrial production (IPI)	Core inflation (CORE RPI)
1	0.36	0.00	0.00	0.00	1	-0.07	0.00	0.00	-0.23
2	0.27	0.19	-0.14	-0.23	2	-0.89	0.48	-0.11	-0.13
3	0.63	0.18	-0.21	-0.26	3	-0.22	0.29	-0.17	0.00
4	0.59	0.06	-0.18	-0.19	4	-0.39	0.22	-0.03	-0.07
5	0.63	0.05	-0.27	-0.30	5	-0.16	0.18	-0.15	-0.06
6	0.69	0.10	-0.26	-0.27	6	-0.06	0.25	-0.09	-0.13
7	0.73	0.07	-0.30	-0.29	7	0.01	0.17	-0.14	-0.13
8	0.77	0.05	-0.33	-0.32	8	0.10	0.15	-0.15	-0.11
9	0.80	0.07	-0.33	-0.32	9	0.18	0.16	-0.16	-0.14
10	0.84	0.07	-0.35	-0.34	10	0.25	0.14	-0.19	-0.13
11	0.87	0.06	-0.36	-0.35	11	0.31	0.12	-0.20	-0.12
12	0.89	0.06	-0.36	-0.36	12	0.37	0.12	-0.21	-0.12

Source: Model estimates.

E. The Results

11. **The impact of exchange rate policy, rising imports, and euroization can explain the high pass-through from the exchange rate to inflation in the short-term model (Box 1, Tables 1 and 2).** With cointegration of the exchange rate and inflation, this model captures the impact of the managed exchange rate policy, and produces the highest pass-through estimate. On the contrary, the modeling results for the medium term do not support the existence of a cointegration as strong as in the short run, which explains the lower estimates of the pass-through in the medium-term perspective. The following structural features of the Serbian economy may help explain the results:

- **The modeling results suggest that the policy of a managed exchange rate may have strengthened the pass-through effect, from about 0.4 in the medium term to 0.7 in recent years.**

- **The rising share of imports in Serbian GDP may also have contributed to the increase in the pass-through coefficient.** The share of imports doubled in seven years, from estimated 26 percent in 1997 to 53 percent in 2004, thus setting 0.4–0.5 as the "natural" lowest threshold for reasonable pass-through estimates for 2004-05.

- **The growing euroization of the economy may also have contributed to the strong pass-through.** The share of foreign currency deposits in total bank deposits reached 65 percent at end-2004. In the near future, the pass-through may not decline as long as the exchange rate shapes the expectations of price movements and euroization remains high. However, allowing the exchange rate more flexibility can reduce somewhat the pass-through effects, gradually bringing it down to the levels estimated by the medium-term model.

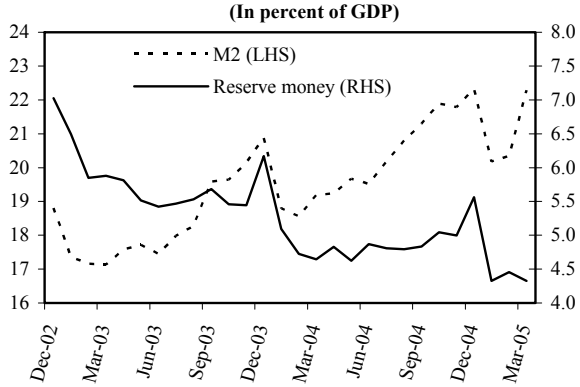
12. **The high pass-through estimates obtained are consistent with the available anecdotal evidence on price formation in Serbia.** For many items (e.g., commodities and consumer and intermediate goods without Serbian substitutes), the pass-through from international to domestic prices can be close to 1. In addition, according to anecdotal evidence, the pass-through can be very high even for nontradable services, which are not subject to foreign competition. For example, the prices for many marketable services are actually quoted in euros, with settlements made in dinars at the current exchange rate. At the same time, there are segments in which prices are isolated from the immediate pass-through impact – primarily, the administered prices that still account for about one-third of the RPI basket (excluding oil). But even for the administered prices, the periodical adjustments take into account changes in other prices or the exchange rate, thus extending the length of the pass-though and reducing, but not eliminating its strength.

13. **The low impact of incomes on inflation in the short run could be due to the influence of the exchange rate, which nullifies other impulses, as well as to the availability of imports to meet the increased demand.** Although the precise mechanism of redistribution is not quite clear, it seems that the exchange rate channel in recent years has

somehow absorbed the impact of incomes. The time pattern of the incomes effect confirms this conclusion: it is very strong in the first two-three moths after the original impulse but declines quickly in subsequent months (Tables 1 and 2). The availability of imports to meet changes in domestic demand can mitigate the impact of rising revenues as well. The Serbian market is small by European standards, the supply of imports is elastic enough to satisfy additional demand, and the exchange rate rather than demand factors determines the prices of imported goods. These conclusions find support in the results of the modified short-term model (Tables 2 and A3). The modified model reports a much stronger pass-through from the exchange rate to core inflation (which mainly reflects the prices of tradable goods) than to the noncore inflation residual, while the impact of incomes is stronger on the noncore component (which mainly reflects the prices of nontradable goods and services).

14. **The low impact of money growth on inflation can be due to high euroization.** Surprisingly, the models produced negligibly small negative estimates of the impact of broad money growth (M2) to prices (Tables 1 and 3). They may be due to the different dynamics of dinar-denominated and overall money supply (Figure 5). The dinar-denominated reserve money has not grown rapidly in recent years, while overall money supply in the economy has increased in line with the growth of euro-deposits.

Figure 5. Broad Money (M2) and Reserve Money, Dec. 2002 - Mar. 2005
(In percent of GDP)

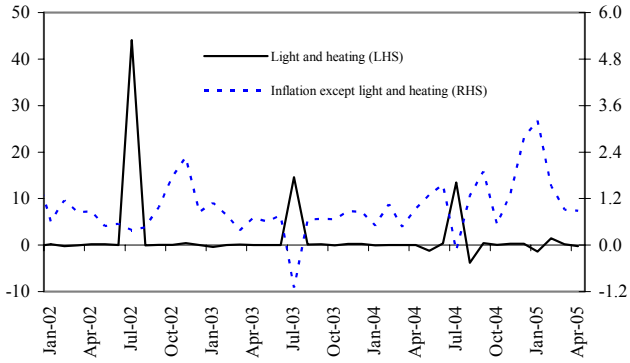


Sources: National Bank of Serbia; and IMF staff estimates.

15. **The strong negative impact of changes in industrial production to inflation in the short-term model, up to minus 0.3 within 12 months, indicates that rising output can alleviate inflation pressures (Table 1).** The supply response to changes in demand in Serbia has been weak, reflecting the small share of competitive production in the economy. Inefficient companies may have faced capacity constraints, and adjusted mainly with prices to changes in demand.

16. **The high negative relationship between the noncore inflation residual and core inflation detected by the modified short-term model can reduce the impact of changes in administered prices on inflation.** The demand of the goods and services under administered prices may be quite inelastic. For example, instead of reducing electricity

Figure 6. Impact of Electricity Price Increases, 2002-05
(Monthly percentage change)



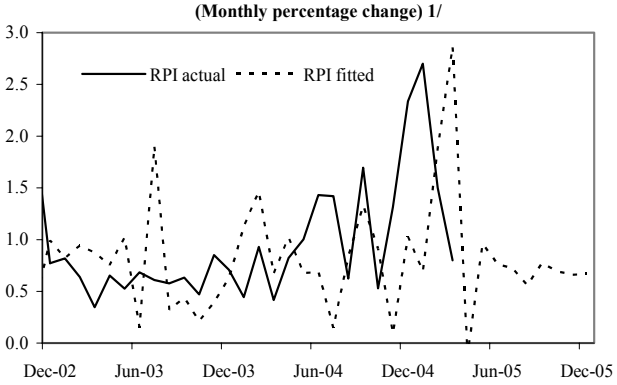
Sources: Serbian Statistical Office; and IMF staff estimates.

consumption in response to a price rise, people may adjust other purchases. This effect can be most significant for low-income groups of the population. As a result, increases in administered prices can reduce the effective demand of households for other goods and services, thus partially offsetting the direct contribution of administered price increases to inflation. For example, in the last three years, electricity price hikes took place in July. In July 2002, the average of other prices increased less than in the adjacent months, and in July 2003 and July 2004, it even declined breaking away from the trend (Figure 6). Seasonality can not fully explain this effect. On the contrary, the administered price increases can themselves form the seasonal pattern of price changes, with the next electricity price hike projected for July 2005 again and municipal price increases traditionally taking place in the end of year.[4]

F. Model Forecast of Inflation

17. **The models developed in the chapter can reconstruct the inflation rates for past periods and make inflation forecasts for the future.** The basic short-term model captures the main trend and can produce sound forecasts for a year ahead, even though it cannot precisely forecast volatile monthly inflation (Figure 7). In particular, the model failed to capture the acceleration of inflation in June-July of 2004 and then in December 2004-January 2005. In these episodes, one-time or transitory factors caused the inflation surges: in the summer, oil derivative and electricity prices rose, and, in the winter, the municipal price increased and the impact of the VAT introduction was felt. According to the model calculations, the nominal devaluation of the dinar over 2005 should not exceed 5 percent in order to keep RPI inflation in single digits at end-2005. For a 10 percent nominal devaluation of the dinar over 2005, the model forecast inflation of about 12 percent, consistent with nominal incomes growth of about 15 percent and a 21 percent increase in broad money (Table 4).

Figure 7. Short-Term Model: Actual and Fitted Inflation, Dec. 2002 - Dec. 2005
(Monthly percentage change) 1/



Sources: Serbian Statistical Office; and model estimates.
1/ Forecasts for 2005 are for Scenario 2 from table 4.

[4] Further research is needed to confirm the existence of this effect in the Serbian economy and quantify its impact on inflation more precisely. It can not be ruled out that the price reductions that took place in July 2003 and July 2004 simply coincided with the electricity price increases, and the same coincidence will not reoccur again.

Table 4. Short-Term Model: Forecast for 2005
(Percent change during the year)

	Exchange Rate (ER)	Inflation (RPI)	Nominal Incomes (INCOME)	Broad Money (M2)
Scenario 1	5	10	9	28
Scenario 2	10	12	14	21
Scenario 3	15	13	19	15

Source: Model estimates.

Technical Appendix

A. Data Availability and Adjustments

RPI vs. CPI as the measure of inflation

The model uses the RPI as the main measure of inflation, rather than the more conventional indicator, the CPI, which reports slightly different inflation figures. While the Serbian CPI is closer to standard CPI methodology, the RPI is broader and historically has been considered by the government and mass media as the main indicator of inflation. For these reasons it has also been the main index of inflation in the Fund programs with Serbia. From the medium-term perspective, the RPI and CPI produce broadly the same picture of inflation. In the last ten years, there were large deviations between the two only during the major price disturbance of 2001-02. However, in the short run, even the small deviations between RPI and CPI become important, thus making the choice of inflation indicator non-trivial.

Core inflation, wages data, and incomes proxy

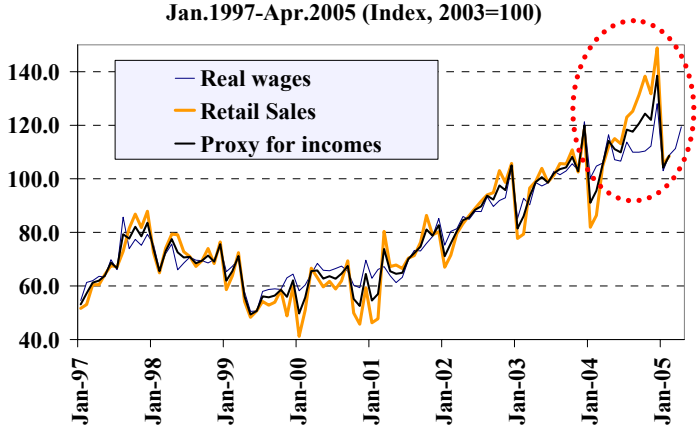
The core inflation index reveals the trend of the RPI index cleared of the impact of administered and volatile prices. The model uses the core inflation index constructed by the staff in close cooperation with the NBS Research Department. This index excludes food, tobacco, energy and oil products, as well as communal, transport, and other services with administered prices, which together account for about half of the RPI basket. Another option would be to use the core inflation index calculated and published by the NBS. However, despite all the advantages of the NBS index, there are certain features that make it less reliable for projecting the inflation trends. The NBS index filters out the administered prices but does not exclude the food prices, which are subject to seasonal fluctuations, and does not exclude some other prices that, although not directly administered, are still subject to abrupt changes. The choice of the core inflation index can have an impact on the quantitative estimates of the models but not on the overall conclusions.[5]

A proxy for disposable incomes was calculated as the simple average of wage and retail sales indices (Figure A1)**.** This is because wage data may not fully capture households' purchasing power as they have other sources of income such as remittances from abroad, privatization and share sales, bonds issued for past losses in savings, and social transfers. The short-term models (covering the period since 2001) with the original wage index produced a "wrong-signed" coefficient for the wages, confirming data inconsistency. Another feasible approach would be to take the retail sales index as a reasonable proxy for incomes; however,

[5] See NBS, 2004b for comparison of various core inflation measures.

the officially reported retail sales for 2004 could have an upward bias due to the compulsory introduction of cash registers at the beginning of the year.

Figure A1. Real Wages and Retail Sales, Jan.1997-Apr.2005 (Index, 2003=100)



Source: Serbian Statistical Office; and staff estimates.

Seasonal adjustments

For the models, three variables with strong seasonal patterns were seasonally adjusted, while for two key variables with unclear or unstable seasonality the adjustment was not performed. Broad money, industrial production, and proxy for incomes demonstrated strong stable seasonal pattern, and for these variables seasonal adjustment was performed prior to the model exercises. On the contrary, the exchange rate and inflation did not present a stable seasonal pattern, which can be partially explained by policies affecting these variables (exchange rate policy and the high share of administered prices in the RPI basket). Seasonal adjustment of the exchange rate and inflation may also have resulted in the loss of important information on interdependencies in the models. For example, the strength of the cointegrating relation declined significantly between the seasonally adjusted exchange rate and inflation.

Table A1. Variables and Their Modifications in the Models 1/

RPI	Retail Price Index
CORE_RPI	Core inflation index calculated by the staff; *excludes* the prices for food, tobacco, energy, and oil products, communal, transportation and other regulated services
NONCORE_RPI	Index of prices for non-core components (residual) of the RPI basket, *includes* the prices for food, tobacco, energy, and oil products, communal, transportation and other regulated services
ER	Nominal exchange rate of dinar to euro (dinars per 1 euro)
INCOME	Proxy for nominal disposable incomes of the households, calculated as simple average of wage and retail sales indices
M2	Broad money, includes the bank deposits nominated in foreign currencies
M	Proxy for broad money in the medium-term model that combined the available data on money aggregates into single data series
IPI	Industrial production index
IPI_SA_CYCLE	Hodrick-Prescott filter's residual of the seasonally adjusted industrial production index (IPI)
C	Constant
_SA	Indicates that the basic variable undergone a seasonal adjustment procedure
_DIFF or D( )	Indicates that first difference of the basic variable was inputted into a model
(-1) or (-2)	Indicates first or second lag of the basic variable

Sources: Serbian Statistical Office; National Bank of Serbia; and staff estimates

1/ All variable were expressed as natural logarithms of their indices (with December 2003 = 100) prior to inclusion in the model exercises.

Table A2. Short-Term Model: Vector Error-Correction Estimates

Sample (adjusted): 2001M03 2004M10
Included observations: 44 after adjustments
Standard errors in ( ) & t-statistics in [ ]

Cointegration Restrictions:
B(1,3)=0, B(1,4)=0, B(1,5)=0
Convergence achieved after 5 iterations.
Not all cointegrating vectors are identified
LR test for binding restrictions (rank = 1):

Chi-square(3)	3.058842
Probability	0.382642

Cointegrating Eq:	CointEq1
RPI(-1)	-21.41783
ER(-1)	19.76170
INCOME_SA(-1)	0.000000
M2_SA(-1)	0.000000
IPI_SA_CYCLE(-1)	0.000000
C	6.364260

Error Correction:	D(RPI)	D(ER)	D(INCOME_SA)	D(M2_SA)	D(IPI_SA_CYCLE)
CointEq1	0.003232	-0.000313	0.021712	0.004225	0.008704
	(0.00135)	(0.00062)	(0.00455)	(0.00488)	(0.00429)
	[2.39126]	[-0.50459]	[4.76765]	[0.86645]	[2.02977]
D(RPI(-1))	-0.016082	0.043706	-0.103206	-0.381511	-1.291723
	(0.16259)	(0.07459)	(0.54781)	(0.58654)	(0.51580)
	[-0.09891]	[0.58595]	[-0.18840]	[-0.65044]	[-2.50430]
D(RPI(-2))	0.070518	-0.061138	-0.957745	0.340435	-0.363228
	(0.13941)	(0.06396)	(0.46970)	(0.50292)	(0.44226)
	[0.50582]	[-0.95595]	[-2.03904]	[0.67692]	[-0.82129]
D(ER(-1))	-0.711961	0.412164	2.106651	-0.913181	1.161644
	(0.28965)	(0.13288)	(0.97586)	(1.04487)	(0.91885)
	[-2.45804]	[3.10190]	[2.15876]	[-0.87396]	[1.26424]
D(ER(-2))	0.814767	0.249610	-1.668158	-1.089061	0.507397
	(0.30286)	(0.13894)	(1.02039)	(1.09254)	(0.96077)
	[2.69024]	[1.79656]	[-1.63483]	[-0.99681]	[0.52811]
D(INCOME_SA(-1))	0.143375	-0.020379	-0.632540	-0.011927	-0.307171

	(0.04710)	(0.02161)	(0.15869)	(0.16991)	(0.14942)
	[3.04409]	[-0.94319]	[-3.98611]	[-0.07020]	[-2.05582]
D(INCOME_SA(-2))	0.003009	-0.022244	-0.515134	-0.017054	0.133016
	(0.05835)	(0.02677)	(0.19659)	(0.21050)	(0.18511)
	[0.05156]	[-0.83097]	[-2.62028]	[-0.08102]	[0.71858]
D(M2_SA(-1))	-0.020494	-0.005722	-0.028662	-0.274265	0.108435
	(0.04270)	(0.01959)	(0.14385)	(0.15402)	(0.13545)
	[-0.47999]	[-0.29214]	[-0.19925]	[-1.78069]	[0.80058]
D(M2_SA(-2))	-0.022673	-0.007214	-0.070917	0.335448	0.177395
	(0.04223)	(0.01937)	(0.14228)	(0.15234)	(0.13397)
	[-0.53690]	[-0.37238]	[-0.49844]	[2.20197]	[1.32418]
D(IPI_SA_CYCLE(-1))	-0.057686	-0.035989	-0.236637	0.213042	-0.329452
	(0.05262)	(0.02414)	(0.17727)	(0.18981)	(0.16692)
	[-1.09635]	[-1.49100]	[-1.33487]	[1.12240]	[-1.97376]
D(IPI_SA_CYCLE(-2))	-0.084043	-0.073850	0.049922	0.176542	-0.209748
	(0.04892)	(0.02244)	(0.16482)	(0.17648)	(0.15519)
	[-1.71792]	[-3.29058]	[0.30288]	[1.00035]	[-1.35151]
C	0.009506	0.003926	0.075889	0.043448	0.008941
	(0.00567)	(0.00260)	(0.01909)	(0.02044)	(0.01797)
	[1.67788]	[1.51063]	[3.97576]	[2.12588]	[0.49747]
R-squared	0.743830	0.633113	0.631108	0.454595	0.369681
Adj. R-squared	0.655772	0.506995	0.504301	0.267113	0.153008
Sum sq. resids	0.002294	0.000483	0.026043	0.029856	0.023089
S.E. equation	0.008467	0.003884	0.028528	0.030545	0.026861
F-statistic	8.447011	5.020019	4.976931	2.424731	1.706175
Log likelihood	154.5204	188.8073	101.0752	98.06874	103.7239
Akaike AIC	-6.478198	-8.036696	-4.048871	-3.912215	-4.169268
Schwarz SC	-5.991601	-7.550099	-3.562274	-3.425618	-3.682671
Mean dependent	0.013217	0.005508	0.027530	0.033910	-0.000221
S.D. dependent	0.014432	0.005532	0.040519	0.035680	0.029187

Determinant resid covariance (dof adj.)	4.04E-19
Determinant resid covariance	8.22E-20
Log likelihood	654.6286
Akaike information criterion	-26.80130
Schwarz criterion	-24.16556

Figure A2. Short-Term Model: Responses to Cholesky One-Standard-Deviation Innovations

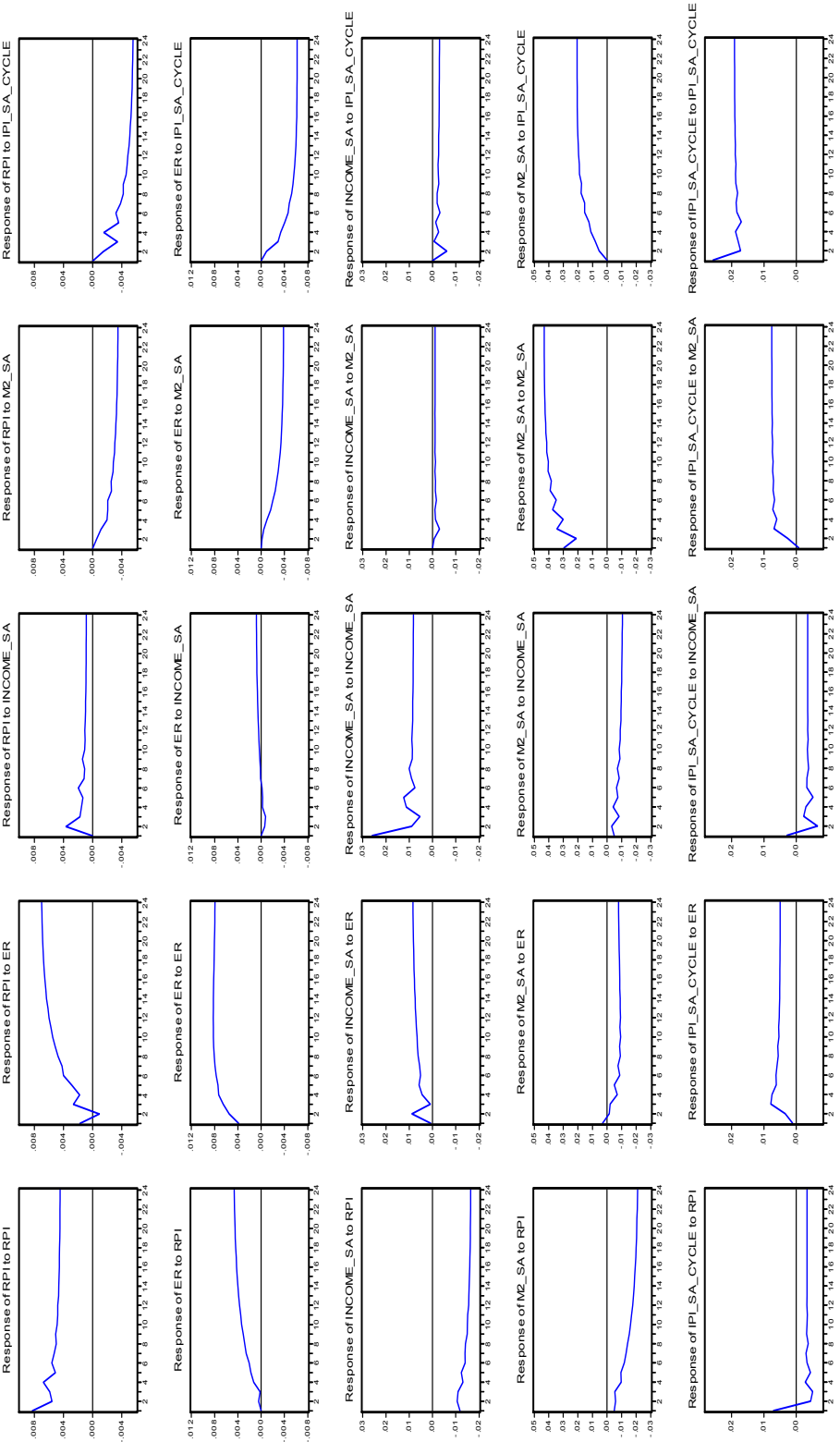


Table A3. Modified Short-Term Model: Vector Error-Correction Estimates

Sample (adjusted): 2001M03 2004M10
Included observations: 44 after adjustments
Standard errors in ( ) & t-statistics in [ ]

Cointegration Restrictions:
B(1,4)=0, B(1,5)=0
Convergence achieved after 14 iterations.
Not all cointegrating vectors are identified
LR test for binding restrictions (rank = 1):

Chi-square(2)	18.66546
Probability	0.000088

Cointegrating Eq:	CointEq1
CORE_RPI(-1)	-11.48962
NONCORE_RPI(-1)	-7.534333
ER(-1)	18.99598
INCOME_SA(-1)	0.000000
IPI_SA_CYCLE(-1)	0.000000
C	-0.741001

Error Correction:	D(CORE_RPI)	D(NONCORE_RPI)	D(ER)	D(INCOME_SA)	D(IPI_SA_CYCLE)
CointEq1	0.002416	0.002776	-0.000862	0.026202	0.008001
	(0.00104)	(0.00322)	(0.00076)	(0.00597)	(0.00549)
	[2.33378]	[0.86210]	[-1.13360]	[4.39026]	[1.45872]
D(CORE_RPI(-1))	0.203169	0.368027	0.119871	-1.134512	0.251952
	(0.14952)	(0.46518)	(0.10985)	(0.86212)	(0.79233)
	[1.35880]	[0.79114]	[1.09121]	[-1.31596]	[0.31799]
D(CORE_RPI(-2))	0.055508	0.422493	0.094826	0.084685	0.328389
	(0.14853)	(0.46210)	(0.10912)	(0.85641)	(0.78708)
	[0.37371]	[0.91428]	[0.86898]	[0.09888]	[0.41722]
D(NONCORE_RPI(-1))	-0.101635	-0.026594	-0.010034	0.091715	-0.865671
	(0.05413)	(0.16840)	(0.03977)	(0.31209)	(0.28683)
	[-1.87769]	[-0.15792]	[-0.25231]	[0.29387]	[-3.01805]
D(NONCORE_RPI(-2))	-0.059263	-0.023144	-0.074742	-0.540478	-0.404190
	(0.05685)	(0.17687)	(0.04177)	(0.32779)	(0.30126)
	[-1.04245]	[-0.13085]	[-1.78950]	[-1.64885]	[-1.34168]

D(ER(-1))	-0.187040	-1.499056	0.357461	2.242809	0.135801
	(0.17020)	(0.52953)	(0.12505)	(0.98137)	(0.90193)
	[-1.09892]	[-2.83091]	[2.85862]	[2.28539]	[0.15057]
D(ER(-2))	0.424142	0.803339	0.221984	-1.887439	-0.153266
	(0.17357)	(0.54000)	(0.12752)	(1.00077)	(0.91976)
	[2.44365]	[1.48766]	[1.74079]	[-1.88598]	[-0.16664]
D(INCOME_SA(-1))	0.078887	0.188303	-0.013681	-0.599864	-0.214932
	(0.02796)	(0.08700)	(0.02054)	(0.16124)	(0.14819)
	[2.82100]	[2.16438]	[-0.66588]	[-3.72038]	[-1.45042]
D(INCOME_SA(-2))	0.014663	-0.041935	-0.021497	-0.372280	0.068500
	(0.03432)	(0.10678)	(0.02522)	(0.19790)	(0.18188)
	[0.42722]	[-0.39272]	[-0.85253]	[-1.88120]	[0.37663]
D(IPI_SA_CYCLE(-1))	-0.084139	-0.069600	-0.050725	-0.240985	-0.393387
	(0.03254)	(0.10123)	(0.02391)	(0.18762)	(0.17243)
	[-2.58577]	[-0.68751]	[-2.12185]	[-1.28445]	[-2.28144]
D(IPI_SA_CYCLE(-2))	-0.073651	-0.077507	-0.075921	-0.026425	-0.160954
	(0.03060)	(0.09519)	(0.02248)	(0.17641)	(0.16213)
	[-2.40720]	[-0.81424]	[-3.37751]	[-0.14979]	[-0.99273]
C	0.005172	0.012028	0.003261	0.069761	0.022640
	(0.00271)	(0.00844)	(0.00199)	(0.01565)	(0.01438)
	[1.90567]	[1.42456]	[1.63540]	[4.45798]	[1.57423]
R-squared	0.722595	0.562007	0.671435	0.622760	0.385888
Adj. R-squared	0.627237	0.411447	0.558491	0.493083	0.174787
Sum sq. resids	0.000801	0.007754	0.000432	0.026632	0.022495
S.E. equation	0.005003	0.015566	0.003676	0.028849	0.026514
F-statistic	7.577711	3.732782	5.944843	4.802411	1.827976
Log likelihood	177.6688	127.7290	191.2344	100.5828	104.2970
Akaike AIC	-7.530398	-5.260408	-8.147017	-4.026493	-4.195317
Schwarz SC	-7.043801	-4.773811	-7.660420	-3.539895	-3.708720
Mean dependent	0.008113	0.017671	0.005508	0.027530	-0.000221
S.D. dependent	0.008195	0.020291	0.005532	0.040519	0.029187

Determinant resid covariance (dof adj.)	3.52E-20
Determinant resid covariance	7.17E-21
Log likelihood	708.2850
Akaike information criterion	-29.24023
Schwarz criterion	-26.60449

Figure A3. Modified Short-Term Model: Responses to Cholesky One-Standard-Deviation Innovations

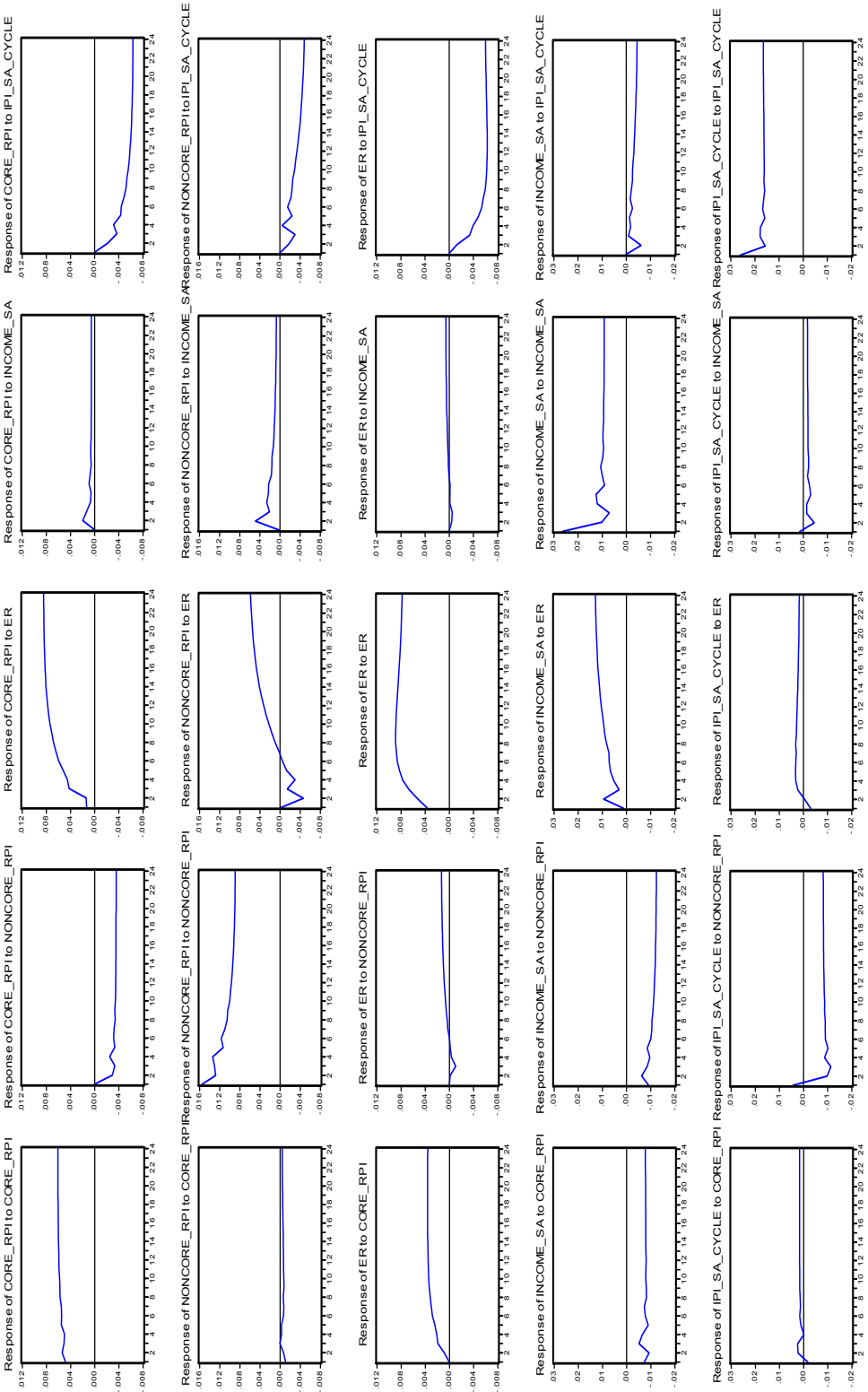


Table A4. Medium-Term Model: Vector Autoregression Estimates

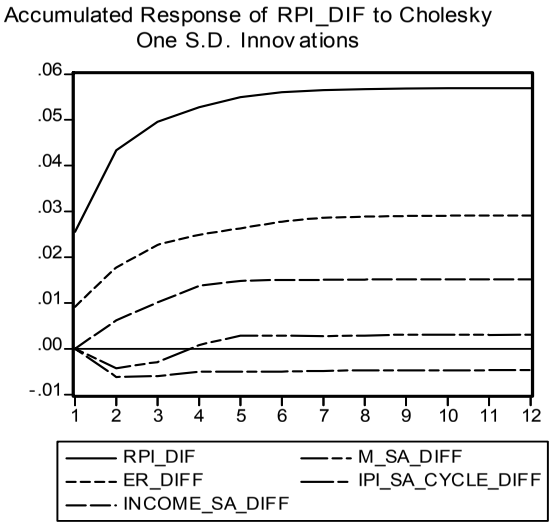
Sample (adjusted): 1997M04 2004M10
Included observations: 91 after adjustments
Standard errors in ( ) & t-statistics in [ ]

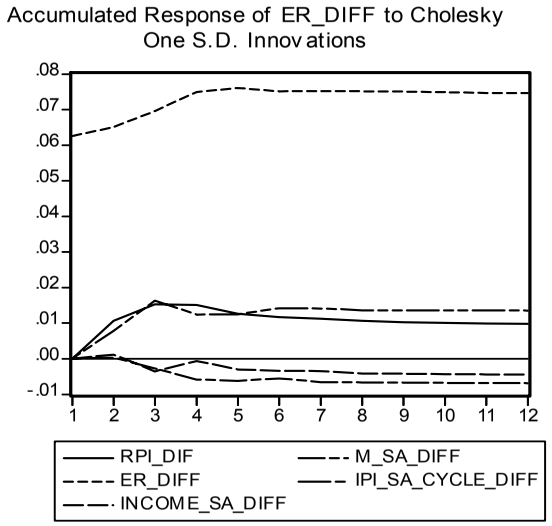
	RPI_DIF	ER_DIFF	INCOME_SA_DIFF	M_SA_DIFF	IPI_SA_CYCLE_DIFF
RPI_DIF(-1)	0.593587	0.455830	0.491676	0.244750	-0.059828
	(0.11880)	(0.27368)	(0.22185)	(0.16559)	(0.34410)
	[4.99640]	[1.66554]	[2.21627]	[1.47806]	[-0.17387]
RPI_DIF(-2)	-0.166952	-0.023669	0.354129	0.092334	-0.056610
	(0.11037)	(0.25425)	(0.20610)	(0.15383)	(0.31967)
	[-1.51269]	[-0.09309]	[1.71826]	[0.60023]	[-0.17709]
ER_DIFF(-1)	-0.001349	0.005366	-0.092476	-0.005117	0.005075
	(0.05134)	(0.11827)	(0.09587)	(0.07156)	(0.14870)
	[-0.02627]	[0.04537]	[-0.96460]	[-0.07151]	[0.03413]
ER_DIFF(-2)	0.058580	0.074937	-0.023470	-0.050100	0.134088
	(0.05119)	(0.11792)	(0.09559)	(0.07135)	(0.14826)
	[1.14443]	[0.63550]	[-0.24554]	[-0.70222]	[0.90443]
INCOME_SA_DIFF(-1)	0.185002	-0.062931	-0.394575	0.090770	-0.042509
	(0.06483)	(0.14934)	(0.12105)	(0.09036)	(0.18776)
	[2.85381]	[-0.42140]	[-3.25947]	[1.00458]	[-0.22640]
INCOME_SA_DIFF(-2)	0.036721	-0.282498	-0.154113	-0.099947	-0.069766
	(0.06573)	(0.15143)	(0.12275)	(0.09162)	(0.19039)
	[0.55863]	[-1.86555]	[-1.25551]	[-1.09088]	[-0.36644]
M_SA_DIFF(-1)	-0.160950	-0.016171	0.026277	0.129954	-0.413604
	(0.08235)	(0.18971)	(0.15378)	(0.11478)	(0.23852)
	[-1.95442]	[-0.08524]	[0.17087]	[1.13217]	[-1.73403]
M_SA_DIFF(-2)	0.086288	0.016819	0.262047	0.199992	0.096771
	(0.08016)	(0.18466)	(0.14969)	(0.11173)	(0.23218)
	[1.07644]	[0.09108]	[1.75060]	[1.78997]	[0.41680]
IPI_SA_CYCLE_DIFF(-1)	-0.064048	0.116618	0.354866	-0.010857	0.283275
	(0.04258)	(0.09808)	(0.07951)	(0.05934)	(0.12332)
	[-1.50427]	[1.18896]	[4.46329]	[-0.18294]	[2.29707]

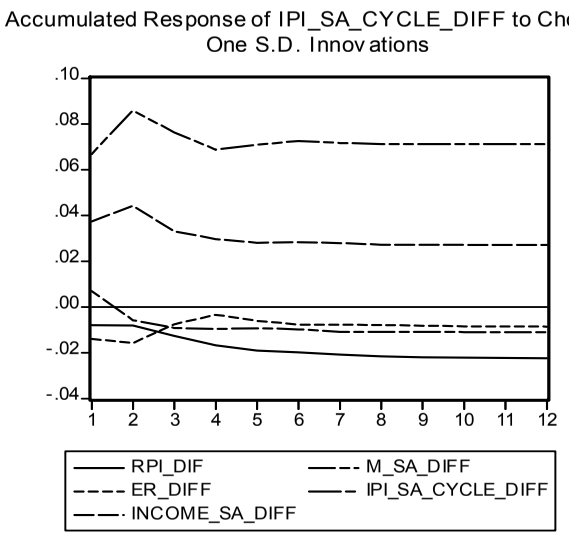
IPI_SA_CYCLE_DIFF(-2)	0.008694	0.144196	0.108899	-0.000780	-0.215505
	(0.04640)	(0.10689)	(0.08665)	(0.06467)	(0.13439)
	[0.18738]	[1.34898]	[1.25680]	[-0.01207]	[-1.60353]
C	0.007622	0.024783	0.022968	0.017041	0.014736
	(0.00547)	(0.01260)	(0.01021)	(0.00762)	(0.01584)
	[1.39405]	[1.96761]	[2.24961]	[2.23612]	[0.93051]
R-squared	0.457715	0.095105	0.300216	0.145359	0.142172
Adj. R-squared	0.389929	-0.018006	0.212743	0.038529	0.034944
Sum sq. resids	0.058931	0.312742	0.205497	0.114486	0.494373
S.E. equation	0.027141	0.062524	0.050682	0.037830	0.078611
F-statistic	6.752390	0.840809	3.432095	1.360652	1.325880
Log likelihood	204.9488	129.0088	148.1164	174.7329	108.1739
Akaike AIC	-4.262611	-2.593600	-3.013547	-3.598524	-2.135689
Schwarz SC	-3.959100	-2.290089	-2.710037	-3.295014	-1.832179
Mean dependent	0.024142	0.026161	0.032712	0.034928	0.000596
S.D. dependent	0.034749	0.061969	0.057121	0.038580	0.080021

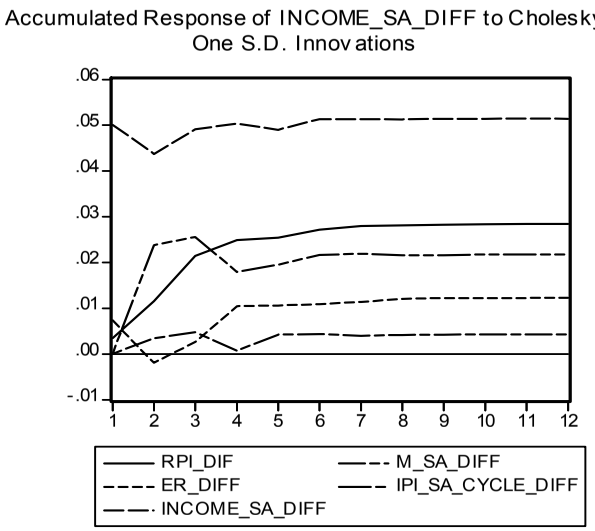
Determinant resid covariance (dof adj.)	3.69E-14
Determinant resid covariance	1.94E-14
Log likelihood	791.0663
Akaike information criterion	-16.17728
Schwarz criterion	-14.65973

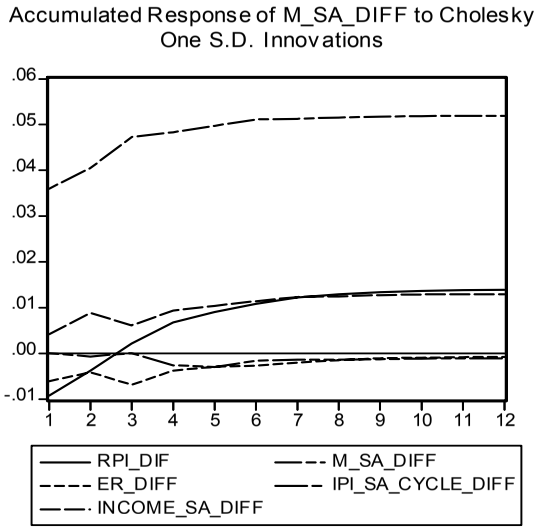
Figure A4. Medium-Term Model: Responses to Cholesky One-Standard-Deviation Innovations











References

Belaisch, Agnès, 2003, "Exchange Rate Pass-Through in Brazil," IMF Working Paper 03/141 (Washington: International Monetary Fund).

Gueorguiev, Nikolay, 2003, "Exchange Rate Pass-Through in Romania," IMF Working Paper 03/130 (Washington: International Monetary Fund).

Kuijs, Louis, 2001, "Monetary Policy Transmission Mechanisms and Inflation Modeling in Slovakia," Chapter III of *Slovak Republic: Selected Issues and Statistical Appendix*, IMF Country Report No. 01/129 by Costas Christou and others (Washington: International Monetary Fund).

Mattina, Todd, 2004, "Understanding the Serbian Exchange-Rate Based Stabilization" (unpublished; Washington: International Monetary Fund).

Maliszewski, Wojciech, 2003, "Inflation in Georgia," Chapter I of *Georgia: Selected Issues and Statistical Appendix*, IMF Country Report No. 03/347 by Paulo Neuhaus and others (Washington: International Monetary Fund).

Mihaljek, Dubravko; Klau, Marc, 2004, "The Balassa–Samuelson Effect in Central Europe: A Disaggregated Analysis," in *Comparative Economic Studies*, No.46, pp. 63–94.

NBS, 2004a, "What Influences the Inflation Rate in Serbia?" *Economic Review*, National Bank of Serbia (July) – pp. 29–39.

NBS, 2004b, "Inflation – Measuring Methods," *Economic Review*, National Bank of Serbia (October) – pp. 30–35.

Peiris, Shanaka J., 2003, "Inflation Dynamics in Vietnam," Chapter I of *Vietnam: Selected Issues*, IMF Country Report No. 03/381 by Olaf Unteroberdoerster and others (Washington: International Monetary Fund).

Sommer, Martin, 2004, "Inflation in Slovenia: Recent Developments and Outlook," Chapter I of *Republic of Slovenia: Selected Issues and Statistical Appendix*, IMF Country Report No. 04/149 by Jarkko Soikkeli and Martin Sommer (Washington: International Monetary Fund).

Stavrev, Emil, 2003, "The Pass-Through from the Nominal Exchange Rate to Inflation," in *Russian Federation: Selected Issues*, IMF Country Report No. 03/146 by Angana Banerji and others (Washington: International Monetary Fund).

Tzanninis, Dimitri, 2001, "Modeling Inflation in Czech Republic: Short-Run and Long-Run Dynamics," in *Czech Republic: Selected Issues and Statistical Appendix*, IMF Country Report No. 01/112 by Dimitri Tzanninis and Rachel van Elkan (Washington: International Monetary Fund).

Vacher, Jérôme, 2004, "Estimates of Exchange Rate Pass-Through," in *Republic of Belarus: Selected Issues*, IMF Country Report No.04/139 by Veronica Bacalu and others (Washington: International Monetary Fund).

Xiao, Yuan, 2004, "Modeling Inflation in Latvia," Chapter II of *Republic of Latvia: Selected Issues*, IMF Country Report No. 04/261 by Francesco Luna and others (Washington: International Monetary Fund).

V. EUROIZATION IN SERBIA: MACROECONOMIC, PRUDENTIAL, AND POLICY IMPLICATIONS[1]

A. Introduction

1. **This chapter examines the causes and consequences of the high level of euroization in Serbia**.[2] Financial euroization (Box 1) is prevalent, with more than two thirds of total deposits denominated in euro, and at least two thirds of all loans either denominated in euro or indexed to the euro. In addition, payments euroization is common, especially for big ticket items, and many prices are de facto linked to the dinar (SRD)/euro exchange rate.

2. **While euroization has had some benefits during Serbia's difficult transition period, it also involves significant costs by compounding banking sector vulnerabilities and limiting macroeconomic policy options.** In particular, with most new bank lending being indexed to the euro, banks are subject to indirect credit risk, as borrowers without euro cash flow are vulnerable to unexpected exchange rate depreciation. This risk, which has significantly increased in the context of rapid credit growth, poses major challenges for banks and banking supervision. Moreover, high euroization, also reduces the effectiveness of monetary policy and promotes a "fear of floating."

3. **While this chapter does not suggest an approach that directly aims at reducing euroization, it makes a case for containing euroization and minimizing associated risks.** The chapter is organized as follows: Section B looks at recent trends and compares euroization in Serbia with international experience; Section C examines the causes for the limited use of the local currency; Section D discusses the benefits and costs of the high level of euroization and assesses key risks; and Section E examines policy options for both containing euroization and managing these risks.

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[1] Prepared by Neil Saker and Andreas Westphal.

[2] In this paper, the concepts of euroization and dollarization are used synonymously for currency and asset substitution. When specifically discussing developments in Serbia, the paper refers to euroization, but in looking at the wider international and theoretical context, the note follows the usual practice in the literature and refers to dollarization.

Box 1. Dollarization: Key Concepts

Dollarization and euroization can be defined as the use of foreign currency as a store of value, a medium of exchange, or a unit of account. The use of foreign currency in domestic transactions can be further categorized:

- **Financial dollarization** develops when residents hold financial assets or liabilities in foreign currency-denominated instruments. Asset substitution is the use of foreign currency-denominated assets as a store of value, and liability dollarization signifies the denomination of deposits in foreign currency.

- **Payments dollarization** refers to the use by residents of foreign exchange as a medium of exchange for retail or wholesale transactions. This phenomenon is also known as currency substitution.

- **Real dollarization** occurs when domestic prices and wages are indexed to the exchange rate.

"Official dollarization" occurs when a country has officially adopted another country's currency (e.g., Montenegro). In contrast, the terms "de facto dollarization" or "bicurrency system" refer to the use of a foreign currency that has not been granted the status of legal tender. Modern theories of financial dollarization focus on rational decisions by economic agents in the context of a bicurrency system that allows choosing between holding local currency or dollars. In this context, dollarization can be explained as a risk hedging instrument to limit the volatility of total returns in a multiple currency portfolio (Ize and Levy-Yeyati, 2005).

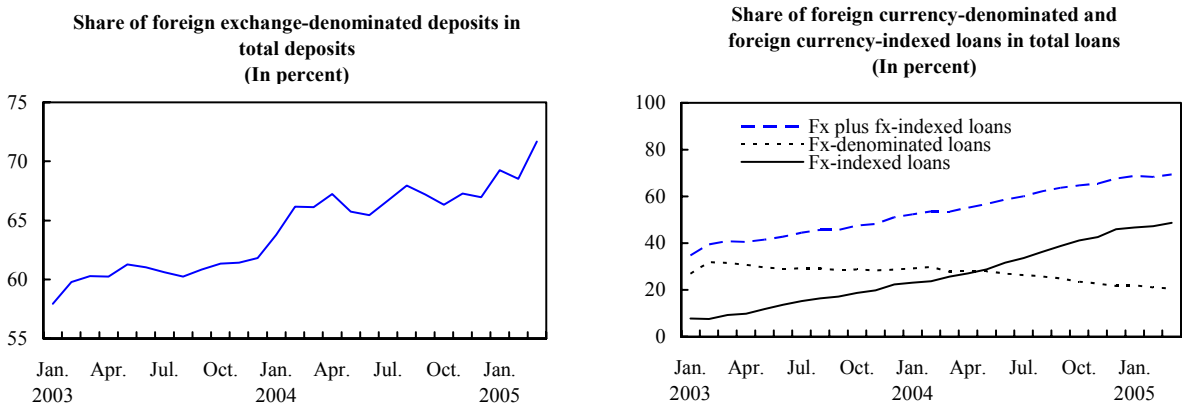
Creditors prefer to denominate contracts in foreign currency when this currency is expected to provide a more stable and less risky medium for intermediation. With macroeconomic volatility, lending in local currency may be more risky than dollar lending as real interest rates can be expected to be higher and more volatile. In the context of high and volatile inflation, contracts in dollars can provide for a better hedge against risk, particularly in the context of unstable macroeconomic conditions and uncertainty with respect to future economic policies. They may thus be welfare enhancing.

Country experience from around the world indicates that the degree of dollarization tends to increase with inflation. At lower levels of inflation, financial dollarization emerges ahead of payments dollarization, with the latter being largely limited to payments in foreign currency for big ticket items (e.g., real estate). However, as inflation rises, financial dollarization becomes pervasive and payments dollarization becomes more common for a broad range of transactions. Real dollarization is relatively unusual except during episodes of high inflation, although once in place, it may be difficult to reduce real dollarization (e.g., as in Chile).

B. Recent Developments and International Comparison

4. **Liability euroization in Serbia is high and rising**. The share of foreign currency-denominated deposits in total deposits rose from 54 percent in 2002 Q3 to 67 percent at end-2004 (Figure 1). The main driving force of liability euroization has been the continued increase in households' euro-denominated deposits on the back of rising real wages and remittances (relative to GDP, the latter increased from 11 percent in 2002 to 14 percent in 2004). Households convert dinar wages and salaries into euro at frequent intervals. Moreover, reflecting increasing confidence in the banking system, households have converted foreign banknotes ("mattress money") into euro-denominated deposits (notably in the context of the introduction of euro-banknotes in 2002).[3]

Figure 1. Euroization of Deposits and Loans, 2003—05



Sources: National Bank of Serbia; and IMF staff calculations.

5. **Bank lending has been increasingly indexed to the euro, as foreign banks are hedging against exchange rate risk**. The share of foreign currency-denominated and foreign currency-indexed loans in total loans to the nongovernment sector has risen to 70 percent. Especially, the newly established foreign banks are increasingly granting euro-indexed loans as a hedging strategy.[4] The principal is adjusted on a monthly basis to reflect changes in the dinar/euro exchange rate, while the interest is calculated on the basis of the adjusted principal. Lending rates are, therefore, primarily determined by the Euribor, the country risk premium, and changes in the dinar/euro exchange rate.[5]

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[3] The portfolio shift from D-Mark banknotes to euro-denominated deposits was supported by more favorable terms for non-cash conversion.

[4] The Foreign Exchange Law allows the extension of foreign currency-denominated loans only to exporters.

[5] In addition, interest rates also reflect the cost of statutory reserve requirements (SRR), currently at 47 percent for foreign currency-denominated household deposits and 26 percent

(continued)

6. **Payments euroization and real euroization have remained partial**. Anecdotal evidence suggests that payments euroization is limited to high value items such as real estate, cars, and high-end consumer goods. Property transactions and rents are typically priced and settled in euro. All official transactions, such as taxes and social security contributions, have to be paid in dinars. While the pass-through from exchange rate-changes to inflation has risen significantly during the past two years, it has not reached unity.[6] This primarily reflects: (i) the fact that wages are still predominantly denominated in dinar; and (ii) the high proportion of administered prices in the RPI basket.[7] In particular, wages in the public sector, which still accounts for more than half of total employment, are set in line with fiscal targets and there is only limited evidence of automatic exchange rate-indexation of private sector wages, except for wages in foreign banks.

7. **The level of financial euroization in Serbia is high, even compared to regions with a long legacy of dollarization (Figure 2)**. Using 2001 as a reference date to facilitate international comparisons, the data (Gulde, et al., 2004) show that South America was the most dollarized region with close to 60 percent of deposits denominated in foreign currency, followed by the transition economies and the Middle East. Already in 2001 Serbia had the highest level of liability dollarization among comparator economies, and the ratio has increased further since then (Figure 3).

C. Explanations for High and Rising Euroization

8. **Financial euroization has increased despite progress in macroeconomic stabilization, as the history of instability during the Milosevic regime continues to weigh on confidence in the dinar.** Several events during the 1990s undermined the faith of depositors in the domestic banking system, in particular: (i) the freezing of foreign currency deposits in the early 1990s, and the subsequent securitization of these deposits after almost ten years through the conversion into bonds with coupons at below market interest rates; and (ii) the experience of hyperinflation in 1993, which was one of the worst episodes in global monetary history.

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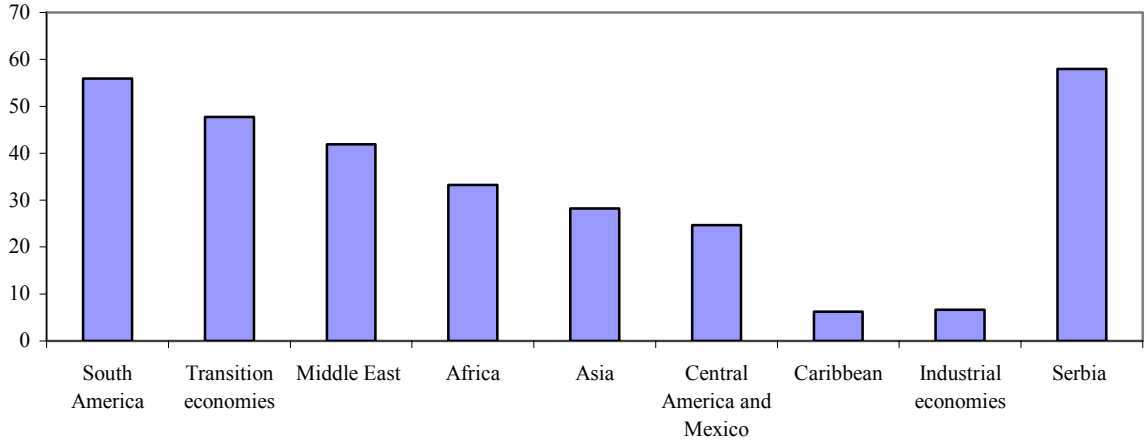
for other foreign currency-denominated deposits and commercial banks' foreign borrowing; and a 20 percent withholding tax for nonresidents (10 percent for nonresidents in countries that concluded a double-taxation agreement with Serbia).

[6] Chapter IV of this Selected Issues Paper estimates the pass-through effect at 0.7 within a 12-month period.

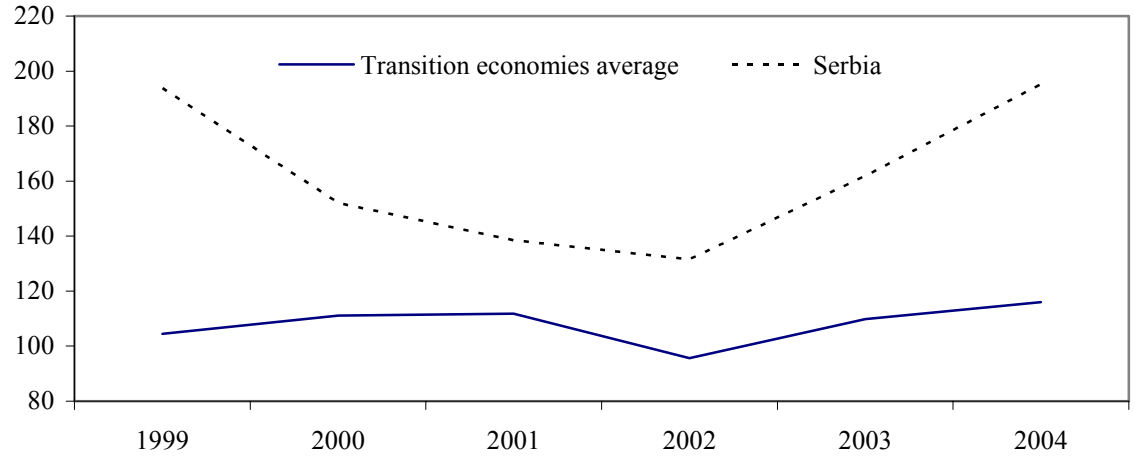
[7] Including prices for oil and oil derivatives, the share of administrative prices in the RPI basket is 40 percent.

Figure 2. Liability Euroization: International Comparison, 2001
(Foreign currency deposits in percent of total deposits)



Sources: National authorities data; and IMF staff calculation.

Figure 3. Liability Euroization in Serbia and Selected Transition Economies, 1999–2004
(Foreign currency deposits in percent of domestic currency deposits)



Sources: National authorities data; and IMF staff calculation.

9. **Euroization has also been promoted by the negative real interest rates on dinar deposits.** These have been negative in real terms since 2003 (Figure 4).[8] Moreover, since early 2004, the (derived) real interest rates on euro deposits in Serbia have exceeded those on dinar deposits, thereby making euro instruments more attractive.[9] The monetary tightening since mid-2004 was insufficient to prevent real deposit interest rates from falling, when headline inflation (as well as core inflation) more than doubled during the 12-month period through April 2005. While the monetary policy interest rate[10] was allowed to rise in nominal terms in June 2004 (but only marginally thereafter), this increase has proven insufficient for ensuring positive real interest rates on dinar deposits in face of the surge in inflation, thereby exacerbating euroization.

10. **Interest rate tightening was constrained by fears of repercussions on the weak banking system.** Given that the high level of euroization has significantly weakened the interest rate channel of monetary policy transmission, it is difficult to estimate by how many basis points the monetary policy rate would have had to increase to ensure sufficiently positive real interest rates on dinar savings deposits. However, if a positive real deposit rate of 2 percent is assumed to be sufficient to encourage dinar holdings, actual monetary policy rates in Q4 2004 and Q1 2005 should have been higher by at least 400 basis points.[11] The reluctance to further tighten the monetary policy stance can partially be explained by concerns that the impact on lending rates, which are already high in real terms, would contribute to an increase in non-performing loans (NPLs) and an erosion of banks' capital—particularly in the systemically important but vulnerable state-controlled banks.[12]

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[8] Real interest rates on total household and enterprise deposits, i.e. including demand deposits, giro accounts and current accounts have been continuously negative since early 2003.

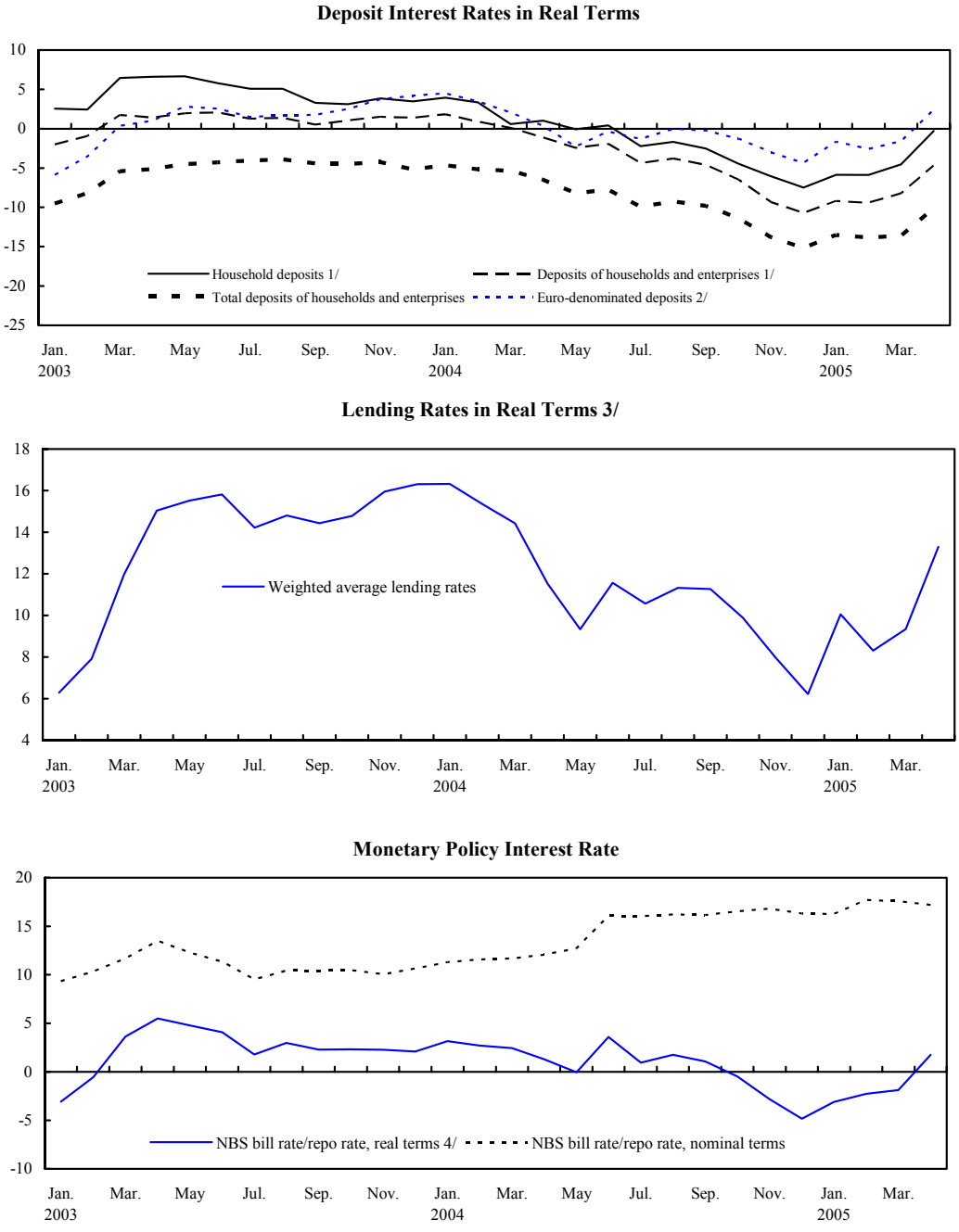
[9] As the NBS does not collect data on interest rates on euro-denominated deposits, the calculation is based on ECB interest rate data for household saving deposits with maturities of up to 2 years, adjusted for exchange rate changes.

[10] The interest rate on NBS bills was the monetary policy interest rate through end-January 2005, when the issuance of these bills was replaced with repo operations.

[11] The calculation of real interest rates is based on a six-month rolling average for monthly RPI data, using the past four and the next two months.

[12] The share of NPLs in total loans at end-2004 was 22 percent, significantly higher than in other transition countries in the region.

Figure 4. Serbia: Interest Rates, 2003–05
(In percent, period averages)



Sources: National Bank of Serbia; and IMF staff calculations.
1/ Excluding demand deposits, giro and current accounts.
2/ Based on ECB data for household deposits with maturities of up to two years, adjusted for the depreciation of the SRD vis-à-vis the euro.
3/ Based on NBS data on interest rates for SRD-denominated loans; adjusted for the depreciation of the SRD vis-à-vis the euro to reflect euro-indexation.
4/ NBS bill rate through January 31, 2005, when the NBS replaced the issuance of NBS bills with weekly repo operations.

11. **Liability euroization was also compounded by the conversion of D-mark banknotes into euro-denominated deposits and the steady increase in remittances.** Reflecting Serbia's history of monetary instability, the D-mark was widely used as a store of value and medium of payment during the 1990s. The conversion in 2002 of D-mark banknotes into euro was primarily conducted via the banking system. The increase in the stock of euro-denominated deposits from this source is estimated to amount to around €2–3 billion. Liability euroization has also been exacerbated by the steady inflow of euro from remittances.

12. **Moreover, the market entry of foreign banks has facilitated the use of euro.** These banks have their home balance sheets in euro and prefer taking deposits in euro and extending euro-indexed loans to shift exchange rate risks to borrowers. In addition, the relatively smooth and predictable depreciation of the dinar since early 2003 may have created incentives for underestimating exchange rate risk and may, therefore, also have encouraged commercial banks' euro-denominated foreign borrowing. This, in turn, may have exacerbated euroization of lending to facilitate the management of open foreign currency positions. The preference for denominating banking transaction in euro may have also been supported by recent improvements in Serbia's EU accession prospects.

13. **The rise in euroization has created a hysteresis effect**. Euroization has been a rational response to political and economic uncertainties. With the weight of history so strong in forming expectations, the assessment of forward looking scenarios may not be positive enough to offset these factors. Once agents have adjusted to the macroeconomic instability of the 1990s by reducing real dinar money balances, the perceived risk-premium on dinar-denominated assets may remain high even though macroeconomic imbalances have meanwhile been significantly reduced. Moreover, the perseverance of euroization may also be related to the fact that the increasing use of the euro in transactions has led to network externalities,[13] thereby creating a ratchet effect (Havrylyshyn, 2003).

D. Macroeconomic and Prudential Implications

Benefits from Euroization

14. **In the context of an uncertain political environment and an incomplete transition process, euroization has supported remonetization and intermediation.** While the reluctance to acquire dinar assets has prevailed, confidence in the banking system has increased markedly, reflecting progress in macroeconomic stabilization and the market entry of foreign banks. The ensuing continued rise in euro-denominated deposits has facilitated the remonetization of the economy. Given the network benefits from the use of money, this in

[13] The utility of using a specific currency as a store of value, medium of transaction, medium of account etc. increases with the number of economic agents choosing the same currency for these purposes and the volume of the respective transaction as a share in the total volume of transactions.

itself is welfare enhancing. In addition, the rapid growth in bank credit has contributed to economic growth.

15. **Euroization has also allowed portfolio diversification in the context of a nascent capital market**. The size of the T-bill market has remained small, reflecting the decline in the government's financing needs. Its maturity structure also remains short term. The issuance of commercial bonds and papers, and the stock market turnover are equally very modest, while the biggest market is that for euro-denominated Frozen Foreign Currency Deposit Bonds (FFCDs). In this context, risk diversification opportunities arising from euroization have allowed economic agents to improve their risk minimization strategies.

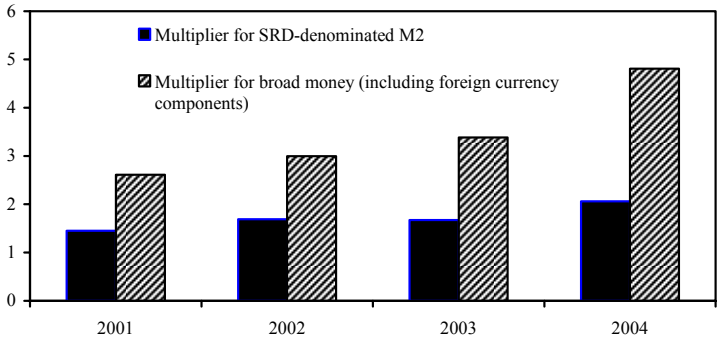
Costs of Euroization

16. **Euroization of bank assets increases credit risk resulting from borrowers' exposure to exchange rate risk.** A large share of the euro-indexed lending is to borrowers without sufficient foreign currency-denominated cash flow, given that the export sector accounted for only 17 percent of GDP in 2004. In the event of a sizeable, unexpected depreciation, or a surge in exchange rate volatility, the higher debt service burden can weigh on the borrowers' capacity to repay, thereby increasing the NPL ratio. Second-round effects from a potential slowdown in economic activity induced by a depreciation, in particular a credit crunch, would further deteriorate the quality of the banks' loan portfolio. Moreover, the credit risk is magnified as the depreciation would reduce the value of collateral, forcing banks to increase provisioning. These effects could, in turn, exacerbate banking sector problems if they were to generate a flight to quality—i.e., a transfer of euro-denominated deposits to foreign banks—which could undermine the viability of vulnerable domestic banks.[14]

[14] However, the impact of euroization on risks stemming from banks' open foreign exchange positions appears to be remote. The Serbian banking system as a whole generally runs a long foreign exchange position and banks would, therefore, realize a net gain from a depreciation in terms of the dinar balance sheet.

17. **Euroization constrains monetary policy effectiveness.** The NBS has been increasingly unable to control the expansion of broad money and credit (Figure 5). While the tightening of monetary policy since mid-2004 resulted in a moderate decline in reserve money, strong broad money growth continued unabated as the expansion of the bank's balance sheets has been driven by the interaction of euro-denominated or euro-indexed assets and liabilities. To compensate for the weak interest rate transmission mechanism in a euroized financial system[15] the NBS has continued to rely heavily on the use of statutory reserve requirements (SRRs), notwithstanding the introduction of repo operations in January 2005. However, given that SRRs are already high, the scope for further increases, albeit potentially necessary, is limited owing to the ensuing adverse consequences for financial intermediation.

Figure 5. The Impact of Euroization on Money Multipliers 2001—04
(End of period)



Sources: National Bank of Serbia data; and IMF staff calculations.

18. **High euroization can limit exchange rate policy options**. This can generate "fear of floating" (Calvo, 2000), as potential balance sheet risks may make the authorities reluctant to consider more flexible exchange rate arrangements.

19. **Euroization reduces seigniorage revenues**. Assuming that about €3 billion in cash circulate in Serbia (about 16 percent of GDP), replacing an equivalent amount of dinar-denominated cash, the foregone seigniorage revenue would amount to about 0.6 percent of GDP (16 percent of GDP times 3½ percent assumed interest rate on euro-denominated German bonds).[16]

20. **The high liability dollarization exposes the banks to systemic liquidity risks as euro deposits are only partially covered by liquid euro assets.** As deposits can be withdrawn in full, there is a high liquidity risk to the banks that is not off-set by required reserves on foreign-currency deposits. Such a withdrawal may arise in the case of a surge in Serbia's country risk that induces depositors to convert euro-denominated deposits into cash euro or to transfer them abroad. In the same vein, foreign banks could also cut credit lines and freeze their exposure towards Serbia. In such circumstances, unless liquid euro liabilities

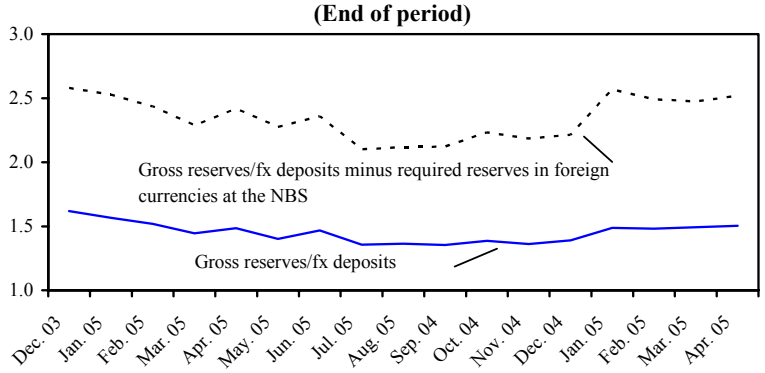
[15] Some highly dollarized economies use dollar-denominated paper in open market operations. However, this can heighten exchange rate risk for the central bank.

[16] This estimate represents the minimum of foregone seigniorage, assuming that the additional reserve money would be entirely created through the accumulation of net-foreign assets of the NBS. It could be potentially much higher if money is created with the backing of domestic assets.

are backed by liquid euro assets abroad, banks may run out of liquid euro-denominated reserves and fail to pay off euro deposits or other liabilities as they fall due.

21. **Euroization can constrain the central bank's Lender of Last Resort (LOLR) functions**. In April 2005, gross foreign exchange reserves of the NBS adequately covered commercial banks' foreign currency-denominated deposits with a coverage ratio of 150 percent (Figure 6). While gross foreign exchange reserves amounted to US$4.47 billion, the deposit base was US$2.97 billion, of which US$1.2 billion were held at the NBS as required reserves. Thus, gross foreign exchange reserves can cover a deposit run of the remaining free deposits in the amount of US$1.77 billion. However, any sudden drawdown of foreign exchange reserves in the face of a bank run could potentially erode confidence in the exchange rate regime, contributing to a "twin crisis" in which banking sector and exchange rate crises interact (Kaminsky, 1999).

Figure 6. Euroization and the Lender of Last Resort Capability of the NBS, 2003─05
(End of period)



Sources: National Bank of Serbia data; and IMF staff calculations.

E. Policy Issues

22. **The main policy challenge is to minimize risks emanating from euroization.** While sound macroeconomic policies should improve confidence in the dinar and, thereby, contain a further increase in euroization, the prospects for the level of euroization to decline are uncertain. The experience in several countries, in which dollarization remained high despite significant progress in macroeconomic stabilization (Box 2), suggests that it does not decline easily. Against this background, it is important to mitigate the risks inherent in high euroization through: (i) sound macroeconomic policies that, at least, contain euroization at the current level; (ii) tighter macro-prudential measures to internalize the negative externalities for society from euroization; and (iii) micro-prudential measures to minimize the inherent risks, especially for the banking sector. In addition, in the context of a supportive macroeconomic environment, greater exchange rate flexibility could reduce euroization by creating a two-way risk in the foreign exchange market. In this context, the case for containing, if not reducing euroization is also strengthened by the fact that the goal of EU and EMU accession can only be achieved in the medium term.

Box 2. De-dollarization and Managing the Risks of High Dollarization: The International Experience

Country experience from around the world indicates that de-dollarization is difficult to achieve as an explicit policy objective. Successful cases of de-dollarization are usually the by-product of the implementation of other policies, most crucially macroeconomic stabilization. Given this record, more countries have implemented policies to manage the risks associated with dollarization through a variety of prudential measures.

De-dollarization is rare. In a recent study (Reinhart, et al., 2003) only four cases (Israel, Mexico, Poland, and Pakistan) are identified out of a sample of 85 countries. Similarly, Galindo and Leiderman (2003) identify only Chile, Israel and Poland as successful de-dollarizers. Some countries have forced conversion of dollars into local currency in the aftermath of economic or political crises with Argentina (2001) being the most recent example. However, cases of policy induced forced de-dollarization have by and large been unsuccessful, with Bolivia (1982), Mexico (1982), and Peru (1985) reverting back to dollarization (Savastano, 1992).

Voluntary de-dollarization is usually a result of successful macroeconomic stabilization. Successful policy packages have combined a credible anti-inflationary stance, often in the context of the introduction of an inflation targeting approach, and appropriate fiscal adjustment to reduce fiscal domination. In the context of a more flexible exchange rate, the positive effects of stabilization allow more confidence in the local currency, particularly when accompanied by expected appreciation.

Institutional measures to support demand for local currency may also be important. The virtuous circle outlined above can be strengthened by ensuring that local currency deposit rates are market determined and carry a sufficient real rate of return to compensate depositors for not using dollars. In some cases, this was supported by the development of market-based instruments to enhance the use of local currency (Gulde, et al., 2004) such as inflation indexed bonds (as in Chile, see Herrera, 2004). However, experience has shown that simply prohibiting foreign currency deposits is not effective—especially in the context of poor fundamentals.

Until macro-economic stability is ensured, country experience has shown that measures to reduce the risks of dollarization is a more realistic and effective strategy than aiming for instantaneous de-dollarization. Such a strategy aims at improving the management of associated solvency and liquidity risks (Cayazzo, et al., 2005). Such an approach would focus on enhancing the banking system's ability to manage the risks of lending in dollars especially to unhedged borrowers. This could be done by instituting appropriate risk management frameworks and improving the borrower's understanding of repayment risk in case of an unexpected depreciation. Specific supervisory and prudential measures have been implemented in many dollarized economies to internalize risks emanating from dollarization. These include: (i) implementing differential statutory reserves requirements on foreign currency deposits; (ii) higher liquidity requirements on foreign currency deposits; and (iii) higher provisioning or capital charges on foreign currency lending.

Macroeconomic Policies

23. **As euroization is a rational response to low confidence in the dinar, the first best option for containing euroization is to build policy credibility, especially by lowering inflation.** This requires sustained implementation of sound macroeconomic policies. Moreover, policies to contain domestic demand, combined with an acceleration of structural reforms, are imperative for reducing the current account deficit to a sustainable level. Otherwise, the demand for dinar-denominated assets and, therefore, the exchange rate would be highly sensitive to shifts in investor sentiment. Without a credible exchange rate regime, and supporting policies, euroization is unlikely to be reversed.

24. **To enhance confidence in the dinar, the monetary policy framework needs to be strengthened:**

- **Monetary policy needs to ensure positive real interest rates on dinar deposits.** Monetary policy should aim at strengthening the demand for dinar assets by ensuring positive real interest rates on dinar deposits. This calls for a more proactive monetary policy, particularly during periods of rising inflation, including through stepping up repo operations to generate an appropriate rise in monetary policy interest rates.

- **The interest rate channel of monetary policy transmission needs to be reinforced by institutional measures.** The ceiling and the floor of the interest rate corridor should be market determined. This can be achieved either by linking the reference discount rate to the market determined repo rate; or by ensuring sufficiently frequent adjustments of the discount rate by the Monetary Board to take into account market conditions.

- **The regulatory and supervisory framework needs to be strengthened, and competition increased to alleviate concerns about the impact of higher interest rates on NPLs.** Measures to encourage more competition among banks should lower spreads between borrowing and lending rates. This will allow more leeway in raising deposit interest rates without requiring an equally large increase in lending rates.

25. **The establishment of an alternative nominal anchor such as inflation targeting may contribute to lower euroization.** While the choice of an exchange rate regime depends on a host of factors beyond the potential net costs of dollarization, some countries have managed to reduce dollarization with a shift to a credible inflation targeting framework within a flexible exchange rate regime. Over time, the NBS may wish to consider other options of monetary policy regimes, including a gradual shift to some type of an inflation target. Recent research indicates that successful de-dollarization, such as occurred in Chile, Israel, and Poland, has been associated with the introduction of credible inflation targeting regimes.

Macro-Prudential Measures

26. **The costs of euroization to society should be internalized by economic agents.** This could be achieved by charging a higher cost on euro transactions as compared to dinar ones. Such a market intervention may be economically efficient as a second best solution to the market failure emanating from a failure to internalize the costs of euroization to society (Ize, 2004). Possible short-term actions could include measures to increase funding costs and, at the margin, lending rates:

- Reduce the remuneration on required reserves in households' foreign currency deposits to zero;
- Increase SRRs on foreign currency-denominated enterprise deposits and commercial banks' foreign borrowing.

27. **Should euro-indexed lending continue unabated at the current unsustainable pace, the use of monetary policy instruments may need to be complemented with the following macro-prudential measures:**

- **Marginal SRRs on foreign currency-denominated deposits.** If such deposits reach a certain threshold, the reserve requirement ratio increases. In a way, this would be a mild and indirect form of credit ceilings (see below) as the authorities would determine the threshold level above which the credit multiplier for additional deposit taking would become zero.
- **Capital controls.** One option would be to impose price-based capital controls (e.g. requirement to deposit a certain percentage of short-term inflows at the central bank at sub-market remuneration). However, such measures are generally only effective in the short term, lead to numerous distortions, and create strong incentives to circumvent the regulations. Therefore, the authorities should consider this option only as a measure of last resort.
- **Credit ceilings.** However, this is clearly a costly measure in a market that is still undergoing substantial structural change and variations in markets shares—a welcome development that would be severely complicated by credit ceilings.

Micro-Prudential Measures

28. **Improving the regulatory and supervisory framework to ensure an appropriate assessment and management of risks emanating from asset and liability euroization:**

- **Higher provisioning requirements for foreign exchange-denominated and foreign exchange-indexed lending.** This may help increase the cost of loanable funds in euro compared to such funds in dinars, potentially reducing at the margin euro-indexed lending and deposit taking.

- **Higher general provisioning on foreign exchange-denominated and foreign exchange-indexed loans.** This can serve as a flexible solvency buffer, which may be swiftly converted into specific provisions for NPLs without triggering capital adequacy compliance problems.
- **Requiring that banks' boards of directors issue written policies and procedures to monitor and manage credit risk resulting from borrowers' exposure to exchange rate risk**. It would be useful also, if the board of directors establish a system of internal controls and audits to ensure compliance with the banks' policies and procedures.
- **Make the need to assess the extent of hedging by borrowers with euro-denominated or euro-indexed debt a part of banking regulations.** This involves the need for banks to assess borrowers' capacity to service such debt under various depreciation scenarios.
- **Inform borrowers explicitly about the risks of servicing euro-indexed loans**, possibly by using a range of hypothetical depreciation rates for the dinar/euro exchange rate.
- **Strengthen data gathering capabilities** at the NBS to include: (i) detailed information on the stock of euro-denominated and euro-indexed loans; and (ii) the extent to which the respective debtors are hedged.
- **Implement corrective measures against banks exhibiting weak risk monitoring or risk management with regard to foreign currency lending**.

References

Calvo, Guillermo, and Carmen Reinhart, 2000, "Fear of Floating," NBER Working Paper 7993 (Cambridge, Mass.: National Bureau of Economic Research).

Cayazzo, Jorge, Socorro Heysen, Antonio Garcia Pascual, and Eva Gutierrez, 2005, "Prudential Responses to Dollarization: Towards an Adaptation of the Framework for Effective Bank Supervision," presented at the "Conference on the Policy Implications of De Facto Dollarization," (unpublished; Washington: International Monetary Fund).

Galindo, Arturo, and Leonardo Leiderman, 2003, "Living with Dollarization and the Route to Dedollarization," paper prepared for the IDB/World Bank conference, Financial Dedollarization: Policy Options, 1–2 December, Washington, D.C.

Gulde, Anne Marie, David Hoelscher, Alain Ize, David Marston, and Gianni De Nicolo, 2004, *Financial Stability in Dollarized Economies,* IMF Occasional Paper 230 (Washington: International Monetary Fund).

Havrylyshyn, Oleh, and Christian Beddies, 2003, "Dollarization in the Former Soviet Union: From Hysteria to Hysteresis," Comparative Economic Studies 45, 329–357.

Herrera, Luis Oscar, and Rodrigo Valdes, 2004, "Dedollarization, Indexation, and Nominalization: The Chilean Experience," Working Paper No.261, Central Bank of Chile.

Ize, Alain, and Andrew Powell, 2004, "Prudential Responses to De Facto Dollarization," IMF Working Paper 04/66 (Washington: International Monetary Fund).

Ize, Alain, and Eduardo Levy-Yeyati, 2005, "Financial de-dollarization: is it for real?" Presented at the "Conference on the Policy Implications of De Facto Dollarization," (unpublished; Washington: International Monetary Fund).

Kaminsky, Graciela, and Carmen Reinhart, 1999. "The Twin Crises: The Causes of Banking and Balance-of-Payments Problems," American Economic Review, American Economic Association, vol. 89(3), pages 473–500.

Reinhart, Carmen, Kenneth Rogoff and Miguel Savastano, 2003, "Addicted to Dollars," NBER Working Paper 10015 (Cambridge, Mass.: National Bureau of Economic Research).

Savastano, Miguel, 1992, "The Pattern of Currency Substitution in Latin America: An Overview," Revista de Analisis Economico, Vol. 7, No. 1, pp. 29–72.

VI. SERBIA AND MONTENEGRO: EXPORT PERFORMANCE AND EXTERNAL COMPETITIVENESS[1]

A. Introduction

1. **The large external imbalances of Serbia and Montenegro (SM) have raised questions about external competitiveness.**[2] The current account deficit before grants has hovered at 12–13 percent of GDP in the last few years, driven by a trade deficit of around 23–25 percent of GDP, which was only partly compensated by an exceptional level of remittance inflows. At the root of the trade deficit is an abnormally low level of exports, since imports, while high, are in line with regional comparators (Section B). An assessment of export competitiveness can help find ways to improve the trade balance, a key priority for policy makers. Furthermore, more narrowly, an evaluation of the role of external price competitiveness, such as real exchange rate and wages, would provide important arguments for the debate about the exchange rate policy in Serbia, which in recent years has shifted between current account and inflation objectives.

2. **In this context, this chapter evaluates the export competitiveness of SM.** It concludes that its relatively weak export performance is related more to non-price factors than to price factors, such as the level of the exchange rate.[3] The chapter is organized in three main sections. The first section describes the poor export performance of SM in a regional perspective and historical context; in the second section, competitiveness is evaluated from the point of view of price competitiveness (real exchange rates, unit labor costs, wages); while non-price competitiveness factors (investment environment, governance) are addressed in the third section. The fourth and last section addresses measures to improve export competitiveness. The limited availability and quality of data and the exceptional factors which characterize the recent history of the region constrain the scope of the analysis.

B. Export Performance in Historical Perspective

3. **The recent history of SM still weighs on export performance.** Its international isolation during the Milosevic years, heightened by the UN and European Economic Community sanctions in the first half of the 1990s, and the collapse of the former Yugoslavia, brought about the collapse of SM exports. The sanctions are also reported to

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[1] Prepared by Carlo Sdralevich.

[2] Trade data generally refer to Serbia and Montenegro's aggregate trade, unless otherwise noted. However, most of the research in price and non-price competitiveness factors focus on Serbia, in part because of the better availability of data and research work.

[3] The Jefferson Institute has prepared the most complete recent study of Serbia's export competitiveness, unfortunately only partially translated into English (Jefferson Institute 2003). For a good overview of trade performance and potential, see also World Bank (2004).

have fostered corruption and distorted official trade statistics, since some of the trade with industrial countries continued but figured as trade flows with third Eastern European countries (Jovicic et al. 2001). The breakup of Yugoslavia and the following civil war disrupted inter-FYRs' bilateral trade flows, and decreased the supply capacity by fragmenting the operations of large enterprises with a vertical structure distributed over the entire Yugoslav territory, such as the Zastava group (cars, weapons). Lastly, the NATO bombings during the Kosovo war brought large damage to the SM physical infrastructure and factories. These events compounded a weak pre-existing economic structure, which had been plagued by debt crises and low or negative rates of net investment.[4] The non-membership in the major multilateral organizations such as the IMF and the WTO, negatively affected trade relations and external financing.[5]

Table 1. Regional Comparison of Trade Flows, 2000─04
(2001─04 averages, in percent of GDP)

	Exports of G&S	Exports of Goods	Imports of G&S	Imports of Goods
Albania	20.6	8.2	43.7	31.3
Bosnia and Herzegovina	25.3	18.0	59.3	55.7
Bulgaria	53.9	37.9	63.3	50.4
Croatia	50.1	23.1	58.0	47.7
Macedonia FYR	39.1	31.8	57.9	50.5
Romania	35.6	30.7	43.6	38.3
Slovenia	57.2	47.1	57.3	49.6
Serbia and Montenegro	**22.3**	**16.3**	**44.4**	**42.4**
Average	38.0	26.6	53.4	45.7

Sources: National authorities; and IMF *Direction of Trade.*

4. **Regional comparisons show that SM exports are exceptionally low, which may point to an external competitiveness problem**. During 2001─04 imports of goods in percent of GDP were close to the regional average (Table 1), while imports of goods and services were significantly below the average, even though they still amount to 50 percent of GDP. In contrast, SM exports of goods and services were about 22 percent of GDP, compared to a regional average of 38 percent of GDP. Only Albania had a lower average. The picture is slightly better in terms of exports of goods, but still SM only does better than

[4] In the 1990s, it is estimated that capital investment amounted to less than 50 percent of the depreciation of fixed assets, and to less than 15 percent of industrial equipment. See Jefferson Institute (2003).

[5] See Popovic-Avric (1999) and (2000).

Albania. Of even greater concern is the persistently lower growth rate of exports compared to the growth rate of imports.[6]

Table 2. Serbia: Direction of Exports, 1997–2004
(In percent of total)

	1997	1998	1999	2000	2001	2002	2003	2004	Averages 97-00	Averages 00-04
Bosnia and Herzegovina	17.4	21.5	21.0	15.1	13.9	15.6	15.1	17.6	18.8	15.5
Italy	11.3	10.6	10.8	13.4	17.0	15.0	12.7	13.1	11.5	14.5
Germany	13.3	12.3	12.1	11.3	13.4	11.6	10.6	10.1	12.2	11.4
Macedonia, FYR	8.7	8.7	12.4	13.2	10.1	9.9	12.0	7.2	10.8	9.8
Slovenia	1.5	1.6	3.0	1.1	2.3	3.9	3.4	4.4	1.8	3.5
Russia	7.2	5.6	5.3	5.5	4.6	4.4	4.8	4.3	5.9	4.5
France	2.4	3.6	2.9	2.7	2.5	2.9	4.2	4.2	2.9	3.4
Croatia	2.4	0.4	0.5	0.9	1.9	2.0	2.8	4.2	1.0	2.7
Romania	1.9	1.3	2.1	1.5	1.8	2.6	2.6	3.4	1.7	2.6
Hungary	2.5	2.0	2.0	3.4	3.4	3.5	2.8	3.3	2.5	3.3
Greece	4.6	4.2	5.4	4.8	3.7	4.0	2.2	3.3	4.7	3.3
Austria	1.6	1.7	2.2	2.7	1.9	3.1	3.3	2.8	2.1	2.8
United Kingdom	2.6	3.3	1.6	2.2	2.2	2.0	2.0	2.3	2.4	2.1
Turkey	1.0	0.3	0.2	0.6	0.3	0.2	0.3	1.7	0.6	0.6
Bulgaria	1.6	1.2	1.3	1.5	1.7	1.6	2.0	1.7	1.4	1.7
Netherlands	1.8	1.3	1.4	1.6	2.1	1.9	2.2	1.5	1.5	1.9
Belgium	0.8	0.7	0.6	0.6	1.8	1.1	1.0	1.4	0.7	1.3
Ukraine	0.8	0.8	1.0	1.2	1.7	1.7	1.5	1.4	0.9	1.6
Czech Republic	0.8	0.7	1.0	1.2	1.0	0.8	0.8	1.3	0.9	1.0
USA	0.6	0.8	0.4	0.2	0.3	0.7	0.6	1.1	0.5	0.7
Other countries	15.0	17.3	12.6	15.4	12.4	11.3	13.3	9.9	15.1	11.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: National Bank of Serbia.

5. **Patterns in the directions of trade paint a more complex picture.** The main destination of Serbian exports since 1997 has been Bosnia and Herzegovina, largely due to political and economic ties with the Republika Srpska, followed by the other FY republics, which shows that the pre-existing trade flows have survived the dissolution of Yugoslavia and the wars of the last decade (Table 2). The other principal importing countries are three EU countries (Italy, Germany, and France), and Russia. In the last four years, the share of exports to the EU3 has been losing ground to exports to FY republics, which seems to suggest that Serbian exports in the more exigent, quality-oriented European markets might be losing competitiveness. SM exports to industrial countries as a share of total exports of

[6] A gravity model also confirms that SM trade has significantly been sub–potential in light of its pivotal geographical position and its access to the sea (Christie 2002).

former Yugoslav republics were very low until 1996 and then had a strong increase following the end of the sanctions. Again, the Kosovo war had a negative effect, but after the war the relative share increased to around 10 percent in the years up to 2004.

6. **SM has not significantly changed the pattern of specialization in the export of intermediate goods inherited from Yugoslavia**. In particular, Serbia historically exported mainly intermediate products, commodities and agricultural products, (Jovicic et al. 2001). Intermediate products have consistently represented around 60 percent of exports since 1997 (Table 3), with some decrease after 2000 and a strengthening in 2004, notably in steel and rubber exports, probably connected to the recent privatization and revamp of export-oriented companies. In contrast, manufactured and capital goods represent a relatively small share in total exports. Data for the first few months of 2005 confirm this structure. Imports are mainly of intermediate products, with capital and consumption goods having lower and about equal shares.

Table 3. Serbia: Composition of Exports and Imports, 1997–2004
(In percent of total)

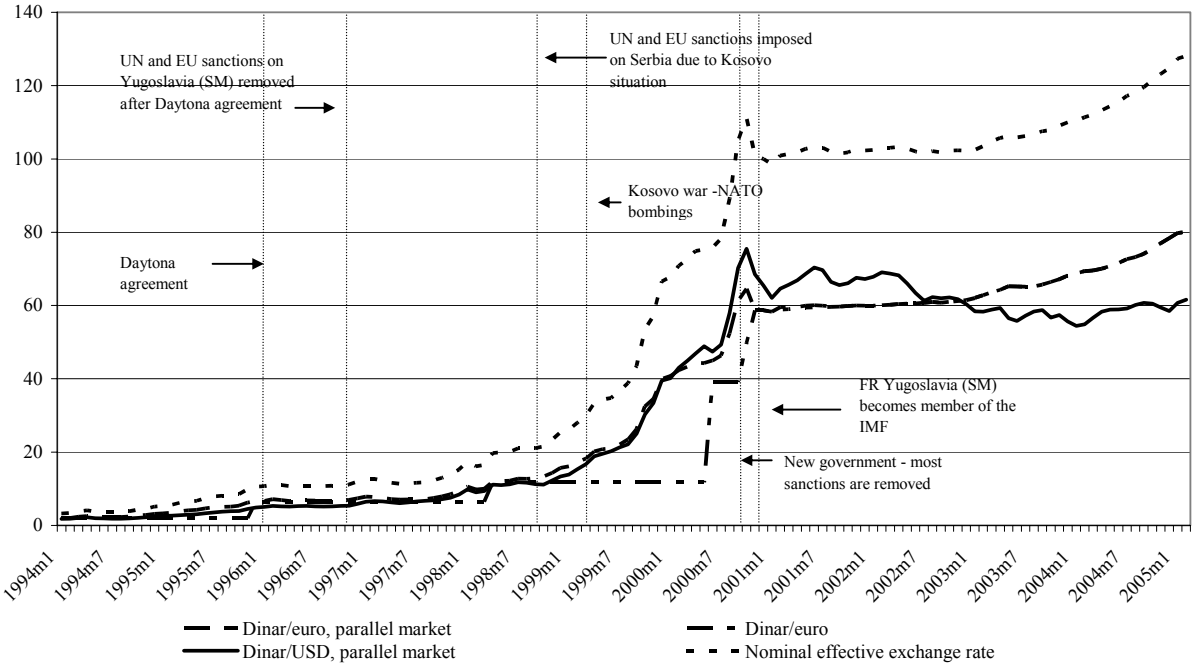
									Averages	
	1997	1998	1999	2000	2001	2002	2003	2004	97-00	00-04
Exports										
Intermediate goods	64	67	55	56	53	54	55	65	61	57
Capital goods	5	6	7	8	9	8	15	7	6	10
Consumption goods	31	27	38	36	38	38	30	28	33	33
Total	100	100	100	100	100	100	100	100	100	100
Imports										
Intermediate goods	68	68	68	70	67	61	57	56	69	60
Capital goods	13	15	16	16	16	20	19	21	15	19
Consumption goods	19	17	15	14	17	19	24	23	16	21
Total	100	100	100	100	100	100	100	100	100	100

Source: National Bank of Serbia.

C. Price Competitiveness Factors

7. **The assessment of real exchange rate dynamics in recent years is made difficult by the effects of the currency and exchange rate crisis of 1999-2001.** The exchange rate collapsed after the Kosovo war and took approximately two years (end-2000 to end-2002) to stabilize, following the exchange rate-based stabilization program of end-2000 (Figure 1). Even though the nominal exchange rate appears to have been stable for a sufficiently long period of time to make comparisons worthwhile, selecting 1999 or 2000 as base years without taking into considerations these exceptional circumstances can lead to the erroneous conclusion that the strong real appreciation in the post-1999 years has taken the dinar out of line with its equilibrium level.

Figure 1. Serbia: Nominal Exchange Rates, 1994-2005
(Average monthly values)



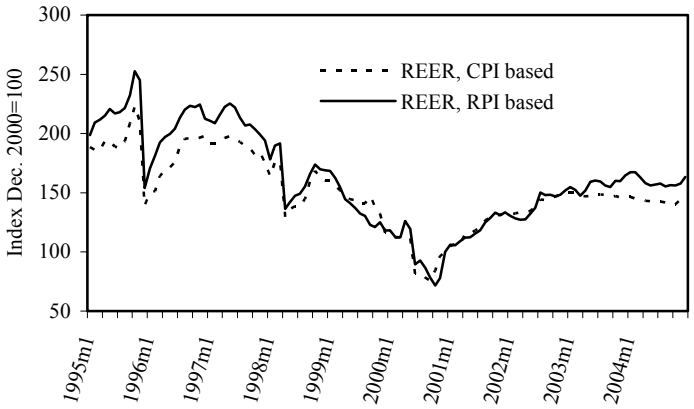
Sources: National authorities; and IMF staff estimates.

8. **Real exchange rate developments can be roughly assessed in comparison to base years characterized by adequate external performance. The year of 1997 and, to a lesser extent, 2001 are the best (or least bad) candidates for base years.** In 1997, SM export to GDP was 35 percent, still relatively high, and declined steadily from there. The current account balance was positive at 5 percent of GDP, and has been deteriorating steadily since. However, the intervening years were characterized by a number of exceptional factors, namely the distortionary effects of the sanctions on international trade and trade statistics, the 1999 Kosovo war, and the ensuing monetary crisis. In 2001, the first year after the stabilization, the current account was not yet at unsustainable levels, considering the repressed import needs of the country, even though exports of goods and services had already declined significantly to 24 percent of GDP.[7]

[7] It should be noted that the choice of these two years, while acceptable for the aim of this study, is not fully satisfactory. Besides the statistical weakness of the trade data, the effect of the exceptional factors described above, as well as the economic stagnation, may have significantly distorted the current account outcome in 1997. Furthermore, the parallel exchange rates used to build the real exchange rates in 1997-2000 may still have been affected by the restrictive exchange regime and may not reflect equilibrium rates. In 2001 the current account deficit had not yet reached the levels of later years but was already significant.

9. **Real exchange rate indicators do not seem to suggest that the exchange rate is misaligned.** For Serbia, on average in 2004 both the CPI-based and the RPI-based REER indices are still at levels significantly more depreciated than the average 1997 values (around 25 percent lower for both indices), even though in the course of 2004 the indices have shown signs of increase due to relatively high inflation (Figure 2). Compared to the 2001 levels, in contrast, both indices are significantly higher (by 19 and 34 percent, respectively). However, one has to keep in mind that the exchange rate in 2001 was still excessively depreciated after the Kosovo war. As a tentative conclusion, the real exchange rate does not seem excessively appreciated.[8] Furthermore, there seems to be some space for real appreciation in the years to come, in line with the Balassa-Samuelson effect that could be expected from the productivity increases taking place in a reforming transition economy.

Figure 2. Real Effective Exchange Rates, CPI and RPI Based, Jan. 1995─Dec. 2004



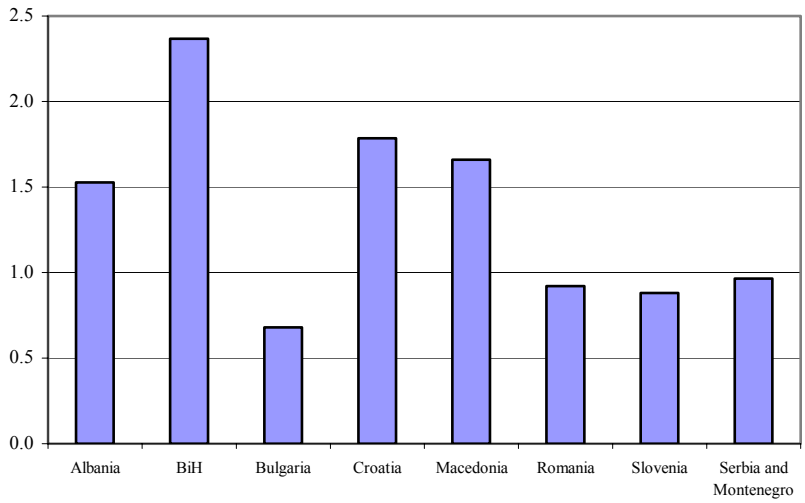
Sources: National authorities; and IMF staff estimates.

10. **These conclusions seem also in line with studies of the real equilibrium exchange rate.** Mattina (2004) analyzes the exchange rate as of the end of 2003, and concludes that the exceptionally large real appreciation starting in 2000 was mostly due to inflation inertia and adjustment to disequilibrium conditions prevailing in 1999-2000, rather than to growth in domestic demand. Mattina concluded that the end-2003 exchange rate was still below the equilibrium level. Such conclusion would still be valid, since the REER has not showed decided appreciation since then.

[8] However, these relatively favorable real exchange rate levels are being threatened in 2005 by the still high inflation rate coupled with a rather stable nominal exchange rate.

11. **Unit labor costs and wages in SM are not out of line with regional comparators.** A proper analysis of external price competitiveness of SM should use estimates of unit labor costs (ULC). The statistical base in SM is not adequate for such an analysis, mainly on account of poor labor force statistics, arising from the different definitional concepts inherited from the socialist period. Yearly net wages in proportion to per capita GDP can be used as a rough proxy for ULC as an alternative approach which allows for relatively meaningful cross-country comparisons. In 2003, the value of this ULC proxy in SM was 0.96 percent, well below the 1.24 percent average of all transition countries, and the 1.30 percent value of the countries in the region (Figure 3), with lower-than-average USD wages being the main source of the difference. However, it should be noted that the ULC proxy for SM is higher than in the more successful neighboring countries, such as Bulgaria, Romania, and Slovenia, with the exception of Croatia.

Figure 3. Proxy of ULC for Balkan and FRY Countries, 2003
(Annual net wages over per capita GDP)

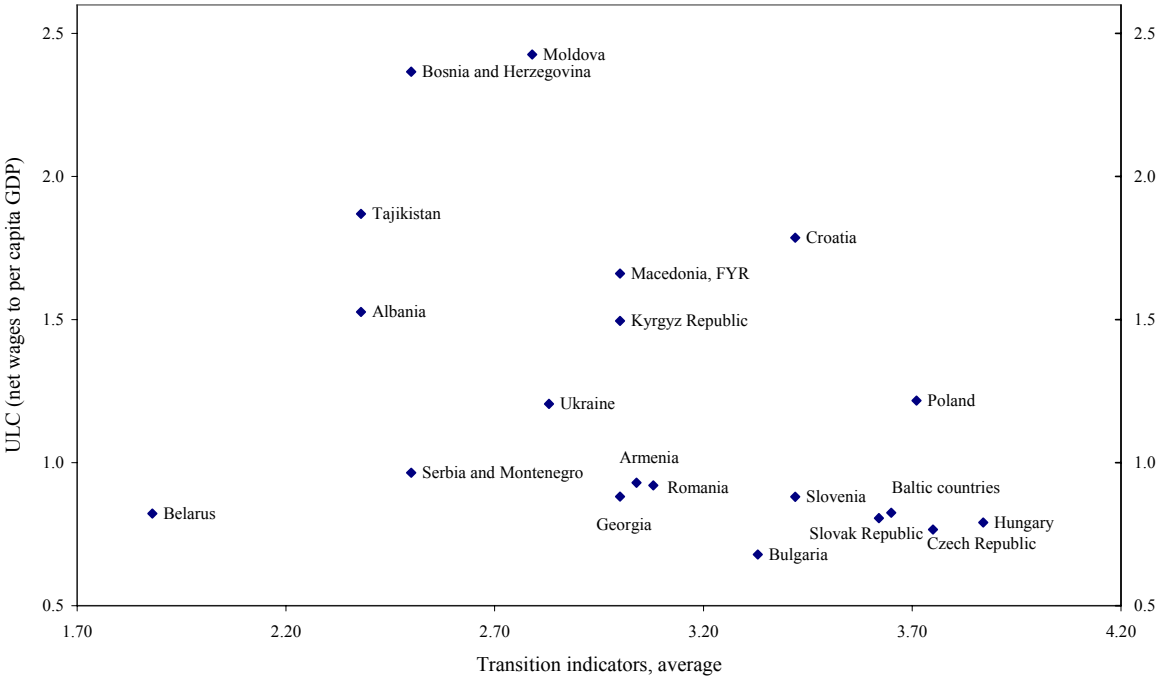


Sources: National authorities; and IMF staff estimates.

12. **ULCs in SM are consistent with its transition stage.** Relating the proxy ULC to the stage of transition, as measured by the average of the EBRD eight transition indicators (excluding infrastructure), shows that SM is below the level of countries at similar points in the transition process (Figure 4), even though the absence of a clear correlation between the two variables in the universe of all the transition countries raises some doubts as to the meaningfulness of this observation. By contrast, a correlation of a strongly positive sign is apparent between the EBRD transition indicator average and monthly USD wages, with more advanced countries displaying higher proxy ULCs (Figure 5). SM seems to be in line with this relationship, if anything with slightly high wages in relation to its transition stage.[9]

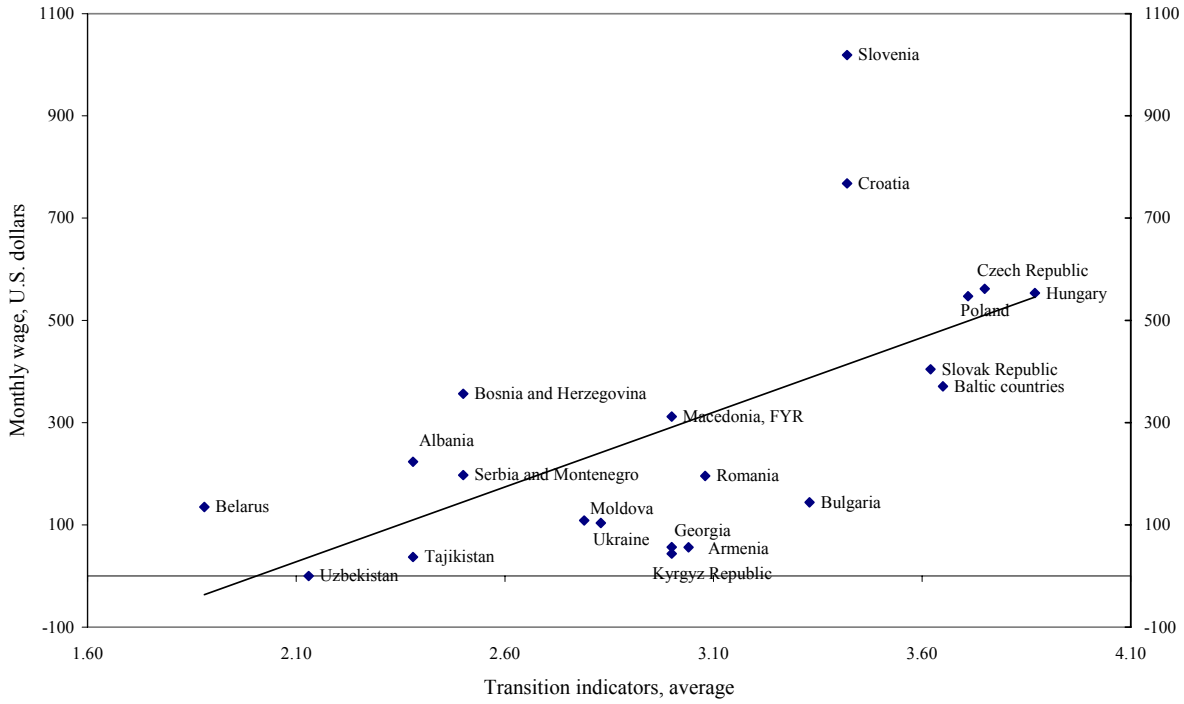
[9] A similar staff study relates wages with a proxy of productivity by plotting gross USD wages against GDP per employee for a group of transition countries, including Balkan countries. The study shows that there is a strong increasing relationship between gross wages and productivity, and that, against this fitted relationship, SM is undervalued by around 10 percent.

Figure 4. EBRD Transition Indicators and ULC, 2003



Sources: EBRD; and IMF staff estimates.

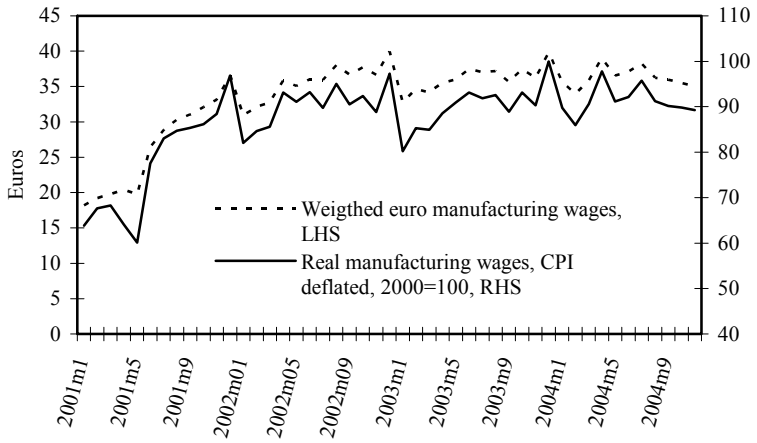
Figure 5. EBRD Transition Indicators and U.S. Dollars Monthly Wages, 2003



Sources: EBRD; and IMF staff estimates.

13. **Real wages show an increasing trend, consistent with improvements in productivity up to 2003.** CPI-deflated real wages for SM have remained around the levels of 1997 until the end of 2001, when they begun an increasing trend. In Serbia, overall real wages and manufacturing sector wages (in euro terms) appreciated starting in 2001 but flattened out in the course of 2004. Wages in the manufacturing sector followed the same pattern (Figure 6). The trend is common to both the so-called economy (private, socially owned enterprises and state-owned enterprises) and non-economy sector (public sector excluding state-owned enterprises). This trend suggests that while SM was relatively competitive up to 2003 in a static comparison of wages and proxy-ULCs across countries, such advantage could have been eroded, and in this case would need to be compensated by a corresponding increase in productivity.

Figure 6. Serbia: Nominal and Real Manufacturing Monthly Net Wages, 2003─04



Sources: National authorities; and IMF staff estimates.

14. **The still low wage level is accompanied by a highly skilled work-force**. Similarly to other countries from the former Yugoslavia, the average education level is relatively high. However, SM has suffered from an extensive brain-drain during the 1990s, concentrated particularly in the highest-educated layers, which halved the number of PhDs and Masters-level employees in the period 1995-2000 (Jovicic et al. 2001).

D. Non-Price Competitiveness Factors

15. **Since the price competitiveness factor does not seem to provide a sufficiently good explanation of the poor SM export performance, the causes may lie in non-price factors.** These can be the poor quality of the investment climate that can increase costs of doing business affecting competitiveness of SM enterprises, and works against creation of new export-oriented enterprises and FDI. This avenue of investigation seems to offer a plausible explanation since, as mentioned above, SM inherited a particularly weak productive base, and due to its international isolation began the transition process with a significant lag compared to other Eastern European countries.

16. **Studies of the SM business environment generally point to a weak investment climate.** A key component of non-price competitiveness is the quality of the investment climate, which plays an essential role not only in attracting export-oriented FDI, but also in promoting a strong private sector, which could expand the export-oriented sectors and at the same time reduce the dependency on imports. Various national and international sources

provide direct and indirect information on the investment climate. The picture emerging from these pieces of analysis is not homogenous, but is overall less than satisfactory, particularly in the perception of the investment climate and the quality of governance. In the investment climate, SM fares particularly badly in comparison with the more successful countries in the region. However, given the weight of subjective perception, caution should be exercised in approaching the conclusions of these studies, in view of the poor international image of SM related to the conflicts of the past decade and its international isolation.

17. **Data from FIAS' "Doing Business" initiative paint a mixed picture.** The difficulty of starting a business in SM is in line with Balkan and FRY countries, even though the minimum capital required, in terms of percentage of per capita GNI, is significantly higher. Closing a business is particularly expensive but it does not seem to take longer than in comparable countries. Surprisingly, despite the relatively unreformed economy, labor flexibility seems better than average, particularly in easiness of hiring and low cost of separation – while firing is estimated to be as difficult as the average Balkan and transition countries. The cost of registering property is faster than average, but its cost is higher. Investor protection also is in line with other countries. Enforcing contracts, by contrast, is much more difficult than in other countries, notably with an average of 1,000 days for procedure, almost double the average for other countries in the region.

18. **However, other sources have a less positive view of the investment climate in SM**. SM scores low on the EBRD Transition Indicators compared to countries in the region, and have the lowest share of private sector in GDP, together with Bosnia and Herzegovina. The World Economic Forum ranks SM respectively at the 89th and 85th position on the basis of the 2004–05 Growth Competitiveness Index (GCI) and the Business Competitiveness Index (BCI) in a total of 104 countries.[10] The GCI is negatively affected, in particular, by the poor score in the macroeconomic environment. Of the countries in the region, only FYR Macedonia and Bosnia and Herzegovina have index values close to those of SM. Consistently with these poor performances, the 2004 Corruption Perceptions Index (CPI) prepared by Transparency International ranks SM at the 97th place, with the same score as Macedonia and with the lowest ranking among the countries of former Yugoslavia.[11]

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[10] The GCI rates countries on the basis of three pillars, macroeconomic environment, quality of public institutions, and technological readiness. The GCI rating is interesting because it relies in part on the World Economic Forum's Executive Opinion Survey, which compiles qualitative evaluations provided by a sample of business executives. The BCI evaluates the underlying microeconomic conditions in the surveyed countries, from the points of view of the sophistication of the operating strategies and the quality of the microeconomic business environment. See World Economic Forum (2004).

[11] The CPI rates countries is a meta-index compiled on the basis of the degree of corruption *perceived* by a sample of business executives and country analysts.

19. **Locally conducted surveys confirm the weakness of the competitive environment in the enterprise sector.** The Jefferson Institute report researchers conducted a two-pronged survey, based on interviews of Serbian businessmen and on microeconomic analysis of selected export-oriented enterprises (Jefferson Institute 2003).[12] The main results of the surveys show that the insufficient competitiveness is considered to depend on the lack of business sophistication, e.g. in marketing, the insularity of the Serbian enterprises, lack of credit access, and an inadequately protected trade regime. Other obstacles to exports were largely inadequate infrastructures and technological level, and an excessively volatile regulatory environment. Interestingly, a weak exchange rate was not univocally preferred by businessmen, since at least in some sectors (textiles) a depreciated exchange rate was seen as related to lower revenues from exports, signaling a confused understanding of international price competitiveness. Serbian businessmen expected the state to take over responsibility for external competitiveness by changing the trade regime, but did not show the necessary skills and initiative necessary to compete adequately on the international stage.

20. **FDI performance can be taken as an indicator of export competitiveness.** In transition countries, FDI can play a particularly important role in the transformation of the productive capacity and in the transfer of know-how. Often, FDI can strengthen the export performance of the recipient countries, especially if it is of the "vertical" type as opposed to the "horizontal" type.[13] FDI can therefore be both a function of the attractiveness of its domestic market and reinforce the export potential of the recipient country. It is reasonable to assume that in the case of SM, the relative small size of the domestic market and its openness make it a relatively more attractive for export-oriented than domestic market-oriented FDI. The analysis of the FDI performance of SM can therefore provide some observations relevant to the issue of export competitiveness.

21. **In SM, non-privatization FDI is much below potential, pointing to a large role of an improvement of broad policies**. Demekas et al. (2004) analyze the FDI performance of 14 South Eastern Europe countries. In terms of stock, SM was in 2003 at the 10th ranking, clustered in the second-last performing group, together with Bulgaria and Slovenia. Only Bosnia and Herzegovina, Albania, FYR Macedonia, and Moldova were doing worse than SM. Demekas et al. (2004) show that SM has a non-privatization FDI potential much larger than actual performance. The authors' concept of FDI potential is relative to policies and

[12] The same research underpinned the World Economic Forum's GCI and BCI.

[13] "Horizontal" FDI mainly aims at the home market of the recipient country. "Vertical" FDI derives from the optimal geographical localization of the different stages of production of multinational companies, and is mainly aimed at exporting towards further production stages or towards final markets abroad.

assumes given exogenous variables (mainly gravity variables such as distance, population etc.). One implication is that better policies would help increase FDI attractiveness of SM.[14]

E. Measures to Improve Competitiveness

22. **Effective export competitiveness measures should focus on non-price factors.** Price competitiveness seems broadly appropriate on an historical and regional comparison. However, signs of real exchange appreciation in 2005 stress the importance to keep the real effective exchange rate under control to fully exploit the price advantage that SM seems to have compared to neighboring countries, which means allowing rises in real incomes in line with productivity improvements. At the same time, much can be done to make SM a more attractive location for local investment and FDI, and indirectly allow the export base to expand:

- **Continue the process of liberalization of the trade regime and conclude "open" trade agreements on a regional level and with the EU**. SM has concluded six free trade agreements (FTA) with Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Moldova, and Romania, and is working on an agreement with FYR Macedonia. Outside the region, SM has concluded a free trade agreement with Russia which should make the country very attractive for investors interested in that large market. SM has also obtained trade preferences from the EU in the context of the Autonomous Trade Preferences regime for Western Balkans, and special agreements in the areas of sugar and textiles. While the agreement of a Stabilization and Association Agreement with the EU would give a very strong acceleration to SM's reintegration in export markets and to FDI, it is not expected to improve the trade preferences to the EU. An important step will be accession to WTO, which Serbia and Montenegro are preparing separately.[15] Export performance will also depend on a liberal tariff regime, since exports depend heavily on imports of equipment and intermediate products.[16] To minimize potential the trade-distortive effects of the FTAs, it is important to continue trade liberalization in the multilateral context.

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[14] The most effective policies are those aiming at liberalizing the economy and controlling labor costs, while improvements in governance and corruption climate are less effective.

[15] All trade negotiations, with the exception of the regional free trade agreements, are now conducted separately in line with the "twin track" approach recently adopted by European Union.

[16] The simple and weighted average tariffs in Serbia are expected to be 8.7 percent and 6.3 percent respectively after the ongoing (as of June 2005) realignment of tariffs. There are still some non-tariff barriers to trade, notably the ban on the import of refined oil derivatives in Serbia.

- **Address the quality of the business environment**. While specific indicators for the cost of doing business do not place SM at a disadvantage compared to neighboring countries, the sub-par FDI performance, the still limited share of private sector activity in GDP, and the various shortcoming of investing in the country described by investors and business people point to the need for accelerating the transition process by intensifying privatizations, improving the provision of services and infrastructures, and increasing the efficiency of the financial sector. Export-specific initiatives, such as export insurance agencies, subsidized credit, or export processing zones (EPZs), should be looked at with great caution since they might increase economic distortions, induce rent-seeking behavior without clearly advantaging the export-oriented sectors.[17] In general, these initiatives are less effective than economy-wide reform in promoting solid export growth.

- **Improve the image of SM abroad**. The government has taken steps in this direction with the establishment of an Export and Investment Promotion Agency (SIEPA[18]), even though the most significant progress is likely to come from advances in political relations with potential investor countries.

F. Conclusions

23. **While export performance in SM has been disappointing, it is likely to be more related to non-price than price competitiveness factors.** This chapter has addressed the issue of SM export competitiveness on the background of an unsatisfactory export performance. The chapter has shown that the roots of the competitiveness problem go back to the difficult past of the country, with its history of economic isolation, sanctions, and conflict during the 1990s compounding a pre-existing economic crisis and chronically low investment. Today, competitiveness seems more related to non-price factors underlying the investment climate, and capacity constraints related to low investment in the past decades and to the economic structure inherited from Yugoslavia, rather than price factors such as the real exchange rate and the level of wages. Therefore, the best way to address external competitiveness would be to accelerate and deepen the economic reform process, so as to unleash private investment, and in the continuing normalization of SM's trade relations with the rest of the world. At the same time, containing the dynamics of the real exchange rate through anti-inflationary macroeconomic policies and an appropriate management of the exchange rate remains an essential task.

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[17] The Union government has launched the Serbia and Montenegro Export Credit Agency (SMECA www.smeca.co.yu) with the help of the World Bank. The Serbian government is currently setting up an export-promotion agency which will insure exports and provide subsidized credit to exporting companies. For detailed analysis and recommendations on trade facilitation measures see World Bank (2004).

[18] See website at www.siepa.sr.gov.yu .

References

Christie, Edward, 2002, "Potential Trade in Southeast Europe: a Gravity Model Approach," *WIIW Working Papers* No. 21, March 2002.

Demekas, Dimitri G., Balasz Horvath, Elina Ribakova, and Yi Wu, 2004, Foreign Direct Investment in Southeastern Europe: How (and How Much) Can Policies Help?, (draft), International Monetary Fund.

Jefferson Institute, 2003, *Competitiveness of the Serbian Economy*, Jefferson Institute, Belgrade, Serbia.

Jovicic, Milena, Miroslav Zdravkovic, and Radmila Dragutinovic Mirovic (2001): *Federal Republic Yugoslavia: Trade Potentials and Comparative Advantages*.

Mattina, Todd, 2004, *Understanding the Serbian Exchange Rate-Based Stabilization*, (unpublished), European Department, International Monetary Fund.

Popovic-Avric, Snezana, 1999,"Foreign Trade, 1990–1998," *Yugoslav Survey No. 3*.

———, 2000, "Competitiveness of Yugoslav Exports and Courses of Actions Towards Improving It," *Yugoslav Survey No. 3*.

World Bank , 2004, *Republic of Serbia: An Agenda for Economic Growth and Employment*, Poverty Reduction and Economic Management Unit, Europe and Central Asia Region.

World Economic Forum, 2004, *Global Competitiveness Report 2004–05*.

Table 1. Serbia and Montenegro: Selected Economic and Financial Indicators, 1999–2004 1/

	1999	2000	2001	2002	2003	2004 Est.
Geographical area			(Km, square)			
Serbia and Montenegro			102,173			
Serbia			88361			
Central Serbia			55,968			
Vojvodina			21,506			
Kosovo and Metohia			10,887			
Montenegro			13,812			
Real economy			(As indicated)			
GDP (in billions of dinars)	193	382	772	998	1,189	1,401
GDP (in millions of U.S. dollars)	10,214	8,603	11,576	15,528	20,665	23,996
Net real wage (period average, percent change)	-13.5	16.5	11.3	24.0	12.3	11.9
Average net wage (in euros per month)	81	71	102	149	175	192
			(Percentage change)			
Real GDP	-18.0	5.0	5.5	3.8	2.7	7.2
Industrial production	4.4	11.1	0.0	1.7	-2.7	7.5
Retail prices (annual average)	42.1	69.9	91.1	21.2	11.3	9.5
Unemployment rate (in percent) 2/ 3/	13.3	12.1	12.2	13.3	14.6	18.5
Savings and investment			(In percent of GDP)			
Foreign savings (including grants)	7.5	7.1	9.7	12.9	12.3	15.5
Gross national savings	4.2	10.3	9.1	7.1	6.3	4.5
Of which: Domestic savings	-2.0	-2.7	-7.2	-7.3	-5.9	-11.3
Public	...	-4.4	-7.8	-5.6	-5.9	-14.3
Private	...	1.6	0.6	-1.7	0.0	3.0
Gross investment	11.6	14.2	13.6	16.0	16.1	17.6
Public	10.6	12.2	11.7	12.3	13.3	14.6
Private	2.4	3.1	1.6	3.4	2.5	2.7
General government finances 4/			(In percent of GDP)			
Revenue	...	36.7	38.9	42.8	42.7	45.2
Expenditure	...	37.6	40.3	47.3	46.0	45.5
Cash balance	...	-0.9	-1.4	-4.5	-3.3	-0.3
Money supply (end-of-period) 2/			(Percentage change)			
M1	47.3	85.2	125.2	79.8	10.9	8.0
M2	67.6	61.4	104.9	52.7	27.5	30.3
Balance of payments	(In billions of U.S. dollars, unless otherwise indicated)					
Exports of goods (f.o.b.)	1.7	1.9	2.0	2.4	3.1	4.2
Imports of goods (c.i.f.)	-3.3	-3.7	-4.8	-6.3	-7.9	-11.7
Trade balance	-1.6	-1.8	-2.8	-3.9	-4.9	-7.4
Current account balance, after grants	-0.8	-0.3	-0.5	-1.4	-1.5	-3.1
(In percent of GDP)	-7.5	-3.9	-4.6	-8.9	-7.3	-13.1
External debt (year-end)	10.7	11.4	11.9	11.8	14.3	14.9
Gross official reserves	0.3	0.5	1.2	2.3	3.6	4.3
(In months of imports of goods and services)	0.9	1.2	2.4	3.1	3.3	3.7

Sources: Serbia and Montenegro Statistical Office; National Bank of Serbia; Ministries of Finance; and IMF staff estimates.

1/ With the exception of external debt, data for 1999-2004 exclude Kosovo. GDP data exclude Kosovo and Metohia throughout.
2/ Excluding Montenegro.
3/ ILO definition from 2004 onwards.
4/ Fiscal operations of all levels of government, except for Montenegro where it excludes local governments.

Table 2. Serbia and Montenegro: Selected Social Indicators, 1996–2003

									Comparator data for 2003	
	1996	1997	1998	1999	2000	2001	2002	2003	Visegrad-4 1/	Balkan-6 2/
Population										
Serbia and Montenegro	10,577	10,600	10,617	10,629	10,633	10,651	8,160 3/	8,148 3/	...	...
Serbia	9,938	9,957	9,970	9,979	9,979	9,993	7,498	7,528	...	...
Montenegro	640	643	647	651	654	658	...	620 4/	...	...
Population ages 65 and above (percent of total)	13	13	13	13	14	14	18	18	...	...
Social indicators										
Life expectancy at birth (years)	72	72	72	72	72	72	73	73	73	74
Birth rate, crude (per 1000 people)	13	13	12	12	12	12	11	11	9	12
Infant mortality rate (per 1000 live births)	15	14	14	17	13	...	10	...	9	12
Fertility rate, total (births per woman)	2	2	2	2	2	...	2	2	1	2
Age dependency ratio (percent)	51	51	51	51	51	51	51	51	43	46
Immunization, measles (percent of children under 12 - 23 months)	...	...	...	84	89	90	92	87	98	93
Technology indicators										
Fixed line and mobile phone subscribers (per 1,000 people)	...	...	...	271	349	416	489	581	1,034	583
Personal computers (per 1,000 people)	16	17	19	21	23	23	27	...	119	77 5/

Sources: Serbia and Montenegro Statistical Office, and World Development Indicators 2005, World Bank, Washington, D.C., 2005.

1/ Simple average of reported data for Czech Republic, Hungary, Poland and Slovak Republic.
2/ Simple average of reported data for Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia and Romania.
3/ Excludes Kosovo and Metohia.
4/ According to 2003 Census by MONSTAT, Statistical Office of Montenegro.
5/ In 2002 data.

Table 3. Serbia and Montenegro: Gross Domestic Product by Sector of Origin, 1999–2004 1/

	1999	2000	2001	2002	2003	2004 Est.
	(Current prices in billions of dinars)					
Gross domestic product	192.9	381.7	771.8	998.3	1,189.1	1,400.6
Agriculture, hunting, and forestry	37.2	75.5	146.5	139.7	...	...
Fishing	0.1	0.3	0.4	0.5	...	...
Mining and quarrying	7.1	12.7	28.2	36.8	...	...
Manufacturing	43.0	79.3	153.2	166.9	...	...
Electricity, gas, and water supply	7.9	9.1	17.9	37.0	...	...
Construction	8.2	13.9	26.2	33.0	...	...
Wholesale and retail trade	15.6	37.7	69.3	69.9	...	...
Hotels and restaurants	2.1	4.9	8.9	11.4	...	...
Transport, storage, and communication	16.4	25.5	54.9	78.0	...	...
Financial intermediation	10.8	16.5	39.7	55.6	...	...
Real estate, renting, and business activities	6.1	30.4	61.6	95.2	...	...
Public administration and defense; compulsory social security	10.3	13.4	27.7	38.9	...	...
Education	4.8	15.9	19.4	31.3	...	...
Health and social work	6.8	13.0	27.4	39.8	...	...
Other	2.0	10.80	21.1	23.5	...	...
Gross value added (basic prices)	178.3	358.8	702.4	857.6	...	...
Taxes on products less subsidies on products	14.6	22.9	69.3	140.7	...	...
	(Constant 2001 prices in billions of dinars)					
Gross domestic product	696.7	731.5	771.8	801.1	822.3	881.5
Agriculture, hunting, and forestry	144.5	125.7	147.3	144.2	134.3	...
Fishing	0.6	0.6	0.6	0.5	0.5	...
Mining and quarrying	30.6	32.4	28.3	28.9	29.1	...
Manufacturing	157.8	179.9	181.4	186.3	178.1	...
Electricity, gas, and water supply	21.8	22.1	22.2	21.7	22.5	...
Construction	26.3	30.5	26.6	25.0	27.3	...
Wholesale and retail trade	85.9	96.1	105.5	122.8	134.4	...
Hotels and restaurants	7.7	11.1	11.5	11.2	10.9	...
Transport, storage, and communication	31.8	44.1	53.0	54.0	59.0	...
Financial intermediation	48.1	41.7	42.6	43.4	52.5	...
Real estate, renting, and business activities	62.7	65.2	64.0	63.9	64.8	...
Public administration and defense; compulsory social security	24.8	25.7	27.7	29.9	32.5	...
Education	16.8	17.4	19.7	22.8	24.3	...
Health and social work	25.7	27.9	29.6	33.0	34.2	...
Other	20.6	21.4	21.6	23.2	23.9	...
	(Real growth rate in annual percentage change)					
Gross domestic product	-18.0	5.0	5.5	3.8	2.7	7.2
Agriculture, hunting, and forestry	...	-13.0	17.2	-2.1	-6.9	...
Fishing	...	-7.8	-4.6	-4.8	-12.7	...
Mining and quarrying	...	6.0	-12.7	2.2	0.8	...
Manufacturing	...	14.0	0.8	2.7	-4.4	...
Electricity, gas, and water supply	...	1.4	0.6	-2.0	3.3	...
Construction	...	16.0	-13.0	-6.0	9.5	...
Wholesale and retail trade	...	11.9	9.8	16.4	9.4	...
Hotels and restaurants	...	44.9	3.1	-2.8	-2.2	...
Transport, storage, and communication	...	38.7	20.1	2.0	9.1	...
Financial intermediation	...	-13.2	2.1	1.9	20.9	...
Real estate, renting, and business activities	...	4.0	-1.8	-0.2	1.4	...
Public administration and defense; compulsory social security	...	3.5	7.9	7.8	8.9	...
Education	...	4.0	12.8	16.0	6.4	...
Health and social work	...	8.7	6.1	11.5	3.4	...
Other	...	4.3	0.6	7.4	3.1	...

Sources: Serbia and Montenegro Statistical Office; and IMF staff estimates.
1/ Excluding Kosovo and Metohia.

Table 4. Serbia and Montenegro: Economic Activity Data, 1999–2004 1/
(Period average; index 2001=100)

I. Industrial Production

	1999	2000	2001	2002	2003	2004 Est.
Year	90	100	100	101	99	106
Q1	105	100	99	95	92	100
Q2	63	102	98	99	98	105
Q3	85	100	95	100	96	103
Q4	106	98	108	111	109	118
Jan.	100	85	94	88	84	90
Feb.	107	102	97	93	93	96
Mar.	108	112	107	105	100	113
Apr.	68	100	98	102	98	102
May	53	104	98	98	98	105
Jun.	68	102	99	99	99	108
Jul.	77	96	90	98	94	102
Aug.	84	101	94	97	93	97
Sep.	95	104	100	105	102	110
Oct.	106	93	110	115	111	115
Nov.	104	101	108	111	104	118
Dec.	109	100	107	106	111	122

II. Agricultural Production

	1999	2000	2001	2002	2003	2004
Year	98	86	100	98	91	...

III. Retail Trade (physical turnover)

	1999	2000	2001	2002	2003	2004
Year	77	85	100	121	138	...

Source: Serbia and Montenegro Statistical Office.

1/ Excluding Kosovo and Metohia.

Table 5. Serbia and Montenegro: Employment by Sector, 1999–2003 1/
(Annual average, in thousands)

	1999	2000	2001	2002	2003
Total	2,298	2,238	2,243	2,207	2,178
Agriculture, hunting, and forestry	98	94	90	83	77
Fishing	1	1	1	1	1
Mining and quarrying	43	43	42	38	37
Manufacturing	707	668	647	594	553
Electricity, gas, and water supply	54	54	54	53	53
Construction	120	111	104	97	95
Wholesale and retail trade	248	235	230	222	218
Hotels and restaurants	48	44	43	43	36
Transport, storage, and communication	148	143	142	136	132
Financial intermediation	50	49	47	35	32
Real estate, renting, and business activities	52	50	51	58	58
Public administration and defense; compulsory social security	70	70	72	74	77
Education	129	129	129	141	141
Health and social work	168	170	174	174	173
Other	55	55	55	55	55
Private entrepreneurs and employees with entrepreneurs	306	322	361	401	440
Entrepreneurs	168	176	189	197	206
Employees with entrepreneurs	138	146	172	204	234

Source: Serbia and Montenegro Statistical Office.

1/ Excluding Kosovo and Metohia.

Table 6. Serbia and Montenegro: Trends in Total Labor Costs, 1999–2004 1/

	Net Salaries	
	dinars	euros
1999	1,440	122.7
2000	2,851	117.7
2001	6,108	102.6
2002	9,117	149.9
2003	11,376	174.0
2004	13,946	190.7
2003		
Jan.	9,367	150.1
Feb.	10,238	161.8
Mar.	10,000	155.3
Apr.	11,010	172.1
May	10,906	165.7
Jun.	11,205	174.4
Jul.	11,718	180.2
Aug.	11,535	176.8
Sep.	11,805	179.0
Oct.	12,278	183.9
Nov.	12,102	178.9
Dec.	14,348	210.0
2004		
Jan.	11,928	173.1
Feb.	12,555	179.8
Mar.	12,751	182.7
Apr.	14,217	202.2
May	13,288	186.8
Jun.	13,448	186.3
Jul.	14,449	198.0
Aug.	14,006	189.9
Sep.	14,265	190.2
Oct.	14,458	190.0
Nov.	14,856	192.1
Dec.	17,131	217.2

Sources: Serbia and Montenegro Statistical Office.

1/ Excluding Kosovo and Metohia.

Table 7. Serbia and Montenegro: Net Monthly Pay By Sector, 1999–2003 1/

	1999	2000	2001	2002	2003
Average Net Monthly Pay Per Employee (in dinars)					
Total	1,309	2,588	5,545	9,196	11,486
Agriculture, hunting and forestry	1,001	1,880	4,615	8,424	9,064
Fishing	1,017	2,145	5,399	10,435	9,977
Mining and quarrying	2,239	4,810	8,058	12,864	15,087
Manufacturing	1,053	2,230	4,786	7,677	8,991
Electricity, gas and water supply	2,192	4,372	8,152	13,212	16,367
Construction	1,008	2,152	4,640	8,519	10,254
Wholesale and retail trade	983	1,970	4,186	7,148	9,352
Hotels and restaurants	830	1,889	3,717	6,214	7,516
Transport, storage and communication	1,667	3,236	6,875	10,991	13,954
Financial intermediation	2,857	4,669	9,674	17,071	24,267
Real estate, renting and business activities	1,543	2,990	6,184	10,208	13,883
Public administration; compulsory social security	1,731	3,302	7,572	10,520	15,515
Education	1,392	2,580	5,871	9,515	12,658
Health and social work	1,503	2,610	5,944	10,533	13,005
Other community, social and personal service activities	1,694	2,938	5,694	10,258	13,250
Indices of Real Net Wages and Salaries Per Employee, 1999–2003 (Chain indices, previous year = 100)					
Total	85.0	106.5	113.3	142.4	114.2
Agriculture, hunting and forestry	95.2	101.2	130.3	156.7	98.3
Fishing	99.0	113.6	132.5	165.9	87.4
Mining and quarrying	81.2	115.7	88.6	137	107.2
Manufacturing	88.3	114.1	113.8	137.7	107
Electricity, gas and water supply	79.9	107.5	98.5	139.1	113.2
Construction	90.2	115.0	114.5	157.6	110
Wholesale and retail trade	92.2	108.0	112.6	146.6	119.6
Hotels and restaurants	84.1	122.6	103.6	143.5	110.6
Transport, storage and communication	83.7	104.6	112.5	137.2	116.1
Financial intermediation	81.9	88.1	109.9	151.5	129.9
Real estate, renting and business activities	83.6	104.4	109.6	141.7	124.3
Public administration; compulsory social security	79.7	102.8	120.9	119.3	134.8
Education	79.4	99.9	120.3	139.1	121.6
Health and social work	79.3	93.4	120.2	152.1	112.9
Other community, social and personal service activities	83.9	93.4	102.4	154.6	118.1

Source: Serbia and Montenegro Statistical Office.

1/ Excluding Kosovo and Metohia.

Table 8. Serbia and Montenegro: Price Developments, 1999–2004 1/

	Retail Prices			Consumer Prices			Producer Prices		
		Rate of Growth			Rate of Growth			Rate of Growth	
	Index 1995=100	Dec. of last year=100	Same Month Previous Year	Index 2000=100	Dec. of last year=100	Same Month Previous Year	Index 1997=100	Dec. of last year=100	Same Month Previous Year
1999	434	...	...	54	...	...	692	...	...
2000	737	...	...	100	...	...	692	...	...
2001	1408	...	...	189	...	...	692	...	...
2002	1706	...	...	225	...	...	766	...	...
2003	1898	...	...	246	...	...	811	...	...
2004	2078	...	...	271	...	...	885	...	...
2002									
Jan.	1607	100.7	135.9	213	99.7	135.9	741	99.1	122.7
Feb.	1623	101.7	133.0	215	100.8	135.6	742	99.3	121.6
Mar.	1636	102.5	132.9	217	101.9	134.3	740	99.1	117.4
Apr.	1650	103.4	123.4	219	102.7	122.7	742	99.3	112.0
May	1657	103.9	121.6	220	103.0	119.1	743	99.5	108.8
June	1666	104.4	117.9	221	103.4	114.8	743	99.5	104.3
July	1731	108.4	119.6	229	107.6	117.2	785	105.1	110.1
Aug.	1737	108.9	116.9	230	107.7	114.2	788	105.5	109.6
Sep.	1753	109.9	116.4	232	108.9	113.5	791	105.9	108.4
Oct.	1778	111.4	115.2	235	110.2	111.8	791	105.9	106.3
Nov.	1810	113.4	115.4	238	111.6	112.3	793	106.1	106.4
Dec.	1822	114.2	114.2	238	111.6	111.6	794	106.2	106.2
2003									
Jan.	1837	100.8	114.3	239	100.4	112.4	795	100.2	107.4
Feb.	1848	101.4	113.9	240	101.0	111.8	795	100.2	107.2
Mar.	1855	101.8	113.4	241	101.3	111.0	797	100.4	107.6
Apr.	1870	102.6	113.3	243	102.0	110.8	803	101.1	108.2
May	1879	103.1	113.4	244	102.4	111.0	801	100.9	107.7
June	1893	103.9	113.6	247	103.9	112.1	803	101.2	108.1
July	1904	104.5	110.0	247	104.0	107.9	817	102.9	104.1
Aug.	1915	105.1	110.2	247	103.8	107.5	819	103.1	103.9
Sep.	1927	105.7	109.9	248	104.4	107.0	820	103.3	103.6
Oct.	1935	106.2	108.8	252	105.7	107.1	823	103.6	104.0
Nov.	1950	107.0	107.8	254	106.6	106.6	828	104.4	104.5
Dec.	1962	107.6	107.6	256	107.4	107.4	831	104.6	104.6
2004									
Jan.	1972	100.5	107.3	257	100.5	107.5	837	100.7	104.5
Feb.	1989	101.4	107.7	258	101.1	107.5	846	101.8	105.7
Mar.	1997	101.8	107.7	260	101.6	107.8	856	102.9	106.8
Apr.	2013	102.6	107.7	263	103.0	108.5	866	104.1	107.3
May	2033	103.7	108.2	267	104.6	109.7	876	105.4	108.9
June	2062	105.1	108.9	272	106.2	109.9	882	106.2	109.5
July	2089	106.5	109.7	273	106.9	110.5	893	107.4	109.1
Aug.	2101	107.1	109.7	274	107.2	111.0	895	107.7	109.3
Sep.	2137	108.9	110.9	279	109.0	112.2	909	109.3	110.7
Oct.	2148	109.5	111.0	281	110.1	111.9	917	110.3	111.4
Nov.	2173	110.8	111.5	284	111.2	112.1	919	110.5	110.8
Dec.	2225	113.4	113.4	288	112.6	112.6	927	111.4	111.4

Sources: Serbia and Montenegro Statistical Office; and IMF staff estimates.

1/ Excluding Kosovo and Metohia.

Table 9. Serbia and Montenegro: Retail Inflation Rates, 1999–2004
(Previous year = 100) 1/

	1999	2000	2001	2001	2003	2004
Total	142	176	189	119	111	110
Goods	145	184	185	115	107	110
Agricultural products	180	203	152	108	106	103
Industrial products - total	143	182	187	115	107	110
Processed food products	137	194	206	110	100	112
Beverages	153	207	179	112	111	107
Tobacco	134	142	166	124	110	111
Non-food industrial products	146	176	178	118	111	109
Textile products	150	164	181	113	105	...
Fuel and light	131	156	227	153	127	...
Household furnishings	163	167	155	105	106	...
Electric appliances	174	206	139	101	101	...
Medicine	110	195	333	103	100	...
Services	132	146	204	137	124	110
Public utilities and services	138	136	225	168	137	...
Transport (and communications)	129	143	198	138	121	...

Source: Serbia and Montenegro Statistical Office.

1/ Excluding Kosovo and Metohia.

Table 10. Serbia and Montenegro: Number of Enterprises by Economic Sector and in Liquidation or Bankruptcy, 1999–2004 1/

	1999	2000	2001	2002	2003	2004
Registered legal entities by activities 2/						
Total	348,839	368,242	383,194	258,157	243,558	250,403
Industry and mining	26,588	28,020	29,574	28,667	28,196	29,049
Agriculture and fishing	5,287	5,579	5,916	7,955	7,611	7,895
Forestry	501	521	526	564	533	538
Water supply	71	75	72	73	68	71
Construction	10,369	10,830	11,359	7,485	7,246	7,573
Transport and communications	9,173	9,668	9,736	5,606	5,270	5,487
Trade	154,605	164,514	171,775	122,009	110,669	112,430
Catering and tourism	28,652	29,985	30,482	4,358	3,782	3,896
Crafts	30,373	31,705	33,291	6,723	6,404	6,519
Housing and utility activities	2,354	2,528	2,650	710	717	773
Financial and other services	28,778	30,110	32,099	27,118	26,716	27,323
Education and culture	17,426	18,324	18,280	22,442	22,123	23,052
Public health and social security	3,480	3,662	3,681	1,993	1,792	1,862
Social and political communities and organizations	31,182	32,721	33,753	22,454	22,431	23,935
Legal entities in the process of liquidation or bankruptcy						
Total	1,261	1,136	1,435	1,290	1,984	1,445
Industry and mining	259	254	302	153	236	183
Agriculture and fishing	103	95	116	19	30	34
Forestry	3	5	4	1	5	6
Water supply	0	0	0	0	1	0
Construction	85	84	106	43	68	49
Transport and communications	32	29	35	26	42	40
Trade	528	427	529	702	1,074	769
Catering and tourism	26	24	27	19	31	36
Crafts	28	25	30	33	72	42
Housing and utility activities	7	8	10	0	1	4
Financial and other services	153	143	222	254	340	221
Education and culture	29	32	43	34	68	47
Public health and social security	3	5	6	5	14	12
Social and political communities and organizations	5	5	5	1	2	2

Source: National Bank of Serbia.

1/ Excluding Kosovo and Metohia.
2/ Excluding companies and legal entities in the process of liquidation or bankruptcy.

Table 11. Serbia and Montenegro: General Government Fiscal Operations, 2000–04 1/
(In billions of dinars)

	2000	2001	2002	2003	2004 Est.
Total revenue	140.2	300.4	430.5	507.9	633.0
Current revenue	140.2	300.4	430.5	503.0	626.7
Tax revenue	126.4	273.7	398.7	460.9	576.3
Personal income tax	12.7	36.2	56.9	74.3	81.4
Social security contributions	44.8	85.4	108.0	126.0	166.0
Corporate income tax	1.1	3.4	5.0	6.8	8.1
Retail sales tax/VAT	26.3	75.8	117.4	135.3	170.6
Excises	10.7	28.4	48.7	62.1	77.8
Taxes on international trade	10.3	16.0	27.0	31.4	36.9
Other taxes	20.5	28.6	35.8	24.9	35.5
Nontax revenue	13.8	26.6	31.8	42.1	50.4
Capital revenue	0.0	0.0	0.0	4.9	6.3
Total expenditure and net lending	143.6	310.2	475.9	547.4	637.1
Current expenditure	131.2	290.6	436.1	508.8	595.3
Expenditure on goods and services	66.4	134.5	184.6	216.3	254.0
Wages and salaries	36.0	73.0	104.1	123.3	144.6
Goods and services	30.4	61.6	80.5	93.0	109.3
Other current spending	0.0	0.0	0.0	6.3	12.0
Interest payment	2.2	5.7	9.6	12.2	19.5
Subsidies and other current transfers	62.5	150.4	241.9	274.0	309.9
Subsidies	8.1	23.9	44.1	41.8	43.7
Transfers to households 2/	54.5	126.5	197.8	232.1	266.2
Capital expenditure	11.8	12.0	34.6	29.3	38.1
General reserves	0.3	0.4	2.6	0.6	0.8
Lending minus repayment	0.3	7.2	1.2	8.7	2.9
Overall balance	-3.4	-9.8	-45.4	-39.5	-4.1
Foreign grants	2.8	5.4	11.3	2.7	1.4
Overall balance including grants	-0.6	-4.4	-34.1	-36.8	-2.7
Financing	0.6	4.4	34.1	36.8	2.7
Domestic financing	0.6	4.4	-5.3	-28.4	-19.4
Foreign financing	0.0	0.0	17.6	14.2	14.4
Privatization receipts	0.0	0.0	21.7	50.9	7.7

Sources: Ministries of Finance of the Republic of Serbia and the Republic of Montenegro; and IMF staff estimates.

1/ Includes federal, republican, and local governments (except for Montenegro), the social security funds, and the extrabudgetary programs.

Table 12. Serbia and Montenegro: Serbian General Government Fiscal Operations, 2000–04 1/
(In billions of dinars)

	2000	2001	2002	2003	2004 Est.
Total revenue	128.8	277.1	402.7	474.9	592.7
Current revenue	128.8	277.1	402.7	470.1	586.6
Tax revenue	115.7	253.6	372.8	430.1	538.1
Personal income tax	12.4	32.9	53.4	70.1	76.9
Social security contributions	39.7	76.7	98.9	115.8	153.5
Corporate income tax	1.1	3.4	4.3	5.9	6.9
Retail sales tax	29.4	72.1	110.8	126.3	159.1
Excises	10.7	26.2	45.3	58.3	73.4
Taxes on international trade	8.5	14.3	24.6	28.9	34.3
Other taxes	13.8	27.9	35.5	24.7	34.0
Extrabudgetary taxes	6.6	0.0	0.0	0.0	0.0
Nontax revenue	13.1	23.5	30.0	40.0	48.5
Capital revenue	0.0	0.0	0.0	4.8	6.1
Total expenditure and net lending	129.6	283.9	445.3	511.9	593.0
Current expenditure	118.6	266.7	407.8	476.5	555.1
Expenditure on goods and services	61.6	123.4	172.3	201.7	237.6
Wages and salaries	33.4	65.4	95.3	113.2	132.9
Goods and services	28.2	58.0	77.0	88.6	104.6
Other current spending	0.0	0.0	0.0	6.3	9.4
Interest payment	2.2	5.6	8.8	11.3	17.7
Subsidies and other current transfers	54.8	137.7	226.7	257.2	290.5
Subsidies	7.1	23.1	42.6	40.9	43.1
Transfers to households 2/	47.7	114.6	184.0	216.3	247.4
Capital expenditure	11.0	10.8	33.4	27.9	36.0
General reserves	0.0	0.0	1.8	0.0	0.0
Lending minus repayment	0.0	6.3	0.6	7.4	1.8
Overall balance	-0.8	-6.8	-42.6	-34.9	-0.3
Foreign grants	0.1	3.4	9.6	1.9	0.9
Overall balance including grants	-0.7	-3.4	-33.0	-33.0	0.5
Financing	0.7	3.4	33.0	33.0	-0.5
Domestic financing	0.7	3.4	-2.1	-29.2	-20.1
Foreign financing	0.0	0.0	17.2	12.9	12.3
Privatization receipts	0.0	0.0	17.9	49.3	7.2

Sources: Ministry of Finance of the Republic of Serbia; and IMF staff estimates.

1/ Includes the republican and the local governments, the social security funds, and the extrabudgetary programs.

2/ Excluding foreign currency deposit payments to households, reclassified below the line.

Table 13. Serbia and Montenegro: Serbian Republican Government Fiscal Operations, 2000–04
(In billions of dinars)

	2000	2001	2002	2003	2004 Est.
Total revenue and grants (and Montenegro transfers)	54.6	124.2	187.7	292.0	353.6
Total revenue	54.5	120.8	178.0	287.9	349.7
Current revenue	54.5	120.8	178.0	287.6	349.7
Tax revenue	49.4	113.2	169.4	256.4	317.9
Personal income tax	12.4	31.4	44.7	51.9	54.8
Corporate income tax	1.1	3.4	3.9	5.1	6.5
Retail sales tax	12.3	37.5	67.8	108.2	133.8
Taxes on international trade	...	...	...	28.9	34.3
Excises	7.9	24.5	36.1	58.3	73.4
Other taxes	0.9	10.2	10.0	4.0	15.2
Other extrabudgetary taxes	14.9	6.1	6.9	0.0	0.0
Nontax revenue	5.1	7.6	8.7	31.2	31.8
Capital revenue	0.0	0.0	0.0	0.2	0.0
Transfer from Montenegro	...	...	...	2.2	3.0
Grants	0.1	3.4	9.6	1.9	0.9
Total expenditure and net lending	55.8	131.2	224.1	323.4	364.9
Total expenditure	55.8	124.9	223.5	316.0	363.2
Current expenditure	49.2	120.9	204.5	291.8	329.9
Goods and services	24.4	51.3	59.1	88.5	97.3
Wages and salaries	13.3	27.2	35.3	54.9	58.4
Employer contribution	3.4	5.5	7.9	10.1	11.3
Purchases of goods and services	7.7	18.5	15.0	20.4	23.3
Other	0.0	0.0	1.0	3.1	4.3
Interest payment	0.4	0.6	7.2	11.0	13.9
Domestic	...	0.6	1.5	2.5	2.1
Foreign	...	0.0	5.7	8.5	11.8
Subsidies and transfers	24.4	69.0	138.2	192.3	218.8
Subsidies	7.1	21.5	34.2	31.4	34.9
Transfers to households	5.1	21.3	31.9	37.0	32.8
Transfers to other units of government	12.2	26.2	72.11	124.0	151.0
Union budget	0.0	0.0	0.0	31.9	46.8
Local budgets	1.7	0.8	13.0	14.8	14.1
Social funds	10.5	25.4	58.7	77.3	90.1
Capital expenditure	6.6	3.9	19.0	22.0	30.3
Net lending	0.0	6.3	0.6	7.4	1.8
Overall balance (including grants)	-1.1	-7.0	-36.4	-31.4	-11.3
Overall balance (excluding grants)	-1.2	-10.4	-46.1	-33.3	-12.2
Financing	1.2	10.4	46.1	33.3	12.2
Domestic financing (net)	1.1	7.0	1.4	-30.9	-8.2
Foreign financing (net)	0.0	0.0	17.2	12.9	12.3
Grants	0.1	3.4	9.6	1.9	0.9
Privatization receipts	0.0	0.0	17.9	49.3	7.2

Sources: Ministry of Finance of the Republic of Serbia; and IMF staff estimates.

Table 14. Serbia and Montenegro: Pension Fund, Number of Beneficiaries of Pension and Resources for Pension Payments of Serbia, 1999–2004

	1999	2000	2001	2002	2003	2004 Est.
Number of beneficiaries (in thousands)						
Total	1,254	1,259	1,276	1,252	1,252	1,243
Old age	530	535	550	560	560	559
Disability	407	401	400	389	386	375
Survivor's	303	310	315	303	306	309
Pensions from former Socialist Federal Republic of Yugoslavia	14	12	11	13	13	13
Net funds for pension payments (in dinars)						
Total	14,813	25,780	61,001	98,803	122,699	144,138
Old age	7,769	13,060	31,644	52,247	65,016	76,291
Disability	4,399	7,873	17,968	28,268	34,971	40,484
Survivor's	2,490	4,612	10,893	17,310	21,827	25,928
Pensions from former Socialist Federal Republic of Yugoslavia	155	235	496	978	884	1,435
Average pensions (in dinars)						
Total	1,132	2,154	4,665	6,722	8,102	9,578
Old age	1,364	2,592	5,641	8,038	9,696	11,465
Disability	1,055	2,016	4,551	6,248	7,543	8,910
Survivor's	828	1,575	3,558	4,894	5,892	6,977
Pensions from former Socialist Federal Republic of Yugoslavia	1,018	1,933	3,929	6,089	7,306	8,621
Insurees (in thousands)	1,671	1,597	1,555	1,459	1,384	1,580
Dependency ratio (employee/pensioner)	1.32/1	1,26/1	1,22/1	1,17/1	1,11/1	1,27/1

Source: Serbia Republican Pension Fund.

Table 15. Serbia and Montenegro: Labor Market Fund Unemployment Insurance of Serbia, 1999–2004

	1999	2000	2001	2002	2003	2004 Est.
	(Average monthly, number of persons in thousands)					
Unemployment benefits	45.1	47.4	51.2	69.6	90.9	76.6
Other benefits						
New employment benefits	1.3	0.1	0.1	2.0	5.9	0.4
Trainees	15.0	21.0	18.2	7.9	31.4	32.0
For retraining	1.7	2.6	2.0	...	...	...
For self-employment	8.4	10.6	12.0	1.3	3.7	18.1

Source: The Serbian Labor Market Fund.

Table 16. Serbia and Montenegro: Domestic Public Sector Debt of Serbia, 2000–04
(In millions of euros)

	2000	2001	2002	2003	2004 Est.
Debt to National Bank of Serbia	...	...	276.6	286.7	249.7
Loans to agricultural production 1/	34.1	27.1	20.9	14.6	8.4
Short-term securities 2/	...	...	...	31.4	79.6
Long-term securities 3/	...	...	...	...	249.7
Frozen foreign currency savings	...	...	3,847.5	3,906.9	3,687.7
Loans for rehabilitation 4/	...	...	...	...	39.0

Sources: Government of the Republic of Serbia.

1/ Conversion of loans approved by banks for primary agricultural production to public debt of the federation.
2/ Trading started 4/15/2003.
3/ Trading started 12/31/2004.
4/ Trading started 8/31/2004.

Table 17. Serbia and Montenegro: Montenegro Consolidated Fiscal Operations, 2001–04
(In millions of euros)

	2000	2001	2002	2003	2004 Est.
Total revenue	339.6	399.1	456.7	501.5	558.2
Current revenue	339.3	399.1	456.5	500.7	554.7
Tax revenue	292.1	345.5	427.1	469.4	528.0
Personal income tax	45.4	56.7	57.9	64.0	64.1
Social security contributions	107.3	113.4	149.0	152.1	171.3
Corporate income tax	0.0	6.0	12.5	13.4	16.5
VAT (Retail sales tax until March 2003 1/)	44.0	74.0	108.2	139.2	158.1
Excises	55.1	46.3	55.7	58.2	61.5
Taxes on international trade	40.3	45.1	38.9	39.3	36.7
Other taxes 2/	0.0	3.9	4.8	3.3	19.8
Nontax revenue	47.2	53.7	29.4	31.3	26.7
Capital revenue	0.3	0.0	0.2	0.8	3.5
Total expenditure and net lending	397.6	443.6	503.0	542.1	577.4
Current expenditure	360.3	404.8	461.7	490.4	520.2
Net wages, salaries and allowances	106.5	103.5	130.5	128.6	145.6
Payroll tax	11.9	17.2	14.5	22.1	26.2
Purchases of goods and services	10.8	61.7	48.4	60.8	53.6
Interest payment	1.3	0.6	13.1	14.2	24.3
Subsidies and other current transfers	145.0	216.9	247.0	257.6	259.4
Subsidies to enterprises	0.0	12.3	24.5	14.6	8.5
Transfers to households 3/	145.0	204.6	222.5	242.9	251.0
Other non-interest current expenditure	84.8	4.9	8.2	7.1	11.0
Capital expenditure	33.0	21.1	19.5	22.5	31.1
Of which: Foreign financed project spending	0.0	0.0	7.2	8.0	18.4
General reserves	4.4	6.5	12.8	8.4	11.2
Net lending	-0.2	11.3	9.0	20.8	14.9
Transfer to the union budget	0.0	0.0	0.0	31.5	35.3
Discrepancy	3.7	4.6	3.5	-1.1	0.4
Overall balance before grants	-61.7	-49.1	-49.7	-70.9	-54.5
Foreign grants	61.9	32.1	27.0	12.6	6.9
Overall balance after grants	0.2	-17.0	-22.8	-58.3	-47.5
Financing	-0.2	17.0	22.8	58.3	47.5
Domestic financing	-0.2	17.0	-48.2	24.4	9.9
Bank financing	-0.2	8.5	-44.2	15.3	-11.6
Nonbank financing	0.0	8.5	-4.0	9.1	21.5
Of which: Repayment of FFCDs 3/	0.0	0.0	-4.0	0.0	-4.3
Foreign financing (net)	0.0	0.0	7.2	19.3	30.7
Program	0.0	0.0	0.0	11.6	14.1
Project	0.0	0.0	7.2	8.0	18.4
Amortisation	0.0	0.0	0.0	0.3	-1.8
Privatization receipts	0.0	0.0	63.8	14.5	6.9

Sources: Montenegrin Ministry of Finance; and Fund staff estimates.

1/ From 2002 onwards, retail sales tax includes revenues that were redirected to the Army and the Railway.
2/ Data for 2004 includes previously off-budget revenue and spending, most of which represents an excise surtax on petrol products to finance transportation sector project spending.
3/ Frozen foreign currency deposit (FFCD) payments to households, formerly classifed above the line, were reclassified below the line.

Table 18. Serbia and Montenegro: Montenegro Republican Government Fiscal Operations, 2000–04
(In millions of euros)

	2000	2001	2002	2003	2004 Est.
Total revenue and grants	247.0	244.8	333.9	352.9	385.6
Total revenue	191.7	230.1	306.9	340.3	378.7
Current revenue	191.7	230.1	306.9	340.3	375.6
Tax revenue	155.7	188.0	286.0	315.4	356.7
Personal income	45.4	56.7	65.9	64.0	64.1
VAT (retail sales tax until March 2003 1/)	32.0	58.5	108.1	137.2	158.1
Excises	48.9	35.7	55.7	58.2	61.5
Taxes on international trade and transactions	0.0	27.3	38.9	39.3	36.7
Other taxes 2/	29.4	27.3	4.8	3.3	19.8
Corporate income taxes	0.0	3.9	12.5	13.4	16.5
Nontax revenue	36.0	42.1	21.0	24.9	18.9
Capital revenue	0.0	0.0	0.0	0.0	3.1
Grants	55.2	14.7	27.0	12.6	6.9
Total expenditure and net lending	236.8	255.1	283.4	318.5	347.1
Total expenditure	236.8	248.4	273.1	295.5	329.5
Current expenditure	206.1	229.1	254.7	273.9	298.5
Interest	1.3	0.6	13.5	14.2	23.7
Non-interest	204.8	228.5	241.2	259.6	274.8
Wages and salaries 3/	103.8	108.5	113.9	134.2	142.6
Goods and services	0.0	55.4	41.8	47.6	42.8
Transfers and social benefits to individuals, NGOs 3/ 4/	16.2	41.1	45.2	47.7	61.2
Subsidies to enterprises	0.0	12.3	24.5	14.6	8.5
Other non-interest expenditure and reserves	84.8	11.3	15.8	15.5	19.7
Capital expenditure	30.7	19.3	18.4	21.7	31.1
Of which: Foreign-financed project spending	0.0	0.0	0.0	8.0	18.4
Net lending	0.0	6.7	10.3	22.9	17.6
Net transfer to other levels of government	10.2	4.2	62.0	76.3	77.6
Transfers to the Pension and Disability Fund	1.5	1.5	53.1	38.6	37.7
Transfers to the Health Fund	4.2	0.9	5.5	2.9	1.7
Transfers to the Employment Fund	4.4	1.8	3.4	3.3	2.8
Transfers to the Union Budget	0.0	0.0	0.0	31.5	35.3
Discrepancy	0.0	2.5	13.2	3.3	0.3
Overall budget balance before grants (cash)	0.0	-31.7	-51.7	-57.8	-46.3
Overall budget balance after grants (cash)	0.0	-17.0	-24.8	-45.2	-39.4
Financing	0.0	17.0	24.8	45.2	39.4
Domestic financing (net)	0.0	17.0	-36.4	13.2	5.1
Bank financing	0.0	8.5	-32.4	4.1	-16.4
Nonbank	0.0	8.5	-4.0	9.1	21.5
Of which: Repayment of FFCDs 4/	0.0	0.0	-4.0	0.0	-4.3
Foreign financing (net)	0.0	0.0	7.2	19.3	30.7
Disbursements	0.0	0.0	7.2	19.6	32.5
Amortization	0.0	0.0	0.0	0.3	1.8
Privatization receipts	0.0	0.0	54.0	12.6	3.5

Source: Montenegrin Ministry of Finance; and Fund staff estimates.

1/ After 2002, includes sales taxes that were earlier redirected to Pension Fund, Railway and Army; and assumes full payment of payroll tax by the government to itself on behalf of its employees.

2/ Data for 2004 includes previously off-budget revenue and spending, most of which represents an excise surtax on petrol products to finance transportation sector project spending.

3/ From 2003, the reported wage bill excludes wages of employees of the University of Montenegro, which were included in "Transfers".

4/ Frozen Foreign Currency Deposit (FFCD) payments to households, formerly classifed above the line, were reclassified below the line.

Table 19. Serbia and Montenegro: Republican Health Fund, Budget Execution of Montenegro, 1999–2004

	1999 (mil. YUD)	2000 (mil. DM)	2001 (mil. DM)	2002 (mil. DM)	2003 (mil.€)	2004 (mil.€)
Total revenue	1,020	108	137	160	91	95
Out of gross wages for economic activities	463	47	58	65	38	40
Out of gross wages for non-economic activities	312	35	48	42	24	34
Out of private employers and workers they employ	30	3	4	6	2	1
From the pension fund	88	18	22	41	24	17
From farmers insurees	4	0	0	0	0	0
From the unemployment fund	0	0	3	0	0	0
From the budget for the jobless	23	3	2	4	3	2
Other revenue	100	2		1	0	1
Total expenditure	1,020	114	149	160	95	95
Of which:						
Funds for health care	947	104	140	149	47	38
Gross wages	456	52	60	69	41	48
Funds for investment	6	2	0	3	...	...
Orthopedic aids and equipment	8	1	1	1	1.0	1.0
Compensation for sick leave over 60 days	16	2	2	2	1.1	1.0
Travel expenses	21	2	3	2	1.9	2.2
Funds for specialized training abroad	0	0	0	0	0.0	0.0
Fund for housing and accomodation issues	0	0	0	0	0.0	0.0
Operational cost of health fund	23	3	2	2	2.9	4.7

Source: Montenegrin Republican Health Care Fund.

Table 20. Serbia and Montenegro: Pension Fund Operations of Montenegro, 2000–2004

	2000	2001	2002	2003	2004
	(In millions of DM)		(In millions of euros)		
Total revenue	239	276	153	173	163
Own revenue	226	242	153	173	163
Revenues from contributions	151	144	93	85	86
Redirected funds	50	76	47	7	2
Revenues from payment operations commission	15	7	4	4	5
Revenues from special tax	7	10	6	2	...
Other revenues (divident and interest)	3	5	3	16	5
Transfers from the budget 1/	…	…	…	59	66
Foreign assistance	13	34	…	…	…
Expenditure	239	276	154	161	168
Total current expenditure	239	260	154	161	168
Pensions	166	209	114	123	136
Allowances/additional payments	4	5	2	3	3
Compensations	9	…	6	6	5
Contributions	37	18	22	23	17
Costs of making pension payments	5	6	3	2	2
Funds for special purposes	6	5	2	1	0
Funds for expert services	3	3	2	2	2
Material expenditure	7	3	2	2	2
Investments	2	1	0	…	0
Receipts from repayement of credit	…	…	2	…	…
Reserves	0	0	…	…	…
Surplus revenue	0	16	…	…	…

Sources: Montenegrin Republican Pension Fund.

1/ During 2000 and 2001 transfers from the budget are included under redirected funds.

Table 21. Serbia and Montenegro: Balance Sheet of the National Bank of Serbia, 1999–2004
(In millions of dinars; end of period)

	1999	2000	2001	2002	2003	2004			
	Dec.	Dec.	Dec.	Dec.	Dec.	Mar.	Jun.	Sep.	Dec.
Net foreign reserves	-22,549	-19,501	-133	62,304	90,840	82,777	83,579	95,646	114,193
(In millions of euros)	-549	-332	-2	1,044	1,330	1,186	1,158	1,275	1,448
Gross foreign reserves 1/	11,975	32,587	65,623	134,491	193,962	190,472	200,960	218,388	245,918
Gross reserve liabilities (-) 2/	-34,524	-52,088	-65,756	-72,187	-103,122	-107,695	-117,381	-122,742	-131,725
Net domestic assets	32,016	39,346	41,494	7,020	-20,844	-25,276	-21,311	-31,511	-37,224
Domestic credit	107,968	153,611	154,502	14,455	-13,190	-13,061	-7,519	-14,504	-15,150
Net claims on government	5,096	5,480	9,096	9,460	-13,362	-14,068	-4,458	-10,410	-16,438
Claims	6,713	11,424	19,189	20,720	19,051	18,904	18,840	18,646	21,427
Dinar credits	1,652	3,071	10,681	20,720	19,051	18,904	18,840	18,646	21,427
Foreign currency credits	5,060	8,353	8,508	0	0	0	0	0	0
Liabilities (-)	-1,617	-5,944	-10,093	-11,260	-32,413	-32,972	-23,298	-29,056	-37,865
Dinar liabilities	-547	-1,462	-3,113	-5,101	-14,305	-17,570	-16,273	-19,343	-28,064
Foreign currency liabilities	-1,070	-4,482	-6,980	-6,159	-18,108	-15,402	-7,025	-9,713	-9,801
Net claims on banks	100,214	144,932	143,360	6,054	2,337	2,900	-1,073	-1,763	2,554
Claims	100,677	145,603	144,137	7,731	5,490	5,329	4,692	3,560	4,594
Liabilities (-)	-463	-671	-777	-1,677	-3,153	-2,429	-5,765	-5,323	-2,040
Net claims on the rest of the economy	2,658	3,199	2,046	-1,059	-2,165	-1,893	-1,988	-2,331	-1,266
Claims	2,785	3,660	3,655	1,014	257	242	243	243	198
Dinar credits	2,663	3,457	3,453	1,014	257	242	243	243	198
Foreign currency credits	123	203	202	0	0	0	0	0	0
Liabilities (-)	-127	-461	-1,609	-2,073	-2,422	-2,135	-2,231	-2,574	-1,464
Other assets (net)	-75,951	-114,265	-113,008	-7,435	-7,654	-12,215	-13,792	-17,007	-22,074
Reserve money	9,467	19,845	41,361	69,324	69,996	57,501	62,268	64,135	76,969
Currency in circulation	6,688	10,933	25,324	43,719	42,979	38,004	40,347	42,463	45,165
Reserve deposits	2,779	8,912	16,037	25,605	27,017	19,497	21,921	21,672	31,804

Sources: National Bank of Serbia; and IMF staff estimates and calculations.

1/ Foreign exchange-denominated items converted at parallel market exchange rates up to September 2000, at YUD 30 = DM for September and at current exchange rates thereafter.

2/ Excludes long-term liabilities and undivided liabilities of the former Socialist Federal Republic of Yugoslavia. Including foreign currency-denominated liabilities to domestic banks and residents converted at parallel market exchange rates up to September 2000, at YUD 30 = DM for September and at current exchange rates thereafter.

Table 22. Serbia and Montenegro: Monetary Survey of Serbia, 1999–2004
(In millions of dinars, end of period)

	1999	2000	2001	2002	2003	2004			
	Dec.	Dec.	Dec.	Dec.	Dec.	Mar.	Jun.	Sep.	Dec.
Net foreign assets 1/	18,363	23,999	93,179	136,996	172,685	164,494	156,648	184,641	198,589
(In millions of euros)	25	402	1,561	2,227	2,528	2,357	2,170	2,462	2,517
Assets	26,922	55,681	122,375	180,694	242,371	238,849	240,554	274,941	298,180
Liabilities (-) 2/	-8,559	-31,682	-29,196	-43,697	-69,686	-74,355	-83,906	-90,300	-99,592
Net domestic assets	22,224	35,397	19,101	49,709	64,249	72,934	92,854	97,921	110,136
Domestic credits	133,017	218,642	97,006	144,168	153,356	166,997	197,593	222,075	248,341
Net credit to government	6,869	5,917	-21,560	-12,595	-23,586	-25,203	-14,778	-19,986	-21,560
Credits	10,521	15,367	30,402	24,377	23,250	23,257	23,708	24,517	30,402
Dinar credits	4,573	5,521	30,255	23,497	23,130	23,134	23,497	24,360	30,255
Foreign currency credits	5,948	9,846	147	880	120	123	211	157	147
Deposits	-3,652	-9,450	-51,962	-36,972	-46,836	-48,460	-38,486	-44,503	-51,962
Dinar deposits	-2,448	-4,745	-38,762	-21,079	-25,677	-29,862	-28,174	-31,382	-38,762
Foreign currency deposits	-1,204	-4,705	-13,200	-15,893	-21,159	-18,598	-10,312	-13,121	-13,200
Credit to the non-government sector	126,148	212,725	262,024	155,570	172,284	186,579	207,501	236,080	262,024
Households	1,663	2,684	64,441	16,021	28,643	32,383	40,248	52,060	64,441
Non-profit and other sectors in dinar	0	3,616	2,022	4,140	3,379	3,054	3,217	1,819	2,081
Non-profit and other sectors in foreign currency	0	20,793	636	413	436	461	257	261	316
Enterprises in dinar	20,719	31,189	40,416	71,507	88,911	98,925	107,657	123,218	138,382
Enterprises in foreign currency	100,104	154,444	49,064	63,489	50,915	51,756	56,122	58,722	56,804
(In millions of euros)	2,437	2,632	836	1,063	745	741	778	783	720
Other items net	-110,792	-183,245	-77,905	-94,459	-89,107	-94,063	-104,739	-124,154	-138,204
Broad money (M2)	40,587	59,396	112,280	186,706	236,934	237,428	249,502	282,562	308,725
Dinar-denominated M2	18,229	26,462	64,368	105,329	117,040	105,553	112,612	121,218	132,249
M1	14,552	21,879	49,269	88,579	98,223	88,549	94,134	99,876	106,112
Currency outside banks	6,688	10,932	25,324	43,719	42,979	38,004	40,347	42,463	45,165
Demand deposits	5,798	10,946	23,945	44,860	55,244	50,545	53,787	57,413	60,947
Time and savings deposits	2,992	4,583	7,697	16,750	18,817	17,004	18,478	21,342	26,137
Foreign-currency deposits (non-frozen)	22,358	32,935	47,912	81,377	119,894	131,875	136,890	161,344	176,476
(In millions of euros)	278	561	802	1,323	1,755	1,889	1,897	2,151	2,237

Sources: National Bank of Serbia; and IMF staff estimates and calculations.

1/ Foreign exchange-denominated items converted at parallel market exchange rates up to September 2000, at YUD 30 = DM for September and at current exchange rates thereafter.

2/ Excludes long-term liabilities and undivided liabilities of the former Socialist Federal Republic og Yugoslavia. Including foreign currency-denominated liabilities to domestic banks and residents converted at parallel market exchange rates up to September 2000, at YUD 30 = DM for September and at current exchange rates thereafter.

Table 23. Serbia and Montenegro: Deposit Money Banks' Accounts in Serbia, 2002–2004
(In millions of dinars; end of period)

	2002	2003	2004			
	Dec.	Dec.	Mar.	Jun.	Sep.	Dec.
Assets	259,222	299,200	312,228	331,118	382,588	428,624
Reserves and deposits at National Bank of Serbia	62,669	74,406	70,546	79,524	85,071	99,526
In foreign currency	34,895	44,743	48,550	51,686	58,378	65,857
(In millions of euros)	567	655	696	708	778	835
Reserves in dinar	27,774	29,663	21,996	27,838	26,693	33,669
Foreign Assets	43,438	49,344	46,029	38,092	50,797	53,941
(In millions of euro)	706	722	659	528	677	684
Claims on the governemnt	5,107	9,094	10,138	9,998	12,133	17,217
Federal government	1,601	618	750	797	749	738
Blocked foreign currency deposits	66	0	0	0	0	0
Bonds	1,454	459	452	569	524	441
Other claims	81	159	298	228	225	297
Serbia government	2,913	7,073	8,272	8,044	10,001	15,211
Treasury securities	0	1,569	1,933	1,671	3,138	5,074
Other	989	5,191	6,086	5,392	6530	8468
Other claims	1,924	313	253	981	333	1,669
Local government	593	1,403	1,116	1,157	1,383	1,268
Claims on other domestic sectors	154,763	171,648	185,913	206,842	235,354	261,131
Claims on enterprises	134,822	139,786	150,641	163,736	182,127	195,146
Claims on households	16,020	28,439	32,182	40,048	51,858	64,283
Claims on others	3,921	3,423	3,090	3,058	1,369	1,702
Claims on other banking institutions (net)	-7,387	-5,684	-821	-3,753	-1,249	-3,886
Claims on other financial institutions.	632	392	423	415	482	695
Liabilities	259,222	299,200	312,228	331,118	382,588	428,624
Demand deposits	45,120	55,243	50,545	53,787	57,413	60,947
Savings and time deposits	16,750	18,755	16,939	18,421	21,278	26,072
Foreign currency deposits	81,377	119,249	131,307	136,343	160,555	175,579
Enterprises and other agencies	35,436	49,511	54,322	51,775	66,083	64,865
Households	45,941	69,738	76,985	84,568	94,472	110,714
Foreign liabilities	13,956	22,554	29,568	40,076	58,684	80,067
(In millions of euro)	227	330	424	555	782	1,015
Government deposits	25,712	14,422	15,487	15,189	15,448	14,099
Of which: in foreign currency	9,734	3,050	3,196	3,287	3,408	3,399
Federal	8,325	538	509	526	510	496
Serbia	11,847	7,264	4,898	4,717	4,511	4,349
Local	5,540	6,620	10,080	9,946	10,427	9,254
Credit from central bank	5,321	3,850	3,711	3,222	1,821	1,755
Restricted and blocked deposits	100	0	0	0	0	0
Capital accouts	136,404	92,603	91,207	99,054	105,185	103,153
Other items (net)	-65,752	-27,476	-26,536	-34,974	-37,796	-33,048

Sources: National Bank of Serbia; and IMF staff estimates.

Table 24. Serbia and Montenegro: Commercial Bank Lending Rates in Serbia, 1999–2004
(Monthly, in percent)

		1999	2000	2001	2002	2003	2004											
		Dec.	Dec.	Dec.	Dec.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1	Short-term credits for exports of goods and services	3.42	2.06	1.12	2.53	1.33	1.19	1.33	1.30	1.28	1.20	1.22	1.40	0.77	1.07	1.32	1.35	1.32
2	Short-term credits for agriculture (production and stocks)	2.44	5.29	3.17	1.33	1.53	1.40	1.29	1.45	1.16	1.09	1.22	1.20	1.43	1.41	1.34	1.39	1.13
3	Other short-term credits	3.34	5.19	2.69	1.55	1.27	1.18	1.26	1.30	1.25	1.31	1.34	1.22	1.12	1.18	1.15	1.22	1.24
4	Short-term securities	3.34	4.53	2.20	1.41	0.99	1.12	1.12	1.24	1.17	1.20	1.21	1.36	1.38	1.33	1.41	1.37	1.43
5	Interbank lending	3.68	4.56	2.38	1.23	1.02	0.81	0.76	0.93	0.81	0.89	1.03	1.13	1.12	0.92	1.02	0.96	1.03
6	Money market	3.90	6.85	3.89	2.09	…	…	…	…	…	…	…	…	…	…	…	…	…
7	Short-term credits to households	2.69	2.24	1.79	1.83	1.89	1.94	1.91	1.58	1.57	1.53	1.61	1.53	1.94	1.87	1.52	1.68	1.83
8	Consumer credits	3.95	3.96	2.28	1.40	1.58	1.35	1.54	1.90	1.54	1.45	1.49	1.42	1.68	1.71	1.51	1.53	2.07
9	Long-term cred. for purchase and sale of domestic equipment	…	0.56	0.56	0.75	0.90	0.83	0.85	0.95	0.69	0.37	0.80	0.94	0.68	0.88	0.99	0.78	0.84
10	Long-term credits for agricultural production	…	0.08	0.08	0.29	1.63	1.64	1.61	1.55	1.63	1.69	1.75	1.71	1.15	1.17	1.22	1.15	1.11
11	Long-term credits for purchase and sale of fixed assets	0.33	3.30	0.96	0.92	0.61	0.65	0.78	0.59	0.60	0.54	0.61	0.70	0.65	0.58	0.76	0.69	0.76
12	Long-term credits to businesses for construction projects	1.20	0.95	1.01	1.00	0.53	0.84	0.62	0.87	0.63	0.71	0.61	0.62	0.64	0.82	0.34	1.00	0.91
13	Long-term credits to households for dwelling construction	1.49	0.96	0.99	0.72	0.63	0.62	0.71	0.63	0.69	0.65	0.60	0.66	0.65	0.59	0.64	0.70	0.66
14	Long-term rehabilitation loans	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
15	Other long-term credits to businesses	1.19	2.12	0.75	0.93	0.90	0.80	0.73	0.87	0.68	0.76	0.70	0.77	0.81	0.87	0.74	0.68	0.71
16	Other long-term credits to households	1.00	1.05	1.08	1.24	1.30	1.20	1.06	1.26	1.35	1.38	1.41	1.53	1.50	1.29	1.39	1.27	1.05
17	Long-term securities	…	…	1.60	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	Weighted average interest rates																	
	Short-term credits	3.27	5.04	2.55	1.54	1.23	1.18	1.21	1.26	1.19	1.25	1.28	1.27	1.20	1.21	1.19	1.23	1.23
	Long-term credits	1.20	2.10	0.76	1.00	0.88	0.87	0.81	0.87	0.81	0.85	0.83	0.94	1.02	1.07	1.03	0.94	0.80
	Lending rates	3.23	5.00	2.42	1.50	1.18	1.15	1.16	1.20	1.12	1.17	1.19	1.21	1.16	1.18	1.17	1.18	1.16
	Commercial Paper, Bank Bills and Certificates of Deposit	3.89	6.80	3.81	2.40	2.06	2.09	2.10	2.18	2.17	2.05	2.19	2.34	2.34	2.37	…	…	…

Source: National Bank of Serbia.

Table 25. Serbia and Montenegro: Deposit Interest Rates in Commercial Banks in Serbia, 1999–2004
(Monthly, in percent)

	1998	1999	2000	2001	2002	2003	2004											
	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Site deposits																		
Households	0.61	0.08	0.34	0.19	0.09	0.11	0.10	0.11	0.10	0.10	0.10	0.09	0.08	0.08	0.08	0.08	0.09	0.07
Businesses	0.56	0.01	0.07	0.12	0.12	0.05	0.09	0.09	0.11	0.14	0.13	0.11	0.14	0.15	0.15	0.16	0.13	0.11
Giro and current accounts																		
Households	0.46	0.02	0.18	0.16	0.10	0.06	0.07	0.07	0.09	0.08	0.08	0.07	0.07	0.08	0.08	0.08	0.09	0.08
Businesses	0.25	0.01	0.09	0.03	0.03	0.09	0.09	0.10	0.10	0.10	0.11	0.10	0.12	0.12	0.11	0.13	0.14	0.13
Time deposits																		
a) Up to 15 days																		
Households	4.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.57	0.00
Businesses	3.07	0.73	2.02	0.30	0.91	0.76	0.19	0.21	0.27	0.53	0.41	0.03	0.34	0.47	0.76	0.57	0.67	0.38
b) Up to one months																		
Households	5.60	2.07	2.65	2.57	0.98	0.77	0.72	0.76	0.73	0.73	0.77	0.78	0.79	0.82	0.84	0.78	0.90	0.68
Businesses	3.67	0.98	2.74	1.64	0.73	0.78	0.76	0.75	0.70	0.77	0.78	0.75	0.78	0.78	0.79	0.78	0.78	0.80
c) Up to two months																		
Households	6.07	0.78	3.18	2.43	1.15	0.91	0.93	0.92	0.88	0.92	0.92	0.89	0.88	0.89	0.88	0.86	0.80	0.75
Businesses	3.15	0.79	1.16	2.36	0.90	0.84	0.72	0.75	0.89	0.86	0.85	0.87	0.84	0.82	0.80	0.82	0.81	0.88
d) Up to three months																		
Households	6.12	2.36	3.38	2.77	1.16	1.13	1.11	1.12	0.38	1.16	1.10	1.04	1.03	1.01	0.95	1.01	1.07	1.10
Businesses	3.33	1.09	3.21	1.74	0.73	0.81	0.76	0.72	0.73	0.71	0.80	0.78	0.78	0.79	0.76	0.79	0.74	0.75
e) Up to six months																		
Households	6.50	4.39	4.12	2.79	1.09	0.83	0.80	0.83	0.94	0.82	0.89	0.93	0.89	0.75	0.69	0.68	0.74	0.73
Businesses	2.10	0.87	1.26	1.60	0.73	0.53	0.51	0.55	0.57	0.62	0.63	0.67	0.66	0.77	0.67	0.60	0.53	0.47
f) Up to one year																		
Households	7.03	3.09	4.30	3.16	1.52	1.16	1.15	1.13	1.18	1.22	1.21	1.19	1.20	1.21	1.19	1.14	1.29	1.31
Businesses	3.50	0.63	1.73	1.35	1.05	0.84	0.93	0.93	0.95	0.95	0.92	0.93	0.92	0.83	0.84	0.61	0.64	0.66
Long-term deposits																		
a) Up to two years																		
Households	4.37	2.61	4.50	2.56	0.52	0.60	0.59	0.63	0.57	0.64	0.70	0.64	0.67	0.82	0.86	0.84	0.89	1.02
Businesses	0.23	0.06	0.39	0.48	0.68	0.38	0.34	0.31	0.28	0.24	0.37	0.26	0.24	0.29	0.38	0.28	0.19	0.26
b) Up to three years																		
Households	6.98	6.15	6.87	4.42	1.28	1.03	1.40	1.40	1.15	1.11	1.09	1.06	1.02	1.12	1.21	1.13	1.81	1.69
Businesses	0.11	0.23	0.72	0.28	0.16	0.33	0.01	0.01	0.04	0.04	0.03	0.01	0.06	0.26	0.08	0.08	0.10	0.49
c) Over three years																		
Households	0.30	0.26	0.21	0.16	1.92	0.92	0.90	0.94	1.06	0.61	0.98	0.96	0.99	0.99	0.98	0.96	0.60	0.51
Businesses	0.33	0.08	0.06	0.18	0.19	0.32	0.28	0.28	0.30	0.28	0.31	0.28	0.56	0.28	0.62	0.64	0.64	0.64
Weighted average deposit interest rates																		
Short-term deposits of households 1/	1.38	3.10	3.76	2.82	1.25	0.99	0.98	0.99	0.74	1.02	1.03	1.02	1.01	0.98	0.95	0.94	1.03	1.03
Long-term deposits of households 2/	0.76	4.37	5.75	3.93	…	…	…	…	…	…	…	…	…	…	…	…	…	…
Deposits of households	1.36	3.11	3.78	2.84	…	…	…	…	…	…	…	…	…	…	…	…	…	…
Short-term deposits of businesses 1/	3.12	0.94	2.58	1.69	0.74	0.79	0.79	0.76	0.74	0.75	0.80	0.79	0.79	0.79	0.77	0.75	0.72	0.73
Long-term deposits of businesses 2/	0.29	0.07	0.41	0.46	…	…	…	…	…	…	…	…	…	…	…	…	…	…
Deposits of businesses	2.95	0.88	2.45	1.66	…	…	…	…	…	…	…	…	…	…	…	…	…	…
Total deposits of households and businesses	2.36	1.05	2.55	1.88	…	…	…	…	…	…	…	…	…	…	…	…	…	…
All deposits	1.28	0.28	0.52	0.34	0.22	0.23	0.24	0.25	0.26	0.28	0.29	0.28	0.29	0.30	0.30	0.31	0.30	0.30

Source: National Bank of Serbia.

1/ Excludes site deposits, giro and current accounts, and deposits with up to 15 days maturity.
2/ Excludes time deposits with over three years maturity.

Table 26. Serbia and Montenegro: National Bank of Serbia Lending and Deposit Rates, 1999–2004
(Monthly, in percent)

	1999	2000	2001	2002	2003	2004											
	Dec.	Dec.	Dec.	Dec.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1. Discount rate	2.00	2.00	1.30	0.77	0.73	0.69	0.65	0.69	0.67	0.69	0.67	0.69	0.69	0.67	0.69	0.67	0.69
2. Lombard rate	2.05	2.05	1.34	1.21	1.15	1.09	1.02	1.09	1.05	1.09	...	...	...	...	...	...	...
3. Overnight loans	4.00	4.00	2.60	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Penalty rate	3.02	3.02	2.00	1.49	1.42	1.34	1.25	1.34	1.30	1.94	1.88	1.94	1.94	1.88	1.94	1.88	1.94
5. Shortfall through miscalculated RR	3.90	2.00	4.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Use of required reserves	3.90	2.00	4.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7. Interest rate on the difference between calculated and allocated daily average dinar and forex RR	...	...	...	1.49	2.65	2.51	2.35	2.51	2.43	2.51	2.43	2.51	2.51	2.43	2.51	2.43	2.51
8. Interest rate on the difference between prescribed ad calculated dinar and forex RR	...	...	...	1.49	2.65	2.51	2.35	2.51	2.43	2.51	2.43	2.51	2.51	2.43	2.51	2.43	2.51
9. Interest rate on the difference between prescribed and realised minimal liquidity	...	...	4.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10. Foreign assets.backed export credit (not repaid within 3 mos.)	4.00	4.00	2.60	1.55	...	...	...	...	...	...	...	...	...	...	...	...	...
11. Mandatory subscription of NBY bills	2.00	2.00	1.30	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12. Interest rate on the credit amount for daily liquidity maintenance granted to the banks on the basis of the pledged securities:																	
a) paid within the same working day	...	...	...	0.16	...	...	...	...	...	...	...	...	...	...	...	...	...
b) paid during the following working day	...	...	...	1.21	1.15	1.09	1.02	1.09	1.05	1.34	1.30	1.34	1.65	1.59	1.65	1.59	1.65
13. Allocated required reserves	1.05	1.05	0.50	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Interest rate on the daily average dinar RR up to the level of calculated dinar RR	...	...	...	0.28	0.26	0.25	0.23	0.25	0.24	0.25	0.24	0.25	0.25	0.24	0.25	0.24	0.25
15. Interest rate on the daily average forex RRup to the level of calculated forex RR																	
a) on a allocated RR in USD	...	...	...	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04
b) on a allocated RR in EUR	...	...	...	0.05	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
c) on a allocated RR in CHS	...	...	...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	...	...	...	...	...	...	...
16. Interest rate on the banks' excess liquidity deposited with the NBS	...	...	...	0.32	0.26	0.25	0.23	0.25	0.24	0.25	0.24	0.25	0.25	0.24	0.25	0.24	0.25
17. NBS assets determined by separate law on transforming short-term loans to long-term loans	0.97	0.96	0.97	0.97	0.97	0.96	0.90	0.96	0.93	0.96	0.93	0.96	0.96	0.93	0.96	0.93	0.96
18. NBS assets determined by separate decision of the governor	0.66	0.65	0.66	0.66	0.66	0.65	0.61	0.65	0.63	0.65	0.63	0.65	0.65	0.63	0.65	0.63	0.65

Source: National Bank of Serbia.

Table 27. Serbia and Montenegro: Balance of Payments, 1999–2004
(In millions of U.S. dollars, unless otherwise indicated)

	1999	2000	2001	2002	2003	2004 Est.
Trade balance	-1,619	-1,788	-2,834	-3,908	-4,886	-7,434
Exports f.o.b.	1,676	1,923	2,003	2,412	3,054	4,219
Imports c.i.f.	-3,295	-3,711	-4,837	-6,320	-7,941	-11,653
Services (non-factor services, net)	228	331	417	292	336	486
Receipts	471	624	740	829	1,130	1,678
Expenditure	-243	-293	-323	-537	-795	-1192
Net factor income	-41	11	-26	-111	-222	-274
Of which: Net interest	-41	11	-26	-111	-222	-274
Earnings	43	53	48	62	70	81
Payments 1/	-84	-42	-74	-173	-291	-354
Unrequited private and official transfers, net	668	1,119	1,915	2,343	2,777	4,092
Private remittances, net	668	848	1,324	1,719	2,239	3,510
Inflows	948	1,132	1,698	2,089	2,661	4,129
Outflows	-280	-284	-374	-370	-422	-620
Current account balance, before grants	-764	-598	-1,119	-2,007	-2,533	-3,712
(In percent of GDP)	-7.5	-7.1	-9.7	-12.9	-12.3	-15.5
Official grants	0	271	591	624	538	583
Foreign direct investment, net	112	25	165	562	1,405	1,028
Foreign loans, net	-25	180	374	537	822	2,011
Medium and long term, net	12	213	299	379	756	1,588
Disbursements	29	227	332	421	974	2,119
Of which: Official creditors	0	227	205	343	460	537
Amortization	-17	-14	-33	-43	-218	-530
Short term, net	-37	-33	75	158	66	423
Other capital inflows	30	49	629	892	281	296
Commercial banks, net	0	0	-274	-144	31	26
Capital account balance	117	255	894	1,846	2,539	3,362
Errors and omissions	410	267	239	320	409	432
Overall balance	-237	195	605	784	952	665
Financing	237	-183	-5,981	-855	-1,001	-3,905
Net foreign assets (increase, -)	111	-246	-395	-816	-1,001	-711
Central Bank, net	111	-246	-395	-816	-1,001	-711
Gross foreign reserves (increase, -)	111	-227	-523	-1,111	-1,277	-719
Of which: IMF purchases	0	152	128	295	276	243
Gross foreign liabilities (increase +)	0	-19	128	295	276	8
Of which: IMF repayment	0	20	0	0	0	-235
Arrears (reduction, -)	126	63	-5,587	-39	0	-3,194
Residual gap	0	...	5,377	71	59	3,259
Arrears settlement with creditors	0	...	5,377	39	0	3,194
Debt relief from creditors	0	...	0	32	59	65
Memorandum items:						
Current account balance, after grants	-764	-339	-528	-1,383	-1,513	-3,148
(In percent of GDP)	-7.5	-3.9	-4.6	-8.9	-7.3	-13.1
Gross international reserve (in millions of U.S. dollars, end period)	289	516	1,169	2,280	3,557	4,302
(In months of prospective imports of goods and services)	0.9	1.2	2.4	3.1	3.3	3.7
Debt service, cash	101	56	107	183	451	972
(In percent of GDP)	1.0	0.6	0.9	1.2	2.2	4.1
Principal	17	14	33	43	218	675
Interest	84	42	74	141	233	297
External Debt	...	11,403	11,948	11,839	14,303	14,876
(In percent of GDP)	...	132.5	103.2	76.2	69.2	62.0

Sources: Serbia and Montenegro authorities; and IMF staff estimates.

1/ Up to 2001, figures indicate debt service actually paid. For 2002 and onwards, debt service recorded above-the-line is after the debt reduction granted by bilateral and commercial creditors, but before the capitalization of moratorium interest (the effect of the latter is recorded as "debt relief from creditors").

Table 28. Serbia and Montenegro: Composition of Exports of Serbia, 1999–2004

	1999	2000	2001	2002	2003	2004 Est.
	(In millions of U.S. dollars)					
Exports by broad category						
Total	1,369	1,558	1,721	2,075	2,755	3,701
Intermediate goods	748	879	913	1,130	1,505	2,421
Capital goods	102	121	157	165	427	241
Consumer goods	518	558	651	780	824	1,040
Exports by detailed category						
Total	1,369	1,558	1,721	2,075	2,755	3,701
Food and live animals	288	253	271	477	499	656
Beverages and tobacco	18	13	13	17	32	56
Raw materials, except fuel	72	111	89	107	138	208
Mineral fuel and lubricants	36	4	50	77	61	93
Animal and plant oils and fats	8	16	18	19	17	65
Chemical products	145	145	132	168	249	394
Products classified by materials	373	499	505	549	691	1,227
Machines and transport devices	180	208	241	251	570	411
Miscellaneous manufactured products	213	265	358	363	457	563
Others	36	43	45	48	43	29
	(In percent of total)					
Exports by broad category						
Total	100	100	100	100	100	100
Intermediate goods	55	56	53	54	55	65
Capital goods	7	8	9	8	15	7
Consumer goods	38	36	38	38	30	28
Exports by detailed category						
Total	100	100	100	100	100	100
Food and live animals	21	16	16	23	18	18
Beverages and tobacco	1	1	1	1	1	2
Raw materials, except fuel	5	7	5	5	5	6
Mineral fuel and lubricants	3	0	3	4	2	3
Animal and plant oils and fats	1	1	1	1	1	2
Chemical products	11	9	8	8	9	11
Products classified by materials	27	32	29	26	25	33
Machines and transport devices	13	13	14	12	21	11
Miscellaneous manufactured products	16	17	21	17	17	15
Others	3	3	3	2	2	1

Source: Serbia and Montenegro Statistical Office.

Table 29. Serbia and Montenegro: Composition of Imports of Serbia, 1999–2004

	1999	2000	2001	2002	2003	2004 Est.
	(In millions of U.S. dollars)					
Imports by broad category						
Total	2,881	3,330	4,261	5,614	7,473	11,133
Intermediate goods	1,971	2,330	2,853	3,404	4,241	6,245
Capital goods	475	532	671	1,132	1,452	2,380
Consumer goods	435	467	737	1,078	1,780	2,508
Imports by detailed category						
Total	2,881	3,330	4,261	5,614	7,473	11,133
Food and live animals	225	216	331	404	473	634
Beverages and tobacco	32	50	95	104	132	162
Raw materials, except fuel	212	208	180	190	222	349
Mineral fuel and lubricants	457	662	830	902	1,080	1,637
Animal and plant oils and fats	7	7	9	16	16	18
Chemical products	477	523	659	791	1,012	1,436
Products classified by materials	625	715	878	1,176	1,558	2,181
Machines and transport devices	633	720	893	1,454	2,236	3,543
Miscellaneous manufactured products	190	212	321	507	714	1,049
Others	22	17	65	71	30	125
	(In percent of total)					
Imports by broad category						
Total	100.0	100.0	100.0	100.0	100.0	100.0
Intermediate goods	68.4	70.0	66.9	60.6	56.7	56.1
Capital goods	16.5	16.0	15.8	20.2	19.4	21.4
Consumer goods	15.1	14.0	17.3	19.2	23.8	22.5
Imports by detailed category						
Total by product category	100.0	100.0	100.0	100.0	100.0	100.0
Food and live animals	7.8	6.5	7.8	7.2	6.3	5.7
Beverages and tobacco	1.1	1.5	2.2	1.8	1.8	1.5
Raw materials, except fuel	7.4	6.2	4.2	3.4	3.0	3.1
Mineral fuel and lubricants	15.9	19.9	19.5	16.1	14.5	14.7
Animal and plant oils and fats	0.2	0.2	0.2	0.3	0.2	0.2
Chemical products	16.6	15.7	15.5	14.1	13.5	12.9
Products classified by materials	21.7	21.5	20.6	20.9	20.9	19.6
Machines and transport devices	22.0	21.6	21.0	25.9	29.9	31.8
Miscellaneous manufactured products	6.6	6.4	7.5	9.0	9.6	9.4
Others	0.8	0.5	1.5	1.3	0.4	1.1

Source: Serbia and Montenegro Statistical Office.

Table 30. Serbia and Montenegro: Destination of Exports of Serbia, 1999–2004
(In millions of U.S. dollars)

	1999	2000	2001	2002	2003	2004 Est.
			(In millions of U.S. dollars)			
Total	1,368	1,558	1,721	2,075	2,755	3,701
Developed western countries	602	715	851	962	1,397	2,009
Developing countries	766	843	869	1,114	1,358	1,692
Of which: Countries in transition	707	723	765	1,016	...	...
Total	1,368	1,558	1,721	2,075	2,755	3,701
Italy	148	208	293	312	349	486
Bosnia and Herzegovina	287	236	240	323	416	651
Germany	165	175	230	242	293	373
Republic of Macedonia	170	206	174	206	331	267
Switzerland	34	27	25	19	19	23
Russia	73	86	80	91	132	158
Greece	74	75	63	82	61	120
Hungary	28	53	59	74	77	123
Great Britain	21	34	38	42	54	83
France	40	42	43	60	115	157
Other countries	328	416	476	626	909	1,260
			(In percent of total)			
Total	100.0	100.0	100.0	100.0	100.0	100.0
Developed western countries	44.0	45.9	49.5	46.3	50.7	54.3
Developing countries	56.0	54.1	50.5	53.7	49.3	45.7
Of which: Countries in transition	51.6	46.4	44.4	48.9	...	...
Total	100.0	100.0	100.0	100.0	100.0	100.0
Italy	10.8	13.4	17.0	15.0	12.7	13.1
Bosnia and Herzegovina	21.0	15.1	13.9	15.6	15.1	17.6
Germany	12.1	11.3	13.4	11.6	10.6	10.1
Republic of Macedonia	12.4	13.2	10.1	9.9	12.0	7.2
Switzerland	2.5	1.7	1.5	0.9	0.7	0.6
Russia	5.3	5.5	4.6	4.4	4.8	4.3
Greece	5.4	4.8	3.7	4.0	2.2	3.3
Hungary	2.0	3.4	3.4	3.5	2.8	3.3
Great Britain	1.6	2.2	2.2	2.0	2.0	2.3
France	2.9	2.7	2.5	2.9	4.2	4.2
Other countries	24.0	26.7	27.7	30.2	33.0	34.0

Source: Serbia and Montenegro Statistical Office.

Table 31. Serbia and Montenegro: Origin of Imports of Serbia, 1999–2004

	1999	2000	2001	2002	2003	2004 Est.
	(In millions of U.S. dollars)					
Total	2,881	3,331	4,261	5,614	7,473	11,134
Developed western countries	1,466	1,596	2,015	2,880	4,627	6,871
Developing countries	1,415	1,734	2,246	2,733	2,846	4,263
Of which: Countries in transition	1,187	1,508	1,989	2,381	...	...
Total	2,881	3,331	4,261	5,614	7,473	11,134
Russia	211	305	665	777	1,024	1,401
Germany	385	452	547	762	1,057	1,501
Italy	289	345	412	566	747	1,065
Greece	87	76	104	130	155	209
Hungary	94	112	176	248	264	321
Romania	105	143	168	136	135	210
Bulgaria	147	322	152	105	134	236
Austria	101	101	126	160	232	293
Slovenia	15	15	109	194	245	337
Bosnia and Herzegovina	158	148	118	129	169	243
Other countries	1,290	1,312	1,684	2,406	3,312	5,319
	(In percent of total)					
Developed western countries	50.9	47.9	47.3	51.3	61.9	61.7
Developing countries	49.1	52.1	52.7	48.7	38.1	38.3
Of which: Countries in transition	41.2	45.3	46.7	42.4	...	...
Total	100.0	100.0	100.0	100.0	100.0	100.0
Russia	7.3	9.2	15.6	13.8	13.7	12.6
Germany	13.3	13.6	12.8	13.6	14.1	13.5
Italy	10.0	10.4	9.7	10.1	10.0	9.6
Greece	3.0	2.3	2.4	2.3	2.1	1.9
Hungary	3.3	3.4	4.1	4.4	3.5	2.9
Romania	3.7	4.3	3.9	2.4	1.8	1.9
Bulgaria	5.1	9.7	3.6	1.9	1.8	2.1
Austria	3.5	3.0	3.0	2.8	3.1	2.6
Slovenia	0.5	0.5	2.5	3.5	3.3	3.0
Bosnia and Herzegovina	5.5	4.4	2.8	2.3	2.3	2.2
Other countries	44.8	39.4	39.5	42.9	44.3	47.8

Source: Serbia and Montenegro Statistical Office.

Table 32. Serbia and Montenegro: Stock of External Debt, 1999—2004
(In millions of U.S. dollars)

Creditor	1999	2000	2001	2002	2003	2004
Total external debt	10,744	11,419	11,740	11,839	14,303	14,876
Multilateral creditors	2,422	2,488	2,706	3,702	4,968	5,554
IMF	133	152	272	565	913	962
IBRD 1/	1,718	1,781	1,840	2,175	2,607	2,839
IDA	0	0	0	168	282	462
Eurofima	135	126	129	158	167	170
IFC 2/	130	132	175	213	288	134
EIB	266	257	49	114	212	313
Eurofund	31	30	28	31	35	33
MIB	9	10	11	0	0	0
EBRD	0	0	2	44	131	280
European Community	0	0	199	235	331	361
Official bilateral creditors	4,213	4,619	4,610	3,295	3,650	3,923
Paris Club 3/	4,180	4,129	4,037	2,690	3,007	3,227
Other bilateral creditors	33	490	573	605	643	697
Commercial creditors	3,122	3,158	3,399	3,822	4,630	4,400
London Club 4/	2,228	2,267	2,300	2,442	2,738	1,164
Other commercial creditors 5/	685	682	914	1,196	1,708	3,052
Debt incurred in non-convertible currencies	209	209	185	184	184	184
Short-term debt	987	1,153	1,026	1,020	1,056	999
Debt related to unpaid imports of oil and gas 6/	431	490	502	513	520	240
Other short-term debt	556	663	524	508	536	759

Source: National Bank of Serbia.

1/ Including exchange rate adjustments.

2/ In July 2004, debt relief of about 75% on the debt stock of EUR 172.76 mln was granted to banks from the system of former Vojvodjanska banka Udruzena banka a.d., Novi Sad. Regarding to Montenegrobanka a.d., Podgorica and other obligors from Montenegro, a debt relief of due regular and late interest was granted.

3/ For 2001, debt figure reflects Paris Club estimate determined during the November 2001 Paris Club session.

4/ Excludes US$500 million in debt held by Yugoslav "connected parties". In negotiations during June/July 2004, debt relief on NFA-TDFA of about 62% was granted.

5/ In 2004, former trade debt for oil import from China has been transferred from the category "Short-term debt" into "other commercial creditors".

6/ Non-guaranteed overdue obligations (trade credits) owed to oil and gas enterprises in Russia and China.
In November 2003, there was concluded Protokol on the debt relief between NIS - Novi Sad and SINOCHEM, China for oil import. The final agreement on the settlement of the debt was signed in October 2004. Negotiations are underway with Russia for gas import.